LEARNING MADE EASY

2nd Edition

ChatGPT™

FOR DUMMIES®

A Wiley Brand

Pam Baker

Author of *Generative AI For Dummies*

ChatGPT™ For Dummies®

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Table of Contents

List of Tables

List of Illustrations

Chapter 13

Chapter 14

Chapter 17

Chapter 18

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ChatGPT™ For Dummies®, 2nd Edition

Introduction

Welcome to the second edition of *ChatGPT For Dummies*. You'll find that this edition isn't a simple update to the first edition, but rather a complete rewrite to better cover the new models, features, and capabilities that arose after the printing of the first edition.

At the time of ChatGPT's initial release, it was easy to think of the chatbot as a one-off phenomenon or a hot new trend given its abrupt and sensational emergence on the public scene. But this technology was a harbinger of immense and permanent change. Whether it ultimately succeeds or fails, ChatGPT is changing how humans work, play, live, and interact with the world. It's also paving the way for the advancement of generative AI (GenAI) tools as a permanent fixture and influencer in the human experience.

ChatGPT is evolving fast, making it difficult for anyone to understand and follow its rapid progression. This book is intended to help bring you up to speed on how it works and how to use it. Yes, ChatGPT will continue to advance after this book is published, but you'll still have a working knowledge of the technology that you can build upon while continuing to learn as changes occur. Further, you'll have skills that will help you adapt to and use other AI models — some inevitably far more advanced — as time marches on.

If you feel some unease about AI in general and ChatGPT in particular, know that your gut reaction is common and not entirely unwarranted. This technology will most certainly change the nature of work and how your job is done. But also know that AI isn't going to take jobs away from most people. Someone good at using AI will. Get ahead of the curve with this book, and maybe get a promotion too!

Learning these new skills isn't as hard as you might think!

About This Book

The emphasis in this second edition is on how to use ChatGPT, with intense and expansive discussions and guidance on prompting techniques. This book is loaded with specific steps, practical tips, and tons of examples. By comparison, the previous edition of *ChatGPT For Dummies* touched on prompting but focused on explaining what ChatGPT is and how it works.

With this second edition, *ChatGPT For Dummies* continues to be a comprehensive but easily understood text on the topic, especially at the beginner or introductory level. And make no mistake. Outside of a select group of AI scientists, everyone is a beginner when it comes to ChatGPT. Take comfort in knowing that you're learning alongside millions of other people worldwide.

If you're already experimenting or working with ChatGPT, you'll find many ways in this book to leverage what you already know plus a lot of new things to incorporate in your efforts to get even more out of ChatGPT.

Please do note that the discussion of ChatGPT includes explanations and mentions of GPT models that undergird ChatGPT but are also used as the AI models for applications other than this chatbot. It's good for you to know that in case you're working with multiple GenAI tools. For example, if you're using one AI to fact-check another, you don't want to accidentally prompt the same model to fact-check itself.

References to ChatGPT-like tools and models may or may not mean that they're technically similar to ChatGPT. For example, competing models may or may not have large language models (LLMs) as their foundation, as ChatGPT does, but they're still referred to as "similar" here because their user interface and functionality closely resemble those of ChatGPT. In this way, you can more easily compare and understand the various generative AI chatbots on the market without getting dragged through the technical weeds.

Some web addresses break across two lines of text. If you're reading this book in print and want to visit one of these web pages, simply type the address exactly as it's noted in the text, pretending the line break doesn't exist. If you're reading this as an ebook, you have it easy; just click the web address to be taken directly to the web page.

Foolish Assumptions

This book is written for anyone seeking to understand and use ChatGPT in their work and daily life as well as to prepare for inevitable changes that ChatGPT will introduce.

I make certain assumptions about this book's audience as a practical matter. For instance, I assume that you possess a limited understanding of ChatGPT and are in hot pursuit of leveling up your prompting skills. I assume also that you have at least a basic level of comfort and skill in working with computing devices, browsers, and web applications. Finally, I assume, as it is with every *Dummies* book, that you're smart and pressed for time and therefore want all meat and no fluff in a fast and easy read. I hope I hit that mark for you.

Icons Used in This Book

Occasionally you'll come across symbols in the margins of this book. Their purpose is to point you to important information along the way. Here are what these symbols indicate:

This icon points to tips and tricks you may want to use to make your work with ChatGPT easier, faster, more efficient, or more fun.

TECHNICAL STUFF This icon alerts you that I am going to do some deeper dives into the more technical aspects of ChatGPT and other generative AI applications.

REMEMBER This icon highlights information of particular importance in successfully understanding or using ChatGPT.

WARNING This icon warns you of a stumbling block or danger that may not be obvious to you until it's too late. Please make careful note of warnings.

Beyond the Book

In addition to the material in the print or ebook you're reading right now, this product comes with an access-anywhere cheat sheet. To get to the cheat sheet, go to www.dummies.com and type **ChatGPT For Dummies cheat sheet** in the Search box. You'll find helpful user tips, info on where to access ChatGPT in its many forms, pointers on prompt writing, and a few words of advice on how to make it deliver the output you need precisely the way you need it.

Where to Go from Here

This is a reference book, so you don't have to read it cover to cover unless you want to soak in all the new information at once. Also, feel free to read the chapters in any order. Each chapter is designed to stand alone, meaning you don't have to know the material in previous chapters to understand the chapter you're

reading. Start anywhere and finish when you feel you have all the information you need for whatever task is at hand.

But if your aim is to work on your prompting skills specifically, you should focus on the chapters in Part 2: Chapter 4 on the basics of writing prompts; Chapter 5 on leveling up your prompting skills; Chapter 6 on manipulating prompts; and Chapter 7 on advanced prompting to guide you through the process. Be sure to also read Chapter 9, where you're guided through adapting prompts to your work processes and vice versa.

Chapter 12 on creating images and art, Chapter 13 on writing and editing, and Chapter 14 on using ChatGPT in video and audio production will guide you on ways to use this technology to produce different types of content. Chapter 8 will rapidly bring you up to speed on content design and content engineering basics using ChatGPT. Chapter 10 will show you how various industries and professions are currently using ChatGPT at work and some of the processes and tips within it are transferrable to other professions. And, if you're wondering how ChatGPT will likely change you and your world, you'll find some great insights in Chapter 15.

Feel free to open ChatGPT and experiment with each new thing you learn in this book as you go. Many find it easy to follow along this way. But any way you choose to learn and experiment with ChatGPT, you'll likely find yourself catching on quickly. That's the beauty of this class of AI — it's easy to use. The hardest part is stretching your own imagination to allow yourself to reach further with each new project.

Part 1
Getting Started with ChatGPT

IN THIS PART …

Learning what ChatGPT really is

Grasping the differences in the AI models that lurk beneath

Seeing the real danger and busting myths

Chapter 1

Introducing ChatGPT

The *Chat* in ChatGPT's name is a reference to its use of natural-language processing and natural-language generation. *GPT* stands for generative pretrained transformer, which is a deep learning neural network model developed by OpenAI, an American AI research and development company. You can think of GPT as the secret sauce that makes ChatGPT work as it does. In short, ChatGPT is a GPT-based chatbot.

ChatGPT is a huge phenomenon and a major paradigm shift in the accelerating march of technological progression. It's a chatbot that can run on one of several large language models (LLMs) and small language models (SLMs) developed and offered by a company called OpenAI. All these models belong to a category of artificial intelligence (AI) called *generative AI,* so named because these models can generate new content rather than simply regurgitate information. ChatGPT doesn't create original content in the purely creative sense; rather, it remixes data to produce new content that's calculated and contrived in response to a user's question or command both of which are referred to as a prompt. Almost anyone can interact with ChatGPT because prompting can be done in their own words. No computer code is

needed to elicit a response. Rapid computer responses follow your prompts and mimic natural humanlike dialogue. This appearance of a conversation with a machine is an illusion.

In this chapter, you learn where and how to access ChatGPT, why you should bother, the pros and cons of using it, how to use it, and whether common fears are justified or wildly off base.

ChatGPT is often directly accessed online by users at https://chat.openai.com/, but it's also integrated with several third-party applications. Typically, you can access ChatGPT embedded in other applications simply by signing onto that application in the usual way. The number of app integrations seems to grow every day as existing software providers hurry to capitalize on ChatGPT's popularity. ChatGPT can also be accessed via apps on mobile devices.

Comparing Different Account Versions of ChatGPT

ChatGPT offers several account versions to suit different user needs: Free, Plus, Teams, Pro, and Enterprise. The free version of ChatGPT has received significant upgrades, but you may prefer the Plus version for its higher usage limits and additional features. Free users may also encounter slower response times during peak usage periods and more limited availability.

For a monthly subscription fee of $20, ChatGPT Plus offers faster responses and access, which gives you more powerful and consistent performance. For businesses or collaborative settings, the ChatGPT Teams subscription plan offers more flexibility through multiuser access, administrative controls, and shared workspaces. The Teams version caters to groups working together on projects or customer support.

The new Pro version comes at a much higher price. For $200 a month, you get "the best of OpenAI with the highest level of access," the company says. Currently that means everything

available in the ChatGPT Plus version and unlimited access to GPT-4o and o1 plus unlimited access to advanced voice and access to o1 pro mode. I haven't yet found sufficient need of the Pro features to justify the higher monthly subscription cost. But your mileage may vary.

For larger organizations, ChatGPT Enterprise delivers advanced features such as unlimited access, longer inputs (prompts), integration options, enhanced security, higher customization, and comprehensive analytics. This version is designed for businesses with large-scale needs, including better privacy controls and support for more complex operations and larger or more numerous team collaborations.

Setting Up an Individual Account

To set up an individual account and enter your first prompt, take the following steps:

1. **Go to** https://openai.com/blog/chatgpt.

   Returning users can go straight to https://chat.openai.com/ and skip the rest of the steps.

2. **Click the Try ChatGPT button, which will open the ChatGPT user interface (UI) as shown in Figure 1-1.**

   You don't have to create an account to try ChatGPT this way. However, this version is limited and not truly representative of the premium versions which have an escalating number of features to match the bigger price tags.

3. **Or, follow the prompts to create your OpenAI account.**

   After you have registered for an OpenAI account, select the subscription plan you prefer. The cost for a ChatGPT Plus subscription, as of this writing, is $20 per month. Other subscription plans are also available: Teams at $25 per month, Pro at $200 per month, and Enterprise, which requires a call

with an OpenAI salesperson to get a quote on the price for your company needs. Having an OpenAI account also gives you access to other AI apps built on OpenAI models, such as DALL-E.

4. **When ChatGPT opens, enter your prompt in the prompt bar, shown in figure 1-1.**

   ChatGPT will then generate a response.

5. **If you want to continue the dialogue, enter another prompt.**

6. Newest UI doesn't have the thumbs up and thumbs down icons.

7. **When you're finished using ChatGPT, log out or simply close the window in your browser.**

WARNING In some subscription plans, OpenAI's team can see any information you enter in the prompt and the entire conversation that ensues. They may use this data in training other AI models. See a key disclosure in OpenAI's privacy policy in Figure 1-2, and check out the full policy at https://openai.com/policies/row-privacy-policy/. When using ChatGPT, don't disclose anything you want to keep private or confidential.
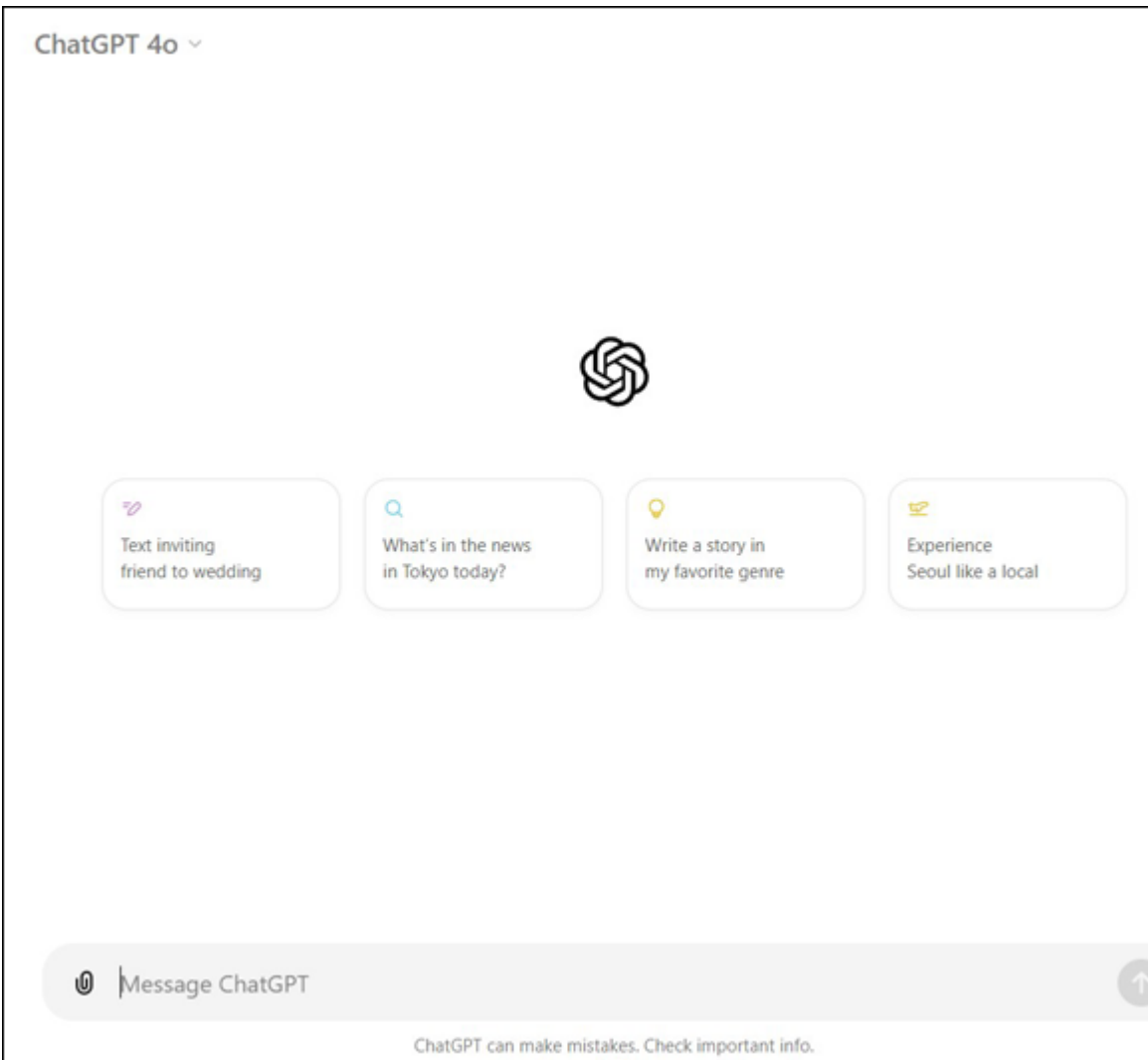
Generated with AI in ChatGPT

FIGURE 1-1: ChatGPT Plus UI.

A note about accuracy: Services like ChatGPT generate responses by reading a user's request and, in response, predicting the words most likely to appear next. In some cases, the words most likely to appear next may not be the most factually accurate. For this reason, you should not rely on the factual accuracy of output from our models. If you notice that ChatGPT output contains factually inaccurate information about you and you would like us to correct the inaccuracy, you may submit a correction request through privacy.openai.com or to dsar@openai.com. Given the technical complexity of how our models work, we may not be able to correct the inaccuracy in every instance. In that case, you may request that we remove your Personal Information from ChatGPT's output by filling out this form.

For information on how to exercise your rights with respect to data we have collected from the internet to train our models, please see this help center article.

Generated with AI in ChatGPT

FIGURE 1-2: A key disclosure in OpenAI's privacy policy found in full at https://openai.com/policies/row-privacy-policy/.

Touring the User Interface

The following will guide you through the essential parts of the ChatGPT Plus User Interface (UI) so you'll know where to find the information and features you need. Anywhere you encounter ChatGPT, such as embedded in other software or in other versions of ChatGPT, the UI will be similar. Incidentally, competing generative AIs also have similar user interfaces.

You may want to refer to Figure 1-1 again because it's a screenshot of the full UI. What follows is a list of the parts of the UI with an explanation of each.

1. Far left of the UI at the top of the sidebar: This part of the UI contains a Close Sidebar button on the left, a chat search icon in the middle, and a New Chat button on the right which starts a new chat rather than you simply continuing in the current chat session (see Figure 1-3).

Generated with AI in ChatGPT

FIGURE 1-3: Close Sidebar button is the left. In some versions there is a chat search icon, a magnifying glass, in the middle of the bar. Start New Chat button on the right. All three are at the top left of the UI.

2. Directly below those buttons on the same sidebar are another New Chat start button followed by the Explore GPTs button (see Figure 1-4). The former is just an alternate way to start a new chat, whereas the latter takes you to the GPT Store, where you'll find a collection of GPT minis, which are smaller applications tailored to perform specific tasks. Whichever GPT minis you choose will also be listed here afterwards, making it easier for you to return to those again later.
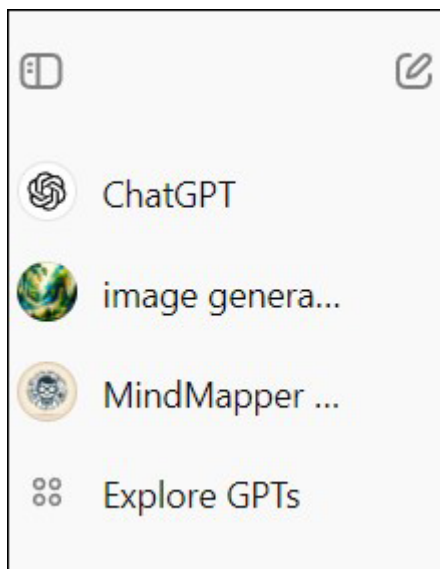
Generated with AI in ChatGPT

FIGURE 1-4: Upper part of sidebar found on left side of UI showing the New Chat start button, a list of GPT minis previously selected, and an Explore GPTs button, which takes you to the GPT Store.

3. When you click on the Explore GPTs button, it will take you to the page shown in Figure 1-5. You can either use the search bar or simply scroll through the selection to find a GPT mini that's already customized to perform whatever task you need.
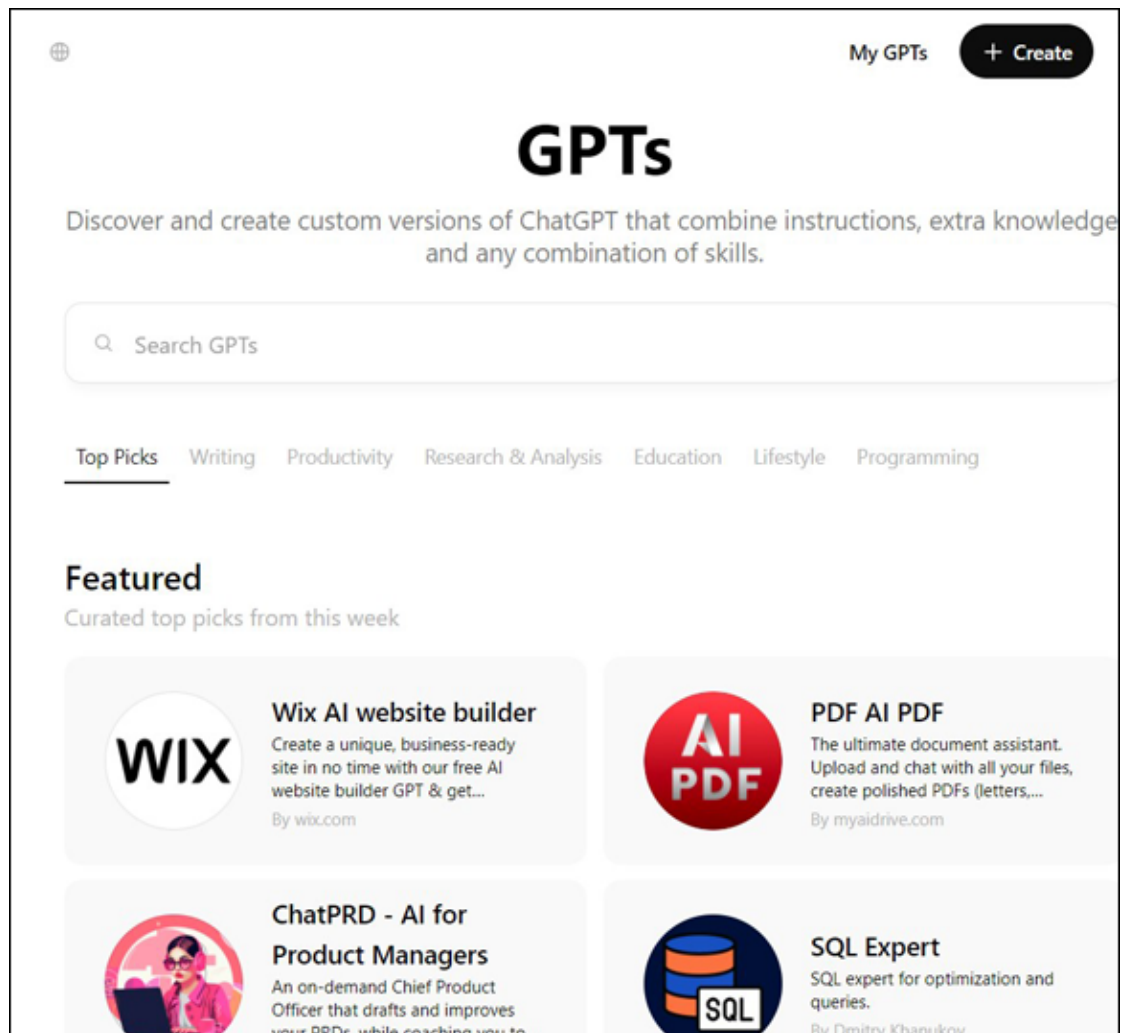
Generated with AI in ChatGPT

FIGURE 1-5: A screenshot of the GPT Store page.

4. The rest of the sidebar lists your chat histories. You can revisit and resume any chat that's listed there. You can also archive, rename, or delete any chat by clicking on the three dots at the upper right of each chat and selecting an action from the dropdown options.

5. At the bottom of the sidebar is a button that enables you to upgrade your subscription at any time.

6. Moving right is the main body of the UI, which is everything on the UI that's to the right of the sidebar. At the top is a dropdown menu of OpenAI's Generative AI models (see Figure 1-6). Choose one for your chat to run on.

7. At the center of the UI main body is the OpenAI logo, which doesn't do anything but it looks pretty (see Figure 1-7).

8. Beneath the logo are suggested prompts you can use as a demo of this application, or just because you're curious about that topic. Click on one if you want to see ChatGPT do its thing.

9. At the bottom of the UI main body is the prompt bar. This is where you'll type your query or command for ChatGPT to respond to. To continue the chat, simply prompt again after ChatGPT responds to your earlier prompt. To change the conversation, click on one of the two New Chat start buttons on the UI that is detailed earlier in the UI tour list.
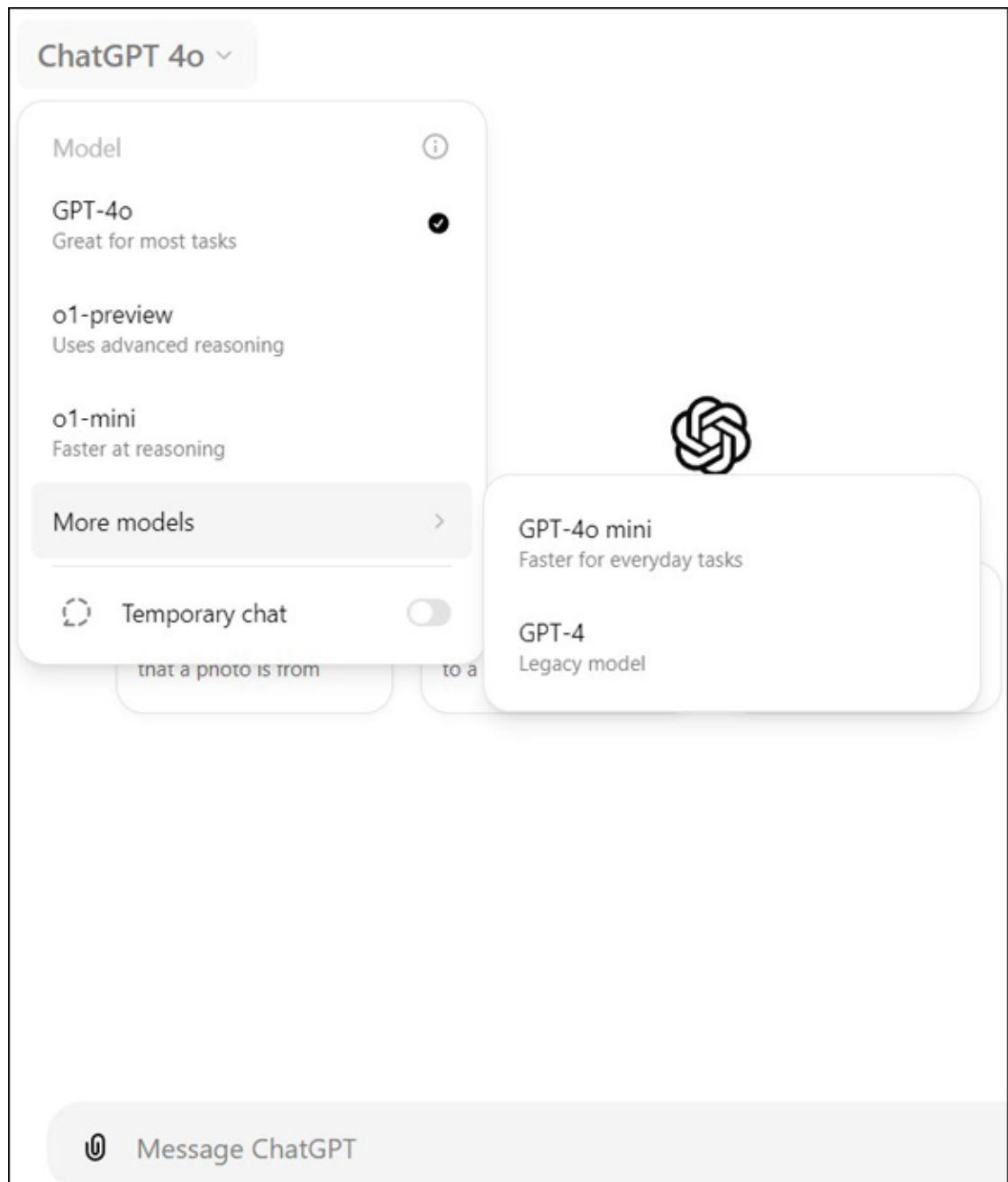
Generated with AI in ChatGPT

FIGURE 1-6: The list of AI model options offered in the dropdown menu at the top left at the center, which is to say on the main body of the UI.
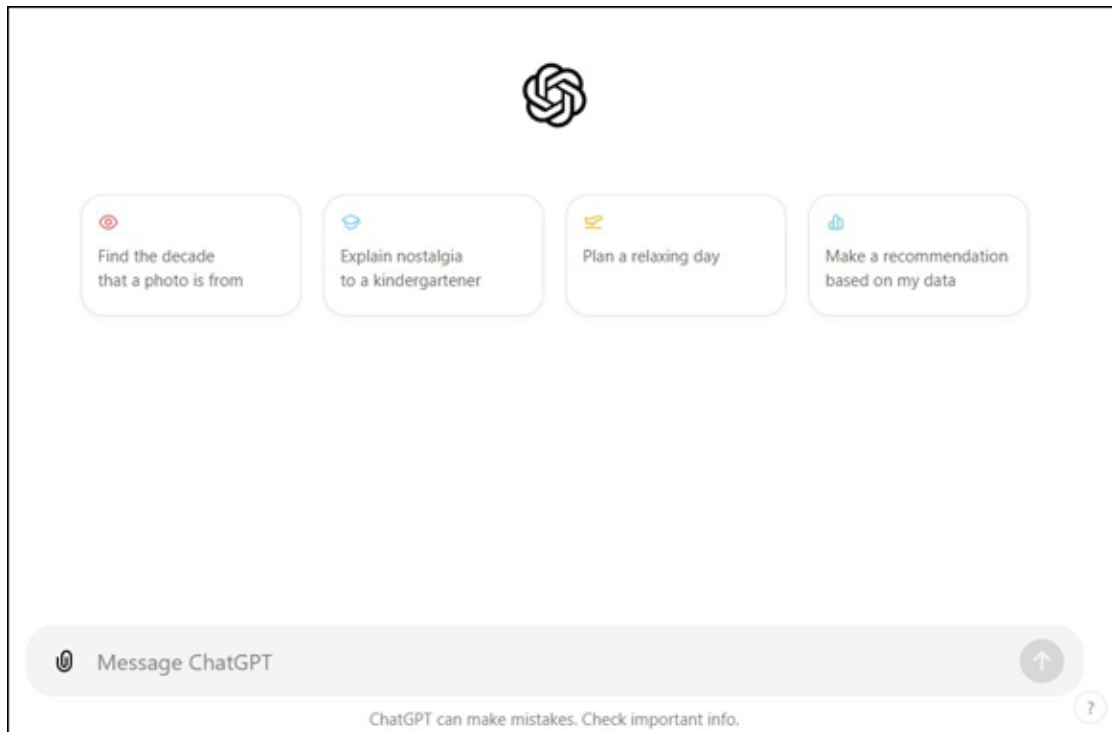
Generated with AI in ChatGPT

FIGURE 1-7: Screenshot of the mid to lower center of the UI showing the OpenAI logo, sample prompts, the prompt bar, disclaimer, and help key.

10. Across the bottom of the prompt bar are three icons on the left and one on the far right (see Figure 1-8). The three on the left are a paper clip to attach files to the prompt, a toolbox to reveal tools you might want to use in the prompt like "search the web" and other GPT applications, and a standalone globe for direct access to internet search. The single icon on the bottom far right of the prompt bar activates voice mode.

11. The question mark at the lower right of the UI reveals a menu of FAQs, help, release notes, terms and policies, and keyboard shortcuts.

Generated with AI in ChatGPT

FIGURE 1-8: A closeup of the prompt bar showing four icons: a paper clip, toolbox, globe, and a sound icon.

WARNING ChatGPT generates rather than regurgitates content, which means it can make erroneous assumptions and responses that are commonly referred to as hallucinations. ChatGPT or any other generative AI model isn't an infallible source of truth, a trustworthy narrator, or an authority on any topic, even when you prompt it to behave like one. In some circumstances, accepting it as an oracle or a single source of truth is a grave error.

Selecting a GPT Model on the ChatGPT UI

GPTs are an advanced type of artificial intelligence model with a core function of generating humanlike text by predicting subsequent words from your prompt, thereby completing a pattern generated in that input sequence. But some advanced GPT models have expanded capabilities, including the ability to process and generate images. You interact with a GPT model through an application like ChatGPT, which is a GPT-based chatbot, or Dall-E, which is also accessible through the ChatGPT toolbox at the bottom of the prompt bar.

The dropdown menu on ChatGPT's UI offers several GPT model options, each with distinct capabilities. GPT-4 is an advanced model, capable of managing many complex tasks, such as in-depth analysis, writing tasks, code writing, and problem-solving. GPT-4 Turbo is an optimized version of GPT-4, meaning it is designed to be faster, more efficient, and capable of handling longer contexts better than previous versions. GPT-4O (aka Omni) is a newer model and multimodal (meaning it can process more formats than just text) that's faster than GPT-4 Turbo. The GPT-4O mini is a lighter variant of GPT-4o because it's built on a small language model rather than a large language model. In other words, GPT 4O mini is a downsized version of GPT 4O.

LLMs are large, general-purpose models. SLMs are typically but not always focused on specialized tasks with smaller computational requirements. SLMs are fast, efficient, and generally cheaper. Additionally, they're typically small enough to reside on a device rather than only in a datacenter.

The latest release is GPT-o1 (formerly Strawberry) and is the start of a new model series. It aims to improve performance primarily through "spending more time thinking," says OpenAI. But because GPTs don't "think," this really means that this new model series does deeper data analysis, uses increased contextualization, and focuses on improved analytical capabilities, primarily focused on areas like mathematics, coding, and scientific problem-solving.

The GPT-o1 model often responds slower to more complex prompts because it's delving deeper into data analysis in search of an appropriate response. However, many users experience no difference between GPT-4o and GPT-o1 in response speeds because the prompts they use aren't complex enough to require a heftier model workout.

The GPT-o1-mini and GPT-04-mini models are optimized for speed and efficiency, focusing on lighter tasks that require quick responses. They may not be as robust in handling complex queries as their bigger brethren of a similar name, but each excels in providing answers more efficiently.

Overall, you should select a model based on your project requirements. If you're just exploring ChatGPT capabilities, you'll usually find whatever GPT model is the default listing on the UI to be sufficient. Typically users find GPT 40 to be the ideal choice for most tasks.

Considering GPT Minis in the GPT Store on the ChatGPT UI

This part can get a bit confusing. As explained in the previous section, GPTs are a type of AI model that ChatGPT runs on. But

here the term GPTs is used to denote a smaller model that you can use within ChatGPT. I know, right??! You would think OpenAI would choose a different moniker for these to cut down on the confusion, but alas, no.

GPTs, as in the ones so labeled and stored in ChatGPT's GPT store, are smaller versions of GPT models that are typically designed to perform specific tasks. They are downsized versions of the big GPT models. Smaller versions of big models are also called small language models, while the big models are called large language models.

Each of these GPTs is optimized for particular work processes such as writing, coding, and providing expert advice in areas such as marketing and data analysis.

Feel free to look around the GPT Store to see what's available by clicking on the Explore GPTs button on the sidebar on the left side of the ChatGPT UI. You can elect to use one of these for your project or return to the original ChatGPT UI and work with that.

Should you want to experiment or use one, following is some simple guidance on selecting GPTs from ChatGPT's GPT Store:

1. **Start by clicking on the Explore GPTs button.**

   You'll find the button near the top of the sidebar on the left side of the ChatGPT UI. That will take you to the GPT Store. You can use search or the topic buttons to quickly move to the type of GPTs you seek, or you can simply scroll to discover all the different options.

2. **Check the descriptions.**

   Each GPT has a short description of what it's designed to do. Before selecting a GPT, read through these descriptions to see if that particular GPT fits the task you have in mind. For example, if you need help drafting an email, you might pick a GPT focused on writing. If you're doing data analysis or writing computer code, choose one tailored for that purpose.

3. **Consider user reviews.**

Some of the GPTs have reviews or ratings that indicate what other users think. Higher ratings usually indicate more reliable performance for that specific type of task. Click on a GPT to see its rating and how many other people use it.

4. **Start with general GPTs, and then get specific.**

   If you're unsure where to start, try a general-purpose GPT first. ChatGPT runs on general purpose GPTs. You might want to return to the ChatGPT UI and use that to see if this general-purpose chatbot is sufficient for your needs. General-purpose GPTs and the main ChatGPT chatbot are great for everyday questions and tasks. Once you become familiar with them, you can explore more specialized GPTs for complex or niche tasks. In other words, you don't have to select any of the GPTs from the GPT Store. Those are simply there in case you want to use a more specialized application.

   TIP   You can copy the output from one or more GPTs and combine it with the response from ChatGPT for a better overall result. Or you can use one or more responses from GPTs as part or all of a prompt in ChatGPT, or vice versa. In the end, your content will likely be much more informed, creative, and polished if you use your own creativity and critical thinking to build upon outputs/responses rather than accept any one response "as is."

5. **Switch GPTs if needed.**

   You aren't stuck with the first GPT you choose. If the one you selected isn't quite working for what you need, feel free to switch to another one at any time. And don't feel like you must always use certain GPTs in future chats. Check the GPT Store often for new GPTs or upgrades to your favorites.

6. **Experiment with new GPTs.**

   Some GPTs may be designed for emerging or niche needs. Don't hesitate to try out new ones for special projects or if you're curious about their capabilities. Besides, doing so may

spark a new creative idea for you. Kick the tires, take GPTs out for a drive, keep what you need, and abandon what you don't.

7. **Remember that ChatGPT will collect the GPTs for you.**

   Once you select a GPT, ChatGPT will list it in the sidebar of its UI. That way you don't have to remember the GPT's name or where to find it. A simple click takes you right to it. If you don't want a GPT to show in the sidebar, roll over the GPT in the sidebar list to reveal three dots. Roll over or click the dots to reveal the options "keep in sidebar" and "hide from sidebar." Click on your selection.

Rendering ChatGPT Outputs to Final Forms

ChatGPT specializes in generating and processing text based on your prompts. If you select a multimodal model, ChatGPT can work with more than text. Although the responses can be amazing, they aren't typically useful in this form. This means you'll likely need to take additional steps outside of ChatGPT. Here are some examples of why outputs typically need to be copied and pasted or otherwise transferred to other software for production tasks like layout and publication:

» **Specialized tools:** Layout and publication often require specialized software, such as Adobe InDesign, for print layout or WordPress for web content management. These tools offer advanced features for design and formatting that aren't part of ChatGPT's text generation capabilities.

» **Complex formatting:** Professional layouts involve intricate design elements like columns, margins, fonts, and graphics. ChatGPT can't manipulate visual elements or handle such detailed formatting.

» **Interactivity and media:** Modern content often includes interactive features or multimedia, such as hyperlinks, videos,

and animations. Embedding and properly configuring these elements typically requires software that's specifically designed for interactive content creation.

» **Platform-specific requirements:** Different platforms have unique requirements for content publication. For instance, an ebook requires a different format than a blog post. ChatGPT isn't built to understand or adhere to these platform-specific nuances.

» **User experience:** Ensuring a good user experience involves testing how content looks and functions on various devices and browsers. ChatGPT doesn't have the capability to test or optimize content across different environments.

» **Compliance and accessibility:** Content often needs to meet certain compliance standards, such as the Americans with Disabilities Act (ADA) for accessibility or General Data Protection Regulation (GDPR) for privacy. Specialized software can ensure that the final product complies with these regulations.

» **Collaboration and workflow:** Production processes often involve multiple stakeholders, including designers, editors, and legal teams. Software designed for production typically includes features for collaboration and workflow management that ChatGPT doesn't have.

» **Quality control:** Before publication, ChatGPT-generated content must go through a quality control process. This might include proofreading, fact-checking, and design review, which are tasks that require human judgment and tools beyond ChatGPT's text-based capabilities.

» **Final output and distribution:** Finally, the content needs to be exported in a format suitable for distribution, such as PDF for print or HTML for the web. ChatGPT doesn't handle file conversions or distribution logistics.

ChatGPT can generate helpful content elements, but taking it to production level involves a range of tasks that are visual,

interactive, and specific to the platform. These tasks require the use of specialized software to ensure the content is well designed, compliant, and optimized for the end user's experience. ChatGPT simply can't perform these tasks.

Understanding What ChatGPT Is and Isn't

ChatGPT responses appear almost too human. That skin-prickling feeling usually referred to as the *heebie-jeebies* is a common sensation for many users. So is a feeling of jaw-dropping awe, magical wonder, or fear that humans just became obsolete. Don't be surprised if you feel one — or all — of these feelings too.

The interactions between you and ChatGPT have a different feel than that previously experienced with other AI-based software. That's mostly because software using earlier iterations of natural-language processing was generally limited to short exchanges and predetermined responses. By comparison, ChatGPT can generate its own content and continue a dialogue for much longer.

And ChatGPT does so fast enough to trick you into thinking that you're having a conversation with a machine that understands you and is without a doubt smarter than you and all other humans. But that's just an illusion. Poor ChatGPT doesn't understand a word you say — or that it says back to you.

REMEMBER ChatGPT doesn't think or learn like humans do. Rather, its responses are based on its pattern recognition capabilities and the limited data it has access to. But wait, you might say since you've probably heard that ChatGPT was trained on data scraped from the internet and that some versions have access to the internet. Believe it or not, no matter how large a dataset ChatGPT or any AI model has access to, it's too limited an amount of data in the larger scheme of existence.

For example, the infamous *six-finger problem* — wherein GPT-generated images show the incorrect number of fingers on human hands — happens because the model's training data shows hands in a variety of positions, and not enough images showing five fingers are the norm. Thus, ChatGPT will rightly tell you that a human hand has five fingers, yet it doesn't "know" that fact and therefore can't reliably and consistently show that in images it generates. By comparison, a small child knows that five fingers are the norm for a human hand because the kid is exposed to more data in real life than the GPT is exposed to on purpose. This one example should show you why ChatGPT and GPT models aren't smarter than humans and will always be limited to the size and value of their data access.

Will we have the all-knowing, omnipotent artificial general intelligence (AGI) of sci-fi lore like HAL in the movie *2001: A Space Odyssey* or the humble Computer in *Star Trek* movie and TV series one day? Maybe. But what we have now isn't that.

What we have now in ChatGPT is a valuable and capable tool that generates content drawn from its data-based predictions and based on mathematical probabilities. As a tool, its performance is hugely influenced by the skill of the person using it. Those who wield it well will prosper. Those who don't will probably have a hard time staying employed in the future.

REMEMBER ChatGPT doesn't think like humans do. It predicts, based on patterns it has learned, and responds accordingly with its informed guesses and prediction of preferred or acceptable word order. That's why the content it generates can be amazingly brilliant or woefully inaccurate. The magic, when ChatGPT is correct, comes from the accuracy of its predictions. Sometimes ChatGPT's digital crystal ball is right, and sometimes it's not. Sometimes it delivers truth, and sometimes it spews something more laughable or even vile.

Unwrapping ChatGPT fears

You can thank science fiction writers and your own imagination for both the tantalizing and terrifying triggers that ChatGPT is now activating in your head. But that's not to say that there are no legitimate reasons for caution and concern. Lawsuits have been launched against generative AI programs for copyright and other intellectual property infringements.

OpenAI and other AI companies and partners stand accused of illegally using copyrighted photos, text, and other intellectual property without permission or payment to train their AI models. These charges generally spring from copyrighted content getting caught up in the scraping of the internet to create massive training datasets. In general, legal defense teams are arguing about the inevitability and unsustainability of such charges in the age of AI and requesting that charges be dropped. The lawsuits regarding who owns the content generated by ChatGPT and its ilk lurk somewhere in the future. Meanwhile, lots of companies with massive stores of content are licensing the use of their content to OpenAI and other GenAI makers to use for model training. Further, social media companies and other companies whose users and customers post information are quietly making permission to use that content to train AI models the default position — at least in the US, where data protections are far weaker than they are in Europe.

Establishing culpability: When things go wrong

Realistic concerns exist over other types of potential liabilities too. ChatGPT and its kind are known to sometimes deliver incorrect information to users and other machines. Who is liable when things go wrong, particularly in a life-threatening scenario? Even if a business's bottom line is at stake and not someone's life, risks can run high and the outcome can be disastrous. Inevitably, someone will suffer, and likely some person or organization will eventually be held accountable for it.

Then there are the magnifications of earlier concerns such as data privacy, biases, unfair treatment of individuals and groups through AI actions, identity theft, deep fakes, security issues, and *reality apathy,* which is when the public can no longer tell what's true and what isn't and thinks the effort to sort it all out is too difficult to pursue.

In short, ChatGPT accelerates and intensifies the need for the rules and standards currently being studied, pursued, and developed by organizations and governments seeking to establish guardrails aimed at ensuring responsible AI. The big question is whether they'll succeed in time, given ChatGPT's incredibly fast adoption rate worldwide.

Examples of groups working on guidelines, ethics, standards, and responsible AI frameworks include the following:

» U.S. Executive Order on AI issued in October 2023 by former president Joe Biden aims the force of federal governmental agencies at managing risks through required AI safety testing and result sharing with the U.S. government, among other actions.

» The Artificial Intelligence Act (aka as the AI Act), passed in March 2024, applies to any company developing, deploying, or using AI anywhere in the European Union (EU). It carries significant penalties for transgressions, including "administrative fines of up to 35,000,000 EUR or, if the offender is an undertaking, up to 7 percent of its total worldwide annual turnover for the preceding financial year, whichever is higher."

» ACM US Technology Committee's Subcommittee on AI & Algorithms

» World Economic Forum

» UK's Responsible Technology Adoption Unit (RTA) of the Department for Science, Innovation, and Technology (DSIT)

» Government agencies and efforts such as the US *AI Bill of Rights* and the European Council of the European Union's

Artificial Intelligence Act

» IEEE and its 7000 series of standards

» Universities such as New York University's Stern School of Business

» The private sector, wherein companies make their own responsible AI policies and foundations

As to public opinion, two trains of thought appear to be at play. The first is support for the full democratization of ChatGPT, which is essentially what's happening now because OpenAI lets users participate in training the model by using it in almost any way they want. The second is a call for regulating ChatGPT and other generative AI use to curtail crime, scams, cyberattacks, bullying, and other malevolent acts accomplished or scaled up with these tools.

While some regulatory oversight is clearly needed, ChatGPT is a useful tool, packing a lot of promise and potential to do good for individuals, societies, governments, and organizations. Indeed, I argue that this is a first step in human augmentation. Although ChatGPT isn't integrated into the human body, it can be used to augment human thinking, understanding, work, and creative endeavors.

PROS AND CONS OF CHATGPT

Like all technologies, ChatGPT has both pros and cons to consider. Unlike many other technologies, however, ChatGPT is unique. And it is unique in several ways, including the unauthorized use of copyrighted and intellectual property materials scraped from the internet and used in its training and output generations, and widely used by millions of individuals and organizations worldwide. However, if you leverage the good and plan how to offset the bad, all should go well with your projects!

Pros	Cons
Fast responses	Sometimes inaccurate
Delivers unified answer	Varying quality

Conversational	Sometimes repetitive or offensive
Wide range of capabilities	Convincing even when wrong
Many applications	Conversations aren't private
Generates content	Not permitted by many companies who fear liability issues from wrong content

Chapter 2

Choosing GPT Models in ChatGPT

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IN THIS CHAPTER

» **Understanding the difference a GPT model makes**

» **Exploring model options**

» **Comparing model speed versus accuracy**

» **Deciding between the pros and cons of multimodal models**

....

At first glance, ChatGPT appears deceptively simple. You ask it a question or give it a command in the prompt bar, and it responds with an answer. That's how all chatbots work, right? So what's so special about this one?

In this chapter, you learn that ChatGPT is to traditional chatbots what a rocket ship is to a paper airplane — far more advanced, powerful, and capable. You discover the basics of how it works and why it relies on your skills to optimize its performance. But the real treasure here are the tips and insights on how to write prompts so that ChatGPT can perform its true magic.

This chapter gives you the majority of information you need to understand and use ChatGPT. Read it even if you read nothing else in this book.

Summarizing GPT Models

OpenAI's GPT-1 and GPT-2 laid the groundwork for ChatGPT, but ChatGPT didn't pack a full punch until GPT-3 was developed. Then along came GPT-3.5 and GPT-3.5 Turbo to optimize GPT-3

into a more powerful model. GPT-4 soon followed, but the march to more efficient, capable, and impactful models continues.

The base GPT-4 model was a significant advancement, and GPT-4 Turbo further improved upon it. The latest model in this series, GPT-4o (that's a small o as in 4o, and not the number 40) is also known as Omni, and is a highly optimized version of GPT-4 with added multimodal capabilities, meaning it can accept input and generate outputs in text, audio, image, and video formats.

Next up is a new series of models because OpenAI decided to take a different approach rather than further optimizing the current series. First released is the GPT-o1 Preview as an introduction to the new series, which focuses on complex problem-solving primarily in higher mathematics and sciences. OpenAI subsequently released full GPT-o1 and GPT-o1-mini versions. Some people describe GPT-o1 (again with a small o, not 01) and also known as Strawberry as the digital equivalent of a PhD student because it does a deeper analysis and uses more context in formulating its responses than do other GPT models. If the prompt is complex enough, GPT-o1 will be a little slower in responding due to the emphasis on more accurate and nuanced outputs over speed.

GPT-o1 tends to outperform other GPT models in doing complex science, coding, and mathematics tasks. However, this model tends to perform worse in tasks requiring non-STEM factual knowledge. So it's good at math but not so good at fiction writing. This model, too, doesn't think or reason in the classical human sense. It can also hallucinate (see "Touring the User Interface" in [Chapter 1](#) for a further explanation of "hallucination"), so you'll be wise to fact-check its work. However, it's a modern marvel, and I find it useful for several difficult tasks requiring longer inputs and more complex problem-solving o3 and o3 mini high are the newest reasoning models, with o3 mini high being the smaller version. Both are now available for use in ChatGPT.

Even so, I tend to favor the lighter, smaller versions, meaning GPT-4o-mini, GPT-O3-mini high, and several of the GPTs that are

accessible in ChatGPT's Store. For example, the GPT-o1-mini is a smaller yet formidable version within the o1 series. It's optimized for quick responses and cost-effectiveness in STEM-type problem-solving such as math and coding. Fast answers that don't overuse compute resources are appealing choices for many of my tasks. But don't worry if you find yourself using a version of Excel with GPT-4o capabilities embedded — that's plenty of AI power to handle spreadsheet formula-building and calculations and it's not going to add much, if anything, to your Microsoft Office subscription bill.

REMEMBER Don't become too enthralled with any given GPT model. Instead, look to match their capabilities with your project requirements. ChatGPT offers various advanced features like custom instructions, data analysis, and file uploads across different GPT models depending on the user's subscription level.

CHATGPT VERSUS TRADITIONAL SEARCH ENGINES

ChatGPT	Search Engine
Generates a single narrative	Generates a list of potentially relevant information
Doesn't cite sources	Reveals sources
Predicts responses	Matches keywords
Can hallucinate	Doesn't hallucinate
Can provide disinformation	Can provide disinformation
Prompts essential to performance	Keywords essential to performance

The capability to create a rapid, natural-language response that fits with the user's intent and the prompt's context is an astounding feat for a machine. Doubly so when the responses are fast enough that the AI model appears to be conversing with you. Despite its early shortcomings, GPT-3 and GPT-4 are modern marvels too.

Leaping from Unimodal to the Multimodal GPT Models

In the context of GPT models and other AI models, *unimodal* refers to a model that processes or generates data from a single modality — a single type of input, such as text, images, or audio. A unimodal GPT model, for example, might focus on understanding and generating text only. You can call such a model a text generator. Similarly, if it understands and generates only images, it is called an image generator and so on.

In contrast, multimodal models can handle multiple types of inputs and/or outputs, such as text, images, audio, or video, combining information across different sensory modalities.

The progression from unimodal to multimodal GPT models is no small technological feat. The advancement reflects the expansion of artificial intelligence from handling single types of data to integrating multiple forms of information for more comprehensive understanding and interaction.

Understanding modal versus multimodal

Unimodal GPT models predominantly handle text. These models excel in natural language processing tasks such as generating text, translating languages, summarizing content, and simulating

conversations. However, their functionality is constrained to a single form of input and output, such as text-to-text. For example, ChatGPT running on earlier GPT models like GPT-3 and GPT-3.5 or Turbo was unimodal.

Multimodal, on the other hand, refers to a mix of at least two modals handled by the same GPT model. For example, DALL-E is a multimodal model because it accepts text input but outputs images. Think of it as bridging the gap between language and visual content.

But not all multimodal models input one form and output another form of content. GPT-4o works with text, images, and voice, meaning that all inputs and outputs are processed by the same neural network. To put it more clearly, GPT-4o accepts as input any combination of text, voice, and image, and generates both text and image outputs.

Currently, ChatGPT running on either GPT-4o or GPT-o1 multimodal models can accept and process a mix of forms in the input, such as both text and images in the prompt, but currently output primarily text. This is expected to change over time as OpenAI continues to explore, refine, and fine-tune ChatGPT capabilities. Meanwhile, ChatGPT can draw upon its sister image generator, DALL-E, and a variety of GPTs like Image Generator and Canva to create images within ChatGPT.

The new GPT-o1 series is likewise multimodal but still evolving as these models focus more on solving STEM problems than creative or conversational tasks. The early Preview and Mini versions operated in ChatGPT as unimodal, text-to-text only.

Deciding if you need a multimodal GenAI tool

My personal preference now is to use or aggregate the outputs of other specialized GenAI applications to leverage the advantages of each over trying to extract everything I need from one

multimodal model. I share more details on why and how I do that in .

But for now, suffice it to say that there are good reasons to use unimodal and equally good reasons to use multimodal ChatGPT. Following are five considerations to help you choose when it's the right time or right project for either option.

TIP Don't let my mentions of *applications* below intimidate you if you aren't a developer. ChatGPT can write computer code for you, so if you want to create your own app to make your day job easier, you can do that now. It's almost magic how you can make an app just by talking it into being! However, you'll probably have to tinker with it to make it just right so having some coding skills is important too. It's a great tool but far from perfect in writing solid code. My point of mentioning apps as separate from other projects is merely to spur you to think of all the possibilities that may apply to you.

1. **Nature of the interaction:**

   If the ChatGPT application you're building — or any project that you're working on — strictly involves text-based interactions, such as answering questions, providing explanations, or engaging in dialogue, a unimodal GPT model that specializes in text is typically sufficient.

   If the interaction requires understanding or generating content that includes images, orvoice — such as interpreting visual content, responding to queries about images — a multimodal GPT model is necessary.

   However, current limitations on how ChatGPT uses these models will likely necessitate the use of third-party tools to complete these tasks. For example, you might find it useful to use ChatGPT to write video scripts and then copy that script to a video-generator tool like Synthesia, Runway, HeyGen, or

Pictory, depending on the type of video or video elements you want to create.

2. **Complexity of the tasks:**

   Consider the complexity of the tasks you expect ChatGPT to perform. Unimodal models excel at complex language tasks but are limited to text. Multimodal models can handle complex tasks that involve multiple data types, which is crucial if your project or application needs to correlate information from text and other modalities.

   However, if you're creating content with ChatGPT, at the moment you may find it useful to create charts and graphs in a third-party tool designed for that purpose rather than trying to build such in ChatGPT. The data visualizations that I've generated thus far in ChatGPT have been poor. I predict that will be rectified at some point especially given the o1 series focus on the hard sciences and higher mathematics.

   By the time you read this book, ChatGPT may have improved its data visualization capabilities. I'm just sharing that you have options if you don't find those outputs sufficient for your needs. I tell you more about that in Chapter 5.

3. **Data availability:**

   If you can, evaluate the availability and quality of training data. Not all providers are willing to divulge this information. You don't need every detail or data point to make this assessment — only a general idea of the data source(s) and the cutoff date, which is the last day when data was collected and used to train a particular AI model. Any information, events, or developments that occurred after the cutoff date are not included in the AI's knowledge base.

   Unimodal models can be trained with text-only datasets, which are often more readily available. Multimodal models require diverse and well-annotated datasets that include the modalities you want the model to understand, which can be more challenging to source and prepare.

REMEMBER Large models and huge datasets aren't always a plus because along with their increased sizes comes increased complexity. Data relevancy is much more important and is the entire point in using small language models (SLMs) and mini GPTs. For example, if your project is early cancer cell detection, you don't want to use a model trained only on restaurant data. And if you're seeking the causes for helicopter crashes, you don't want to use a model trained only on helicopter crash data because it will then conclude that *all* helicopters crash, which can really warp its recommendations in a bad or even dangerous way.

4. **Resource constraints:**

   Consider the computational resources at your disposal. Unimodal models are generally less resource-intensive than multimodal models.

   Multimodal models may require more processing power and memory due to their complexity and the larger and more diverse datasets they need to handle, which can translate to higher operational costs. If you're using a personal or consumer version of ChatGPT, you'll see these factors result in usage constraints which vary among the different subscription levels. If you're using an enterprise version, you'll see these factors affect your costs. If you build your own or integrate ChatGPT with other software, you'll similarly find pricing or usage constraints there too.

5. **Experience and expectations:**

   Which type of model is a better experience for you in terms of performance and ease of use? And if you're creating something with or for other people, what level of experience and understanding do they have? If users, other team members, or collaborative partners expect to interact using only text, a unimodal model should be a perfect fit.

If a more dynamic interaction is expected — perhaps the inputting of images or other media for the ChatGPT to analyze and respond to — a multimodal model would be better suited to this project requirement.

The long and short of it is not to shoehorn your project into one or many modes; instead, select the unimodal or multimodal ChatGPT model to fit your project.

REMEMBER Avoid falling into a GenAI rut. Stay abreast of new model capabilities and new models appearing on the market. Things are happening fast! You can find yourself, your projects, and your company falling behind in a jiffy if you don't. The important thing is to use the tool that's right for the job — but that may be a tool that won't exist until, say, next Tuesday or next year!

Grasping the Meaning of Generative AI

Generative AI, aka GenAI, is a type of artificial intelligence (AI) that can generate new content, ranging from text to images, video and music. It's distinct from other AI systems that primarily analyze and interpret data to make predictions or recommendations. Instead of just processing information, generative AI uses pattern recognition, natural language processing, computer vision, and other technical means to generate new outputs by remixing the data in its dataset and matching it with the pattern you create in your prompts.

For example, a generative AI model can write a new article, design virtual rooms, or generate code at your command by following patterns it detects while analyzing vast amounts of data. This differs from predictive AI models, which might forecast stock

market trends or suggest products based on user behavior without generating any new content of their own.

For the average person, generative AI can be a practical tool. It can assist with content creation, such as suggesting dialogue for a script or generating ideas for a graphic design project. This capability makes it valuable for assisting or augmenting human creativity.

Generative AI's ability to automate and innovate makes it a powerful tool across various fields, from marketing and entertainment to software development and beyond. It democratizes creative tasks, making them more accessible to those without specific expertise, and enhances productivity by handling complex or repetitive creative processes.

Categorizing generative AI types

Beyond distinctions in models lie the differences in GenAI types. Generative AI can be categorized based on the type of content it generates and the methods it uses to create that content. The main types of generative AI include text, image, video, audio, and data generation models.

» **Text-generation models** like GPT-3, GPT-3.5, and GPT-3.5 Turbo are trained to understand and produce written language. They can write essays, generate code, create poetry, and even draft emails. For example, GPT-3 can be prompted to write a story in the style of a specific author.

» **Image-generation models** such as DALL-E can create new images from textual descriptions. You can ask DALL-E to generate an image of "a two-headed giraffe" or "an alien riding an elephant," and it will produce a visual representation of that concept.

» **Video-generation models** are more complex because they must understand and predict both visual elements and how they change over time. These models might be used to create new video clips from a script or to simulate how a person

might look while expressing different emotions. Note that at the time of this writing ChatGPT cannot input or generate video. Other at applications outside of ChatGPT can however.

» **Audio-generation models** can compose music or generate realistic speech from text. For instance, a model like Jukebox can create new songs in the style of certain musicians, whereas other models can produce lifelike synthetic voices for virtual assistants. Note that currently ChatGPT can accept voice inputs but cannot input or output audio files. Other applications outside of ChatGPT, such as OpenAI's Jukebox can however.

» **Data-generation models** are used to create synthetic datasets that mimic real-world data. This can be useful for training other AI models when actual data is scarce or sensitive. For example, a generative model could create a dataset of synthetic medical records for research purposes without compromising patient privacy.

Each type of generative AI uses different techniques to learn from existing examples and generate new content. The choice of model depends on the specific task and the kind of output desired.

Learning about large language models

Large language models (LLMs) are advanced AI models designed to understand, generate, and manipulate human language on a large scale. They're trained on vast datasets containing billions of words from books, articles, websites, other textual sources, and even the entire internet. They use deep learning techniques, particularly neural networks like the Transformer architecture, to perform an array of natural language processing tasks, including translation, summarization, question-answering, and content creation.

GPT (generative pre-trained transformer) models are a type of LLM developed by OpenAI. GPTs are built on the Transformer architecture and are designed to capture contextual relationships in sequential data. GPT models come "pre-trained" on extensive text data scraped from the internet, enabling them to generate contextually relevant, on-demand responses to your prompts.

The evolution of GPT models — from GPT-1 to GPT-4 to GPT-o1 — involves significant advancements in language understanding and generation capabilities. Each iteration has increased or improved in complexity and performance. GPT models have been instrumental in popularizing and democratizing LLMs, especially after ChatGPT made its public debut as a free application for everyone. This proved to be a brilliant, cheap, and fast way to train the model as well as to prove to the public the usefulness of such applications as chatbots, content generation, coding assistance, and other tasks.

In short, GPT models are a subset of large language models. They've played a crucial role in showcasing the potential and versatility of LLMs in various real-world applications.

Discerning the difference between large language models and small language models

Large language models (LLMs) and small language models (SLMs) are both types of AI designed to process and generate human language, but they vary significantly in size, capabilities, and applications. In addition to the information provided below, refer to Table 2-1 for a comparison of the two by feature.

TABLE 2-1 Large Language Models (LLMs) versus Small Language Models (SLMs)

Feature	Comparison
Size and Complexity	LLMs are much larger and more complex than SLMs.

Feature	Comparison
Performance	LLMs typically outperform SLMs in general tasks. But SLMs can outperform LLMs in specialized tasks if they've been trained to do so.
Resource Requirements	LLMs need more computational power and data to train and operate, whereas SLMs are lighter and usually cheaper.
Accessibility	SLMs are more accessible for everyday use and can be deployed in a wider range of environments.
Use Cases	LLMs are suited for applications that demand high-quality, nuanced language output, or for general purpose use. SLMs are often sufficient for more straightforward or highly specialized tasks.

Large language models (LLMs): LLMs like GPT-4o and BERT (Bidirectional Encoder Representations from Transformers) are built with a vast number of parameters. These parameters are elements the AI assimilates from training data to use later in making its predictions, and they can number in the billions. This is what LLMs use to gain a deep understanding of language nuances, context, and information. This huge collection of parameters enables LLMs to perform a wide range of tasks. They require substantial computational resources to train and run, which can make them expensive to use.

Small language models (SLMs): Small language models are built with fewer parameters, sometimes only in the millions or tens of millions. This makes them faster and cheaper to run but also generally less capable than their larger counterparts. However, for many applications, such as simple chatbots, specialized tasks, and text classification tasks, small language models can be quite effective. That's even more true if they're trained on specialized data to perform specific tasks. They're also easier to deploy on devices with limited computing power, such as mobile phones and embedded systems.

The choice between an LLM and a small language model depends on the specific needs of the task at hand, considering factors like performance requirements, resource availability, and

deployment context. Also, please note that not all SLMs are specialized for a task. Many are simply smaller versions of a larger general version and exist because they tend to be faster and cheaper to use.

Finding out not all GenAI is based on GPT models

Given ChatGPT's wide adoption rates, overall popularity, and media attention, you can hardly be blamed for thinking that generative AI (GenAI) and ChatGPT are two terms for the same thing. But that isn't the case. The subset of AI known as GenAI includes a wide variety of models and approaches beyond OpenAI's well-known GPT series, of which ChatGPT is only one application.

For example, some models are based on different neural network architectures like variational autoencoders (VAEs) and generative adversarial networks (GANs). VAEs are often used to generate complex data, such as images and music. They work by encoding data and then decoding it to generate new instances.

On the other hand, GANs consist of two neural networks — the *generator* and the *discriminator* — competing against each other. Whereas the generator creates data that is as realistic as possible, the discriminator tries to distinguish between real and generated data. This setup has been particularly successful in creating realistic images and even video content.

Another approach is the use of autoregressive models like WaveNet, which was originally designed for generating realistic speech waveforms. Unlike GPT models that predict the next word in a sequence of text, WaveNet predicts the next audio sample in a waveform, making it highly effective for tasks that involve audio synthesis.

Transformer models other than GPT, such as BERT, are also used in generative tasks. BERT, for instance, is designed to understand the context of words in search queries or other text by considering

the words that come before and after. Although BERT itself isn't primarily a generative model, its architecture has inspired other models that are used for generative purposes.

Models like Stable Diffusion integrate natural language processing with image synthesis to generate images from textual descriptions. These models use diffusion processes or other mechanisms distinct from GPT models, highlighting alternative pathways to generative capabilities.

Lastly, there are domain-specific models that are tailored for particular types of data or tasks. Models that are designed to generate molecular structures for drug discovery or models that can simulate environmental systems for climate change predictions are an example.

Chapter 3

Warnings, Ethics, and Responsible AI

IN THIS CHAPTER

» **Learning about the dangers**

» **Understanding your responsibilities**

» **Discerning the need for rules**

» **Mitigating risks**

In this chapter, you learn why using ChatGPT responsibly is so important. You also learn about the larger Responsible AI movement, wherein those who subscribe work to make AI safer and fairer for all.

You begin by diving into the issues and then moving onto actions you and society can take to offset, repair, or prevent problems. After all, ethics is about more than feeling good about your project. It's about protecting all of mankind from dangers lurking beneath the public's awareness that can hurt others in the end.

Sparking Controversy and Conflict

ChatGPT and other generative AI models have ignited controversy around ethics and responsibility issues. Because of the continued conflicts over these and related issues such as plagiarism and copyright infringement, many organizations outright ban the use of ChatGPT and similar GenAI tools,

whereas others require disclosures on anything created in part or whole by ChatGPT or other GenAI.

The concerns are numerous and include bias, misinformation, privacy, intellectual property, and the impact on employment. Following are brief explanations and examples of a few of the key issues:

» **Bias and fairness:** Generative AI models can inadvertently perpetuate and amplify biases present in their training data and algorithms. For example, if a model like ChatGPT is trained on text from the internet, it may learn and reproduce troll behavior, stereotypes, or prejudices that are present in that data. Efforts to mitigate bias include careful curation of training datasets and the implementation of fairness algorithms.

Example: A study titled "Man is to computer programmer as woman is to homemaker? debiasing word embeddings" by Bolukbasi et al. (2016) demonstrated gender bias in word embeddings, a form of representation used in natural language processing, which could also affect ChatGPT and generative AI models.

» **Misinformation and trust:** ChatGPT-generated content can be indistinguishable from content that humans create, raising concerns about the spread of misinformation. Chatbots can generate fake news or impersonate individuals, which can have serious implications for trust in online information.

Example: In 2019, OpenAI initially decided not to release the full version of GPT-2, citing concerns about potential misuse for creating convincing but fake content.

» **Privacy:** Generative AI models are trained on vast amounts of data, some of which may be personal or sensitive. There are concerns about whether GenAI applications like ChatGPT can inadvertently reveal this information, potentially leading to privacy breaches.

Example: Research by Carlini et al. (2021) has shown that language models can sometimes output snippets of training data, which can include private information.

» **Intellectual property:** Generative AI models can generate text, images, music, and more, raising questions about who owns the content it produces. This can lead to disputes over copyright and the rights to ChatGPT-generated creations.

Example: In 2022, Jason Allen's art titled "Théâtre D'opéra Spatial," which he created with a Generative AI image generator called Midjourney, won first place in Colorado State Fair's annual art competition, leading to debates about whether generative AI can be considered an artist and who should be credited for the work.

» **Accountability and responsibility:** When generative AI or other AI systems make decisions or produce outputs, it can be challenging to determine who's responsible for those actions. This is especially problematic when chatbots like ChatGPT give advice that can lead to harm or damages.

Example: If ChatGPT or one of its generative AI competitors provides incorrect medical advice or legal information, it's unclear who would be held accountable for the resulting harm or death — the developers, the company distributing the chatbot, or the end users.

» **Impact on employment:** ChatGPT and other generative AI applications and tools can generate humanlike text, images, or other content, which can potentially replace jobs in journalism, content creation, and other creative industries, leading to economic and social implications.

Example: The Associated Press has used AI to automatically generate news articles on financial reports since 2014 and has since entered a mutual licensing deal with OpenAI, which could reduce the need for human reporters.

» **Security:** The ability of AI like ChatGPT to generate convincing phishing emails or engage in social engineering poses a significant security risk. Generative AI can be used to

automate and scale these attacks, making them more difficult to detect and prevent.

Example: Researchers, including Chief People Hacker Stephanie "Snow" Carruthers who led the IBM X-Force research project, have demonstrated that generative AI can write phishing emails that are more effective than those that humans write.

» **Human-AI interaction:** As generative AI, particularly chatbots like ChatGPT, becomes more advanced, there's a risk that human interactions with AI could become less genuine, potentially impacting social skills and emotional intelligence.

Example: Overreliance on generative AI companionship could lead to decreased human interaction and associated social skills, as explored in studies like "Digital Loneliness — Changes of Social Recognition through AI Companions" by Kerrin Artemis Jacobs (2024) and "Alone Together: Why We Expect More from Technology and Less From Each Other" by Sherry Turkle (2017).

These issues and studies — and many others — fueled efforts to address them. Researchers, policymakers, and industry leaders are exploring a range of solutions, including ethical guidelines, regulatory frameworks, and technical measures to ensure that generative AI is developed and used responsibly.

Defining Responsible AI

Responsible AI as a movement promotes core values in AI development and use, including fairness, accountability, transparency, privacy, security, and ethics. The aim is to ensure that AI systems are designed and operated in a manner that allows them to contribute positively to society, minimizing harm and ensuring that the benefits of AI are distributed fairly. It involves careful consideration of the AI lifecycle, including data sourcing, model training, deployment, and ongoing monitoring. Responsible AI also looks at the broader societal impacts, such

as the displacement of jobs and the need for new skills in the workforce.

Numerous organizations support the principles of Responsible AI through research, policy development, and advocacy. One such organization is the global, member-driven nonprofit Responsible Artificial Intelligence Institute, which seeks to support Responsible AI efforts in organizations to include conformity assessments and certifications for AI systems. Another example is the Partnership on AI, which includes stakeholders from industry, civil society, academia, and nonprofits, all collaborating to study and develop best practices on AI technologies. Other supporting organizations include IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, the AI Ethics Lab, and the AI Now Institute. Others are set to arrive on the scene, and likely others will arise because interest in these efforts is universally strong.

On the corporate side, major tech companies like Google, Microsoft, and IBM have their own Responsible AI initiatives. For example, Google's AI Principles outline the company's commitment to developing AI aimed at being socially beneficial, avoiding unfair bias, being built for safety, having accountability to people, and upholding high ethical standards. Microsoft established an AI and Ethics in Engineering and Research (AETHER) Committee to govern its AI initiatives and released guidelines for Responsible AI, emphasizing fairness, reliability and safety, privacy and security, inclusiveness, transparency, and accountability.

In yet another example, IBM developed tools like AI Fairness 360, AI Explainability 360, and Adversarial Robustness Toolbox to help ensure AI systems are fair, explainable (which makes AI decisions understandable and transparent for humans), and robust against tampering. These tools are part of IBM's broader Responsible AI framework, which also includes efforts in policy leadership, education, and research collaborations.

However, several major tech companies have since restructured, reduced, or eliminated their internal responsible AI initiatives. As

of this writing (and subject to change over time), the list includes:

- » **Microsoft:** In March 2023, Microsoft laid off its entire Ethics and Society team within its internal AI organization. This team was responsible for ensuring Microsoft's AI principles were tied to product design.

- » **Meta (Facebook):** In November 2023, Meta announced the redistribution of its Responsible AI team members among various company divisions. The company said it would integrate them closer to core product development.

- » **OpenAI:** In May 2024, OpenAI's Superalignment team, which was focused on long-term AI existential risks, was disbanded. Team members either resigned or were reassigned to other research groups.

- » **Google:** Although Google still maintains a Responsible AI and Human Centered Technology (RAI-HCT) team, it faced controversy in 2020 when it fired ethical AI researcher Timnit Gebru, leading to several departures from the department.

Changes and disruptions in corporate dedicated internal Responsible AI support teams is causing serious concerns among governments, security professionals, and citizen protection groups. However, member-driven, nonprofit organizations like The Responsible AI Institute appear to still have strong support.

Considering Copyright and IP Protections

Currently, if a generative AI application like ChatGPT creates something on its own, that work isn't protected by copyright law in most places around the world.

The US Copyright Office says that AI can't be given copyright because it's not a person. Copyrights are only for works that humans make. In the European Union, the rules are pretty much

the same. Copyright laws there say that a work must be original and come from a person's own creative effort. So if something is made only by AI with the only human help being in the form of a prompt, it usually can't be copyrighted. In other countries, the laws are generally in line with this thinking. They require a human to have made the creative choices that led to the work.

There are some exceptions, though. If a person uses a generative AI tool and adds their own creative input, that final work might be copyrighted, depending on how much the person did. Also, as GenAI becomes more advanced, some countries say they might consider changing their laws to include GenAI-made works. But for now, no major legal system gives copyright to things made entirely by GenAI.

Even though GenAI-made works aren't copyrighted, the companies that make AI tools often set rules about how you can use what their AI creates. Sometimes they let you use it for anything, even making money. But they might keep some rights or have certain rules you must follow.

Be aware that some companies claim rights to content you create using their GenAI tool. For example, some versions of ChatGPT allow OpenAI to use outputs to train future AI models. Another example is Midjourney, a popular AI image-generation tool, which currently states in its terms of service that users grant Midjourney a license to the images they create. Specifically, their terms say that users grant Midjourney "a perpetual, worldwide, non-exclusive, sublicensable no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute text, and image prompts you input to the Services, or Assets produced by the service at your direction." However, Midjourney's terms of service, like any other companies, may have changed since this book was written. Be sure to check the terms of service for any Generative AI tool you want to use before you proceed.

If you use AI to create content, you should be careful. If the AI was trained on copyrighted material, it could make something too

similar to what's already copyrighted, and that could get you into legal trouble. Conversely, if the GenAI tool can keep and use your inputs and outputs, you could be exposing yourself or your company to other types of legal liability or loss of legal protections for intellectual properties.

In short, GenAI-created content isn't usually covered by copyright, but the rules around it can be tricky, and they might change in the future. If you're using GenAI like ChatGPT to create things, especially if you want to sell them, it's a good idea to stay informed about the rules and be careful so you avoid legal issues.

Humanizing the Machine

Beyond the issues previously discussed in this chapter lie the dangers in personal attachment or dependence on ChatGPT to complete work tasks or become a machine companion. If you or anyone comes to believe they're actually having a conversation with ChatGPT, that it's equal to or better than humans, or otherwise humanize ChatGPT, harmful results can follow.

Some people might think ChatGPT understands them deeply or can handle tasks it's not designed to do. They might also share private information, not realizing that their data could be recorded or used to train other AI models or used in other unexpected ways.

Because ChatGPT's responses are based on data patterns, users could misread its replies as having emotional depth or personal significance. This misinterpretation can cause confusion about ChatGPT's capabilities and the intentions behind its responses.

Further, if someone perceives ChatGPT as possessing humanlike faculties, they could struggle with who or what will bear the blame when something goes wrong. Is it ChatGPT's fault or their fault? Remembering that ChatGPT is just an advanced tool, without feelings or consciousness, can keep expectations realistic and maintain a clear perspective on responsibility. To be clear, legal

responsibility is borne by the humans or company involved, not the AI.

Although ChatGPT interactions can seem incredibly lifelike, it's crucial to remember that all that glitters isn't gold and that ChatGPT is just a tool devoid of the human qualities of emotion, consciousness, and moral judgment. It's more like a mirror — a mere reflection of human achievement and just as deep in character and capabilities.

Part 2
Increasing Proficiency in Prompting

IN THIS PART …

Getting started with prompting

Learning more advanced prompting

Combining prompting with multiple AI tactics

Using ChatGPT to replace outdated work processes

Chapter 4

Finding the Keys in Prompting Basics

Success in using ChatGPT depends on two things. The first is that you remember you're not actually having a conversation with a machine. The second is that great prompting is the secret behind great results. Sadly, even while armed with these two things, you're probably never going to get a perfect result.

In this chapter, you learn about how each of these things affects ChatGPT's performance and your satisfaction with the results.

Grokking Words Are the New Computer Code

It's natural to feel as if you're having a conversation with ChatGPT. After all, you interact with it using your natural language, and it responds in kind and at the pace of a human conversation. But that's an illusion. You're not conversing with a machine. You're using your own words in place of a programming language to instruct the AI on what action to take. In short, it helps to learn to think like a programmer to succeed in getting the full benefit of interacting with ChatGPT.

Generative AI is not intelligent in the same sense as humans. While it feels like you're conversing with another human, you're actually interacting with software that is rapidly calculating what response you probably want or expect. This means that the best way to get AI to perform in the manner you want is to think about what the software needs to know or consider in its calculations to respond accurately or appropriately. This quid pro quo of you thinking like a machine and the AI interacting like a human is the secret to efficiently and masterfully using this tool.

A programmer, for instance, knows that they must think in concrete steps and write computer code accordingly so that the resulting software's actions are logical and without mistakes. You need to think like that too when writing prompts for the same reasons. And this is a very vital point that should not be intimidating, because no you don't have to become a programmer to use ChatGPT, but rather this glimpse into how it works should be illuminating in understanding how to master this tool.

While there is an ongoing argument as to whether ChatGPT truly understands prompts, that discussion centers on a debate about the difference in intelligence and consciousness, which is beyond the scope of this book and largely irrelevant to learning how to write successful prompts. For all practical purposes, ChatGPT doesn't understand a single thing you type in a prompt. Instead, ChatGPT calculates possible responses and delivers the one it values as the highest probable fit after searching its databases for relatable content and pattern matches. It may or may not be right about that. The better you become at prompting, the higher the likelihood that the AI will deliver satisfactory results.

Here's what you need to know about how prompting is essentially a new programming language, which makes you an AI programmer of sorts! In the real world, a master at prompting is called a prompt engineer which rather oddly entails no

engineering at all! It does require a considerable amount of strategy, however.

Prompting in natural language — that is to say, in your own language — is how you interact with generative AI models and applications like ChatGPT. How you think about and word your prompts should be similar to how programmers think while writing computer code.

A man whom I greatly admire but who prefers anonymity told me that he equates using ChatGPT and other generative AI tools to having an army of fifth graders help you with a task. Will they do it right? Well, that depends on how well you instruct them. Even with the best of instructions, this army of fifth graders is only capable of doing so much. At best, maybe they do 95 percent of the work. But that's 95 percent you don't have to do, and overall the work gets done faster.

After a while, ChatGPT learns or can be trained to do more. Then, for example, it would be like having an army of high schoolers help you with a task. How well they do still depends on how well you instruct them, and they're still going to get only 95 percent of the work done at best. But it's 95 percent of a larger, more complex task, and you still get it done faster than you would have alone, even though you must add work to it.

Effective natural language prompts must be clear and specific to render the result you seek — or at least close to clear and specific. If they aren't, the AI model glitches or fails. Any ambiguity in your prompts can lead to unhelpful, overly generic, erroneous, useless, unsecure, or repetitious ChatGPT responses. These types of unacceptable results aren't the same as the infamous ChatGPT and GenAI *hallucinations,* which are responses that contain false, misleading, or illogical information that the AI presents as factual (See "Touring the User Interface" in [Chapter 1](#) for a further explanation of "hallucination"). You'll learn more about how to resolve errors and improve responses a little later in this chapter.

The basics of computer programming

In computer coding, *functions* (a set of instructions) and *parameters* (extra or special instructions) together define the action. Similarly, prompts act as parameters for ChatGPT to define the scope, tone, and content of each response. The more detailed the prompt, the more it resembles the passing of special instructions to a function to achieve a specific outcome.

Conditional statements in computer programming control the flow of actions based on certain present conditions. You can also implicitly embed conditions in a prompt by wording it in a way that limits responses under those conditions. An example is asking for an answer only if it pertains to a certain topic, audience, or time period.

Software developers use *loops* to repeat the execution of a block of code in programming. Loops are instructions to repeat certain code blocks if a certain condition is met or for a specified number of iterations. You can do pretty much the same in ChatGPT by using serial or *iterative* (subsequent prompts aimed at improving the output) prompts until you get a satisfying response.

Writing code often involves *debugging* (identifying and removing errors) and refining the parameters to get a better final result. Similarly, you may need to adjust, adapt, expand, or otherwise refine your prompts to make ChatGPT perform closer to your intent. By doing so, you're working much like a software developer does in debugging and optimizing computer code.

In programming, *comments* are notes written in the code to help software programmers and others understand what that section of code is doing. Comments don't affect how the code works. The notes help everyone who's interested in following along, and they can refresh the programmer's memory or help them locate a section that may need updating later. You can do something similar in prompting by adding context or explaining the intent within the prompt to help ChatGPT better understand the request.

This also creates a thread or train of thought in chats stored in ChatGPT history that you can come back to later to refresh your memory on ideas and earlier ChatGPT responses. By clicking on the thread, every chat preserved in the ChatGPT history of chat lists can be resumed as though it never ended.

You can also delete chats from your chat history by rolling the mouse over the name of the chat to reveal the three dots to the right of the name. Click on that to reveal options that include archiving and deleting that specific chat from your history. However, it's important that you review OpenAI's privacy policy for detailed information about data retention practices. OpenAI may retain data — including deleted chats — for a time on the grounds of safety reasons, improving the models, and complying with legal obligations.

Creating a sequence of instructions that the computer will follow is called writing a *script* in programming. You can also write a sequence of prompts to guide ChatGPT's "thinking" or interaction toward your intended goal. This works similarly to how a computer follows a script of code that a computer programmer writes.

Error handling in programming is crucial for managing exceptions and ensuring the program can cope with unexpected inputs or states. Similarly, anticipating potential misunderstandings and preemptively clarifying or eliminating them within your prompt(s) can mitigate "errors" in ChatGPT responses — which aren't really errors but, rather, less informed responses to prompts.

Computer programmers use a compiler or interpreter to translate human-readable code into machine-executable instructions. A compiler translates the entire computer code at once and creates an executable file, while an interpreter translates the code line-by-line as the program runs. Similarly, ChatGPT's underlying GenAI model interprets your words and compiles your prompt into tokens that it can use to calculate a response to your prompt. A token is a

small piece of digital data that typically contain pieces of words, spaces, and other components in your prompt. ChatGPT uses tokens in its output before it reassembles them into words in its response too.

Those who are successful at writing computer code are efficient at achieving a desired outcome with the minimum amount of resource usage. Efficient prompting means getting the desired response from ChatGPT with the simplest prompt or the fewest number of prompts possible. There's another reason to strive to create efficient and succinct prompts. Both GenAI (including ChatGPT) costs and usage caps are calculated by the number of tokens used in inputs (prompts) and outputs (responses). For example, depending on the monthly subscription model you selected, you may be limited to a set number of chats or tokens for the month. If you want to do more, you'll need to upgrade your plan to a bigger and more expensive subscription plan. If you're using an enterprise level plan, you'll be charged per token used.

Natural language, code writing, and ChatGPT

As you can see, prompting in your own language and writing computer code have clear parallels. But it's important to note the differences as well. Natural language is inherently more ambiguous and flexible than most programming languages. This flexibility is both a strength and a challenge in writing effective prompts.

Chief among the strengths is user accessibility. Natural language is more accessible to the general public than programming languages. You don't need any specialized knowledge or programming skills to interact with ChatGPT. Another strength is adaptability. The flexibility of natural language allows for a wide range of inquiries and commands. This means that you're not limited to a set of predefined functions or commands.

Contextual understanding and creativity are also strengths. Because ChatGPT can be prompted to consider and respond to a

wide array of contextual information, natural language allows for the expression of complex, nuanced ideas that can include context, emotion, and subtleties. Further, the open-ended nature of natural language prompts allows a more flexible use of ChatGPT than traditional chatbots or software. For example, you can prompt ChatGPT to generate stories, poems, or hypothetical scenarios without the constraints of rigid command structures.

But there are challenges as well. Natural language's ambiguity can lead to unsatisfactory or wrong results. This can be from ChatGPT interpreting a prompt differently from what the user intended. That happens because ChatGPT must interpret and infer meaning from each prompt, which can be complex and error-prone in and of itself. You would be surprised how often you and others in a conversation rely on participants bringing background information, environmental context, and even body language to complete the meaning of the words shared in the conversation. Sadly, ChatGPT has no access to any of these clues, histories, or contexts. Instead, ChatGPT must often fill in gaps in information or intent that are not explicitly stated, and it often does a poor job at that. That's why you need to fill in as many of those blanks in the prompt as you can.

Variance in inputs and outputs can also be an issue. The flexibility of natural language means that even slight changes in prompt wording can lead to significantly different ChatGPT responses. Further, ChatGPT can deliver different responses to identical prompts, much like GPS can take you on different routes to the same location.

THE TRAVELING SALESMAN PROBLEM

However, the causes in response differences are not the same for GPS and ChatGPT. The short explanation of this is found in The Traveling Salesman Problem (TSP) found in computational complexity, which is a measure of how difficult a problem is to solve using a computer. TSP seeks to find the shortest possible route that covers all the cities for a traveling salesman to take. The salesman needs to visit a list of cities only once and then return to the starting

city. The challenge is to find the shortest possible route that covers all the cities.

On the surface, that seems to be a simple problem. However, for a computer it is difficult because there are many steps involved, any one of which can be complex in its own way. But also the computations involved in considering the efficiency in taking all the possible routes to move from city to city and back home again are both numerous and complex in their variations.

GPS uses a variation of TSP as it doesn't just plot a route from point A to point B, but from one place to another along the path between Point A and Point B. The best-known means of doing this is the A* (pronounced A Star) algorithm, which often finds different driving paths to and from a set destination because the conditions and priorities can change based on the direction of travel. Further, some implementations of A* might include additional optimizations or variations that treat forward and backward searches differently.

The Traveling Salesman Problem (TSP) itself doesn't directly apply to variations in ChatGPT responses. But there are some commonalities. For TSP, it's the shortest route. For ChatGPT, it's the most appropriate response. The underlying principle of searching through possibilities and selecting the best outcome is common to both. Just as TSP deals with constraints like visiting each city once, ChatGPT manages constraints like grammar, context, and relevance in its responses. Both require balancing multiple factors to achieve the best result, and both can result in a different response to the same question each time.

ChatGPT result variances primarily stem from its capability to generate new responses rather than simply repeat answers from a list of pre-determined answers. You can limit how much leeway ChatGPT has in generating responses, and therefore how much variation in responses to the same question ChatGPT can deliver, by adjusting the model's temperature. Typically, temperature settings are handled by IT or another technical team at your company. But some ChatGPT applications allow users to change the temperature themselves.

In any case, ChatGPT response variances can be challenging or even present a huge risk for users or companies who expect consistent and predictable outcomes.

On the other hand, ChatGPT sometimes generates responses that are too closely tailored to the specifics of a prompt. What's the problem with that, you may ask? For one thing, ChatGPT responses can then become overly literal, shallow, constrained, general, or repetitive. Oddly enough, although natural language is

flexible, it may not always be the most efficient way to communicate with ChatGPT or other software, AI-based or not. In programming, a single line of code can often represent a complex action, but if you're using natural language, the same action might require a lengthier explanation.

ChatGPT's *upbringing* can affect its answers too, much like a person's upbringing might. Indeed, the two are intertwined. Generative AI models are trained on vast datasets of natural language, which can introduce biases insidiously present in the data. This can affect how ChatGPT interprets and responds to prompts, which may lead to some responses being neither neutral nor desirable.

Overall, the strengths of prompting in your own words are accessibility and intuitive interactions, but the costs in errors, resource usage, and harmful responses can, at least in part, spring from the complexity and variability of human language.

Grasping Your "Relationship" with ChatGPT

Rule number one in successful prompting is to remember that you're not talking to a machine. You're *not* having a conversation with ChatGPT. ChatGPT *isn't* smarter than you. It doesn't *know* anything. Repeat those things until they're embedded in your brain.

Yes, I know, you're doubting these facts already. After all, you can ask ChatGPT how many fingers are on one human hand, and it can answer that correctly every single time it's asked. But that's a mere recitation of a fact. It's not knowledge. Again, ChatGPT found from information it has access to that this number is accurate. Yet ChatGPT often draws the wrong number of fingers on a hand (provided you're using ChatGPT omni version, or sister app, DALL-E; otherwise, it can't draw anything). Recitation and

regurgitation aren't the same as knowing. Hence, ChatGPT isn't smarter than you, and it's not capable of taking over mankind.

But OpenAI and other GenAI chatbot makers are working on rectifying the finger issue by adding images to the training data that clearly show five fingers on one hand being the norm. Even though ChatGPT can already tell you that, the images of hands it has been trained on show many positions where the number of fingers visible fluctuates. Perhaps the person is holding something, or the pose conceals fingers on one hand or adds fingers from two intertwined hands. OpenAI may have corrected this problem since this writing. But, and it's a big but here, that's still recitation and not knowledge. ChatGPT doesn't think and it doesn't know. It calculates responses using algorithms, and only the data it has access to. It doesn't generate original ideas or opinions; rather, it simulates them.

Chats with ChatGPT or any other AI language model aren't conversations in the real sense for several reasons. ChatGPT doesn't possess consciousness, self-awareness, or genuine understanding. It doesn't have thoughts or feelings and can't engage in a conversation with the intent, empathy, or personal understanding that a human would. It also doesn't have personal experiences or emotions to draw from, or personal anecdotes, feelings, or shared understanding of human experiences.

ChatGPT can keep track of conversation context to a limited extent, but it doesn't work with enough context to go beyond the more basic computations. It doesn't have intuitive intelligence, true creativity abilities, or any grasp of social cues, history, cultural nuances, and the subtleties of human interaction.

Demystifying ChatGPT memory and thoughts

ChatGPT also doesn't have a continuous sense of self or memory across interactions. Each conversation is isolated, although some information may be retained for the length of a session. ChatGPT doesn't have a persistent, evolving identity or memory like a

human does. ChatGPT also doesn't learn from conversations like humans do or form or change its own opinions; it can only be updated or retrained.

You may also be surprised to learn that ChatGPT can't distinguish fact from fiction or truth from falsehood. It deems a data point true or false according to the label and categorization affixed to it. Change the data label, and ChatGPT will change its true-false assessment to match. Human conversations are often guided by ethical considerations and emotional intelligence. ChatGPT has neither.

The bottom line: ChatGPT can mimic human conversation to a sophisticated degree, but it's only mimicking.

Now that you know that the idea of a chat or a conversation with ChatGPT is merely an illusion, you're ready to get to work with this marvelous technology and get some truly amazing results.

Understanding ChatGPT Prompt Basics

ChatGPT is a variant of the GPT (generative pre-trained transformer) language model. It takes the form of a chatbot that, at its foundation, is designed to generate humanlike text responses based on the prompts it receives. ChatGPT 4o (Omni) and ChatGPT o-1 (Strawberry) move ChatGPT beyond its foundational capabilities to include multimodal, meaning it can work with two of more modals such as text and images, and complex problem-solving capabilities, respectively.

When interacting with ChatGPT or any AI application based on the GPT architecture, there are some basics to keep in mind to create effective prompts and receive the best responses.

1. **Make your prompts clear, specific, and concise.** The more specific your prompt, the more accurate and relevant ChatGPT's response will be. Be sure to provide necessary

background information if the question or request relies on context that you suspect ChatGPT wouldn't or might not have. Aim for a balance between being concise and providing enough context.

2. **Use correct spelling and grammar as much as possible.** Spell out acronyms, and be sure to clearly state your intent. If you're looking for a joke, a poem, a piece of advice, or a detailed explanation, make that clear in your prompt. This helps ChatGPT understand your prompt better and respond accurately.

3. **Decide whether you want a concise answer (closed question) or a more elaborate one (open-ended question).** Closed questions typically get straight to the point, but open-ended questions allow ChatGPT to provide more detailed or creative responses. Feel free to ask creative questions or set up scenarios for ChatGPT to respond to. GPT models can generate creative stories, simulate characters, write song lyrics, design games, and other outputs inherent to creative endeavors.

REMEMBER GPT models are programmed to avoid generating harmful or inappropriate content, but it's not guaranteed. Ensure that your prompts don't attempt to circumvent these safeguards. Also, fact-check ChatGPT responses and check for plagiarism and copyright or other intellectual property (IP) infringements. For example, use plagiarism tools and search engines to help find these issues. You might also want to ask ChatGPT in a prompt to cite its sources and then manually search those sources to see if anything was directly copied by ChatGPT. Take any steps necessary to ensure that you are not in conflict with copyright or IP laws. Remember that ChatGPT is essentially remixing the data it has to generate a response, and that response may contain someone else's creative work.

Don't be afraid to experiment with different types of prompts. This can help you understand the AI model's capabilities and limitations and get an intuitive feel for what works best for your style and projects.

Harnessing the bare necessities in prompting

You can find ChatGPT at https://openai.com/chatgpt or embedded in other software. The user interface (UI) looks pretty much the same, however. Figure 4-1 shows ChatGPT's UI, with the prompt bar highlighted for you.

To enter a prompt into the prompt bar, follow these general steps, which may vary slightly depending on the specific application or platform you're using:

1. **Locate the prompt bar.** Find the prompt bar on your screen. It's usually a text box at the top or bottom of the application window, or it could be a search bar or command line interface depending on the context and whether you're using ChatGPT as a standalone application, embedded in other software, or within a *wrapper*. A wrapper is an application or tool that provides a user interface or functionality layer on top of OpenAI's ChatGPT or GPT models. Examples of ChatGPT wrappers include VenturusAI (analyzes business ideas) and ChatGPT Wrapper (for developers to use ChatGPT/GPT4 bot in Python scripts or on the command line).

2. **Click into the prompt bar.** Use your mouse or touchpad to move the cursor over the prompt bar and click once to activate it. A blinking text cursor typically appears to indicate that you can start typing. If you are using ChatGPT directly (as opposed to embedded in another application), you'll find the cursor is already placed in the prompt bar for you in both the web page and the mobile apps.
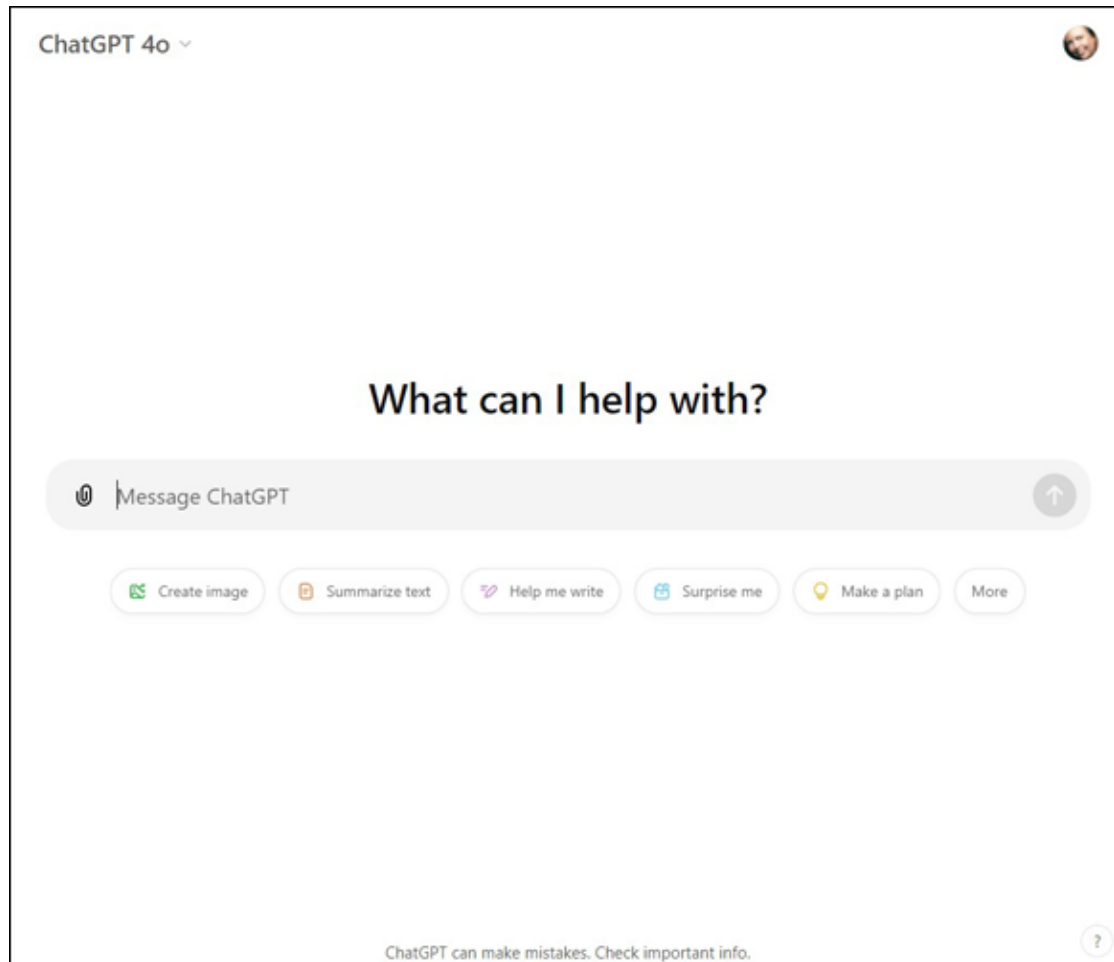
FIGURE 4-1: The prompt bar on the ChatGPT user interface where you'll enter your prompt.

3. **Type your prompt.** Type your query, command, instructions, or other information into the prompt bar.

4. **Review your input.** Before submitting your prompt, quickly review what you've typed to ensure it's true to your intentions and free of typos or errors.

5. **Submit the prompt.** Depending on the platform, you can submit your prompt by pressing the Enter key on your keyboard. You can also click on a Submit, Search, Go, arrow icon, or similar button on or associated with the prompt bar.

6. **Wait for the response.** After submitting your prompt, wait for the application to process your input. The response will depend on the nature of your prompt, and the speed in

response delivery will depend on the version you're using. For example, ChatGPT 4o delivers responses quickly, whereas ChatGPT o1 typically takes a little longer to process because it works deeper to solve more complex problems. Even if your prompt is simple, ChatGPTo1 takes a little more time to "think" it over.

» **Subject:** Clearly define what the image should depict (e.g., "a young girl's hand").

» **Key details:** Mention important elements that must be present (e.g., "a ring made from a flower").

» **Action or pose:** Describe any specific positioning or action (e.g., "hand is slightly raised, fingers spread").

» **Background:** Specify whether the background should be neutral or specific (e.g., "soft and out of focus, outdoor setting").

» **Style:** If relevant, describe the style or tone (e.g., "realistic, detailed").

Here's an example of a prompt written to the above specifications:

Create an image of a young girl's hand, slightly raised with fingers spread. The hand should have a ring made from a flower on the ring finger. The background should be soft and out of focus, depicting an outdoor setting with lush green grass and colorful wildflowers. The style of the image should be realistic and detailed, capturing the delicate features of the hand and the intricate beauty of the flower ring. To start a chat, simply enter and submit a prompt. Composing a good prompt to get started on ChatGPT is easy, but it's helpful to know how to structure it. Follow these guidelines on how to compose an effective prompt to get you started:

1. **Start with a clear goal or question.** Think about what you want to accomplish. Do you need information, advice, creative ideas, or help solving a problem? Be direct about what you want to know or achieve.

Examples:

"Can you explain how solar energy works?"

"I need help brainstorming a business name."

2. **Provide context if necessary.** If your request is more complex, give a little background so that ChatGPT understands the context. Include relevant details to guide the response.

   Examples:

   "I'm working on a project about renewable energy. Can you explain how solar panels convert sunlight into electricity?"

   "I'm starting a coffee shop focused on sustainability. Can you help me come up with a unique name?"

3. **Ask for specific output**. Specify what kind of response you're looking for. Do you need a list, a step-by-step guide, an explanation, or just ideas?

   Examples:

   "Can you list five tips for improving time management?"

   "Give me a step-by-step guide to creating a budget."

4. **Keep it simple at first.** If you're not sure where to start, keep your prompt simple. You can ask a follow-up question later to refine the conversation.

   Examples:

   "What's a fun fact about space?"

   "How do I improve my productivity?"

5. **Don't worry about perfect wording.** ChatGPT is designed to understand a range of requests, so don't worry if your question isn't perfectly phrased. Feel free to ask naturally.

   Examples:

   "Can you tell me something cool about the ocean?"

   "I'm trying to stay organized. Any tips?"

   "I'm trying to plan a birthday party for a 12-year-old girl, but I don't know what trends or party themes are popular now. Can

you suggest a few?"

6. **Invite conversation or clarification.** Feel free to ask follow-up questions if you don't fully understand the response or need more information.

Examples:

"Can you explain that in simpler terms?"

"That's interesting. Can you tell me more about this topic?"

By following these steps, you can easily compose a prompt to get started with ChatGPT. Just remember to be clear about what you're looking for, and don't hesitate to refine your request in a series of prompts as the chat continues. You learn more advanced prompting techniques in Chapter 5.

MORE EXAMPLE PROMPTS

"What are the health benefits of drinking green tea?"

"Can you help me plan a two-week workout routine?"

"I'm struggling with procrastination. Do you have any tips?"

"I want to write a short story. Can you give me some ideas to start with?"

"Explain quantum physics in simple terms please."

"Help me design a logo for my lawn services business."

"Write a marketing plan for my self-published book about science experiments for toddlers."

Iterative prompting

Iterative prompting is a technique that refines your initial prompts by prompting again in successive stages over a series of prompts in the same chat session. Instead of asking ChatGPT a question once and expecting a perfect answer, you use iterative prompting in a cycle of interactions where you can rephrase, add context or information, or break down your question into smaller parts to help ChatGPT work through a more complex process. This method

improves the accuracy, detail, and relevance of ChatGPT's responses.

ChatGPT is a modern technological model, but it has its limits. For example, it may misinterpret or get lost in ambiguous or overly complex prompts. By refining the prompts in a step-by-step fashion over several prompts, you can guide ChatGPT to a more accurate or nuanced answer that better fits your need.

Long or complex queries also confuse models, although the new ChatGPT-o1 model is better at handling such tough prompts than other versions. Iterative prompting allows you to break down complex questions into more manageable parts, which helps any of the versions focus on one aspect at a time. A single prompt usually returns a basic and general response, whereas iterating on the prompt with more specific instructions can generate richer details, uncover new insights, or deliver a much bigger idea, innovation, or thought.

But don't let this technique intimidate you. It's similar to having a conversation with another person wherein you ask follow-up questions to learn more about the topic being discussed. Feel free to play with ChatGPT to get a feel for how this works. You can gradually understand how to ask better questions based on how ChatGPT responds to your test or experimental queries.

Iterative prompting works for more than answering questions and understanding topics. It can help in creative tasks, problem-solving, and research when you prompt ChatGPT to explore different angles or solutions or to actively search for undiscovered ideas or patterns in its data. By tweaking prompts, you can explore various possibilities before settling on any one of them.

How to do iterative prompting

Start with a general prompt that contains one central question, instruction, or command. Based on the response, gradually narrow the scope by adding specifics or clarification to each subsequent prompt. For example, if the model's initial response is unclear, insufficient, or too general, prompt it to elaborate or explain a particular part of the response in more detail.

You can also ask new and more specific questions to search for more in-depth information in the next prompts. Or rephrase or simplify your original prompt in a subsequent prompt to help ChatGPT deliver a better more focused response. You might also want to introduce constraints, such as requesting ChatGPT to respond in a specific format, time period, or from a specific point of view.

Examples of iterative prompting

Iterative prompting is an excellent way to improve the quality of ChatGPT responses. You can refine your prompts step by step to clarify vague responses, ask for more details, or add more information in the response. By breaking down complex queries, you can guide ChatGPT to respond with more accurate, relevant, and detailed answers. This way, you'll also learn more about how the model processes information as you go along. Following are a few examples to help you understand the concept.

Example 1: Refining a General Prompt

Initial Prompt: "Tell me about climate change."

Response: "Climate change refers to the long-term shifts in temperatures and weather patterns…"

Iterative Prompt: "What are the primary causes of climate change?"

Response: "The primary causes are burning fossil fuels, deforestation, and industrial activities…"

Further Iteration: "Can you explain how deforestation contributes to climate change?"

Response: "Deforestation reduces the number of trees that absorb CO_2, leading to higher concentrations of greenhouse gases in the atmosphere…"

Example 2: Clarifying Ambiguous Information

Initial Prompt: "What's the capital of Turkey?"

Response: "The capital of Turkey is Istanbul."

Iterative Prompt: "Are you sure? Please verify the capital of Turkey."

Response: "I apologize for the mistake. The capital of Turkey is actually Ankara."

Example 3: Breaking Down Complex Questions

Initial Prompt: "Explain how a neural network works."

Response: "A neural network is a series of algorithms that attempt to recognize underlying relationships in a set of data…"

Iterative Prompts:

"Can you explain what neurons in a neural network do?"

Response: "Neurons are the individual processing units that receive inputs, process them, and pass the output to the next layer…"

"What is the difference between the input layer and the hidden layer?"

Response: "The input layer receives raw data, and the hidden layer processes the data by applying weights and biases to the inputs…"

Example 4: Using Constraints

Initial Prompt: "Explain the French Revolution."

Response: "The French Revolution was a period of radical social and political change in France from 1789 to 1799…"

Iterative Prompt with Constraints: "Explain the causes of the French Revolution in 100 words."

Response: "The French Revolution was caused by widespread social inequality, financial crises due to lavish spending and wars, poor harvests, and Enlightenment ideas challenging the

monarchy. These factors led to mass discontent, which sparked the Revolution."

Example 5: Exploring Alternatives

Initial Prompt: "What's a good marketing strategy for a tech startup?"

Response: "A good marketing strategy could involve using social media advertising, influencer partnerships, and email campaigns…"

Iterative Prompts:

"Can you suggest a low-budget marketing strategy?"

Response: "For a low-budget approach, consider organic social media marketing, SEO optimization, and building a community through content marketing…"

"Can you focus on strategies involving partnerships?"

Response: "Partnering with other tech companies, offering cross-promotions, and cohosting webinars could be effective partnership strategies for a tech startup."

Chapter 5

Leveling Up Your Prompting Powers

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IN THIS CHAPTER

» **Learning to think like a machine**

» **Adding prompts to a chain**

» **Creating outputs in your own style**

» **Matching output to input**

» **Changing ChatGPT personalities**

» **Simulating meetings in prompts**

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Following the basics in prompting tactics, which I discuss in Chapter 4, is a good starting point, but it's a far cry from the winner's circle. In this chapter, you learn advanced prompting techniques to take your work with ChatGPT up several notches.

Thinking Like a Machine

As I go about writing, reporting, speaking, and teaching on generative AI and tools like ChatGPT, I often say that it's great that ChatGPT can communicate like people, but now people must learn to think like a machine if the interactions are to be truly useful. By that I mean that people like you and me need to think more like a computer programmer than a person casually chatting up a neighbor, friend, or coworker.

The real breakthrough in generative AI lies in its capability to process natural language quickly. In effect, this means your own language is the newest computer programming language. You no longer need to understand complex coding syntax to interact with

generative AI on a computer or other device; you can simply express your needs or commands in plain language. But to make the most of ChatGPT or any generative AI tool, you must learn to communicate your thoughts in a structured and clear manner that a machine can interpret effectively.

Just as a programmer thinks carefully about the logic, structure and sequence of events in the computer code that they write for machines to execute, you must now consider how your words can be parsed and understood by ChatGPT as it ponders how to answer you. This doesn't mean you have to strip your wording of nuance or personality or interact with it in an overly formal or structured manner. But it does mean being mindful in avoiding ambiguity and building prompts with precision. Put another way, the more specific and detailed your prompts, the better ChatGPT can tailor its responses to meet your expectations.

For example, applying conditions in your prompt that impose limitations can help you frame your questions and requests more effectively. Essentially, you're prompting ChatGPT to craft a response based on one or more conditions. For example, if you ask in a prompt, "Given ABC, what might happen if I do X?" you're essentially crafting a hypothetical scenario that ChatGPT can analyze. Programmers do something similar but they can't just say it, they would write a computer code in such a way as to add conditions for the software to use in its calculations and responses. In a broader sense, thinking like a machine involves recognizing the limitations and capabilities of ChatGPT and proactively crafting your side of the interactions to overcome the former and leverage the latter. Just as a programmer must debug and troubleshoot their code, you must learn to refine your queries to provide additional context and information to keep AI responses on track. This is how you can guide ChatGPT to perform closer to your expectations.

For a deeper dive into the basics of learning to think like a machine, head over to Chapter 4. A solid foundation in the basics will help you get the most out of this chapter.

The line between human and machine communication will become increasingly blurred over time. Your willingness and ability to adapt your communication style accordingly will prove crucial in unlocking the full potential of these tools.

Prompting for Text versus Non-Text Outputs

As you may imagine or perhaps have already discovered, if you've worked with ChatGPT before getting a copy of this book, prompts for text outputs and non-text outputs have some foundational similarities, but also more than a few key differences in how requests are handled and in the nature of the outcomes.

For text-based prompts, ChatGPT generates written content directly, whether it's an explanation, a story, a list, or computer code. With non-text outputs, such as image generation, ChatGPT acts as a middleman, interpreting your request, sometimes even refining or expanding your prompt, and passing it along to tools like DALL-E or a GPT in its GPT store to produce a visual representation of the description. This means that although ChatGPT handles the text, it relies on other systems to create non-text outputs. At least for now. That may change over time.

In both cases, clear and specific instructions lead to better results. Providing detailed context and goals tends to render more accurate responses. ChatGPT also interprets your intent, so it's best to be clear about that in the prompt too. Keep in mind that with either type of prompt, ChatGPT fills in gaps or makes assumptions about the information, whether you're prompting for "just the facts" or a creative output. For example, if your prompt asks ChatGPT to generate a creative story or an image description, it exercises a degree of flexibility — which can be

thought of as machine or artificial creativity to construct a story or image.

Examining the "modality" of text and non-text outputs

One key difference in prompting lies in the level of detail required for each type (*modality*) of output. Text prompts can be more forgiving if they're broad or somewhat vague because ChatGPT can still create a reasonable response based on its somewhat limited use of context. For example, asking the model to summarize a historical event will at least result in a general overview. Just don't expect it to contain all the specific details you may need.

Non-text prompts, on the other hand, need more details on more aspects of the image because visual outputs — even if the output is just a description of the image — require a clear and detailed description of many elements like colors, shapes, lighting, shadowing, and spatial arrangements. If an image prompt is too vague, the resulting image will likely miss the mark that you envisioned.

The tools involved in producing these outputs also differ. For text responses, everything is processed within ChatGPT, leaving less to go awry. But for non-text outputs like images, ChatGPT passes the prompt to a separate tool like DALL-E to generate a visual based on ChatGPT's interpretation of your prompt, which ChatGPT then serves to you as its output. As is the case with any complex process, certain constraints, particularly when it comes to content policies and limitations, are introduced and affect the final output.

WARNING ChatGPT has built in guardrails to help steer it away from generating images that resemble copyrighted material or specific public figures, which in turn limits the types of visuals

that it's allowed to produce for you. But the guardrails are not foolproof. ChatGPT may sometimes still reproduce copyright or otherwise protected material. You must take steps to prevent or catch such occurrences before using responses in ways that may leave you legally liable.

Compartmentalizing AI functions

ChatGPT's limitations in non-text outputs are much more pronounced compared to text generation, where you'll likely not notice them much. As I mentioned earlier, currently ChatGPT doesn't generate the images directly, so the transfer and interpretation of your prompt to another model will affect the quality and accuracy of the image generated. Think of it as a modern twist on the old telephone game wherein a message is whispered to one person after another, and at the end of the chain of people the message is very different than it started out. Something similar can happen in ChatGPT prompt relays and interpretations too.

Additionally, non-text prompts require greater detail to achieve a desired outcome, but that, too, adds complexity that can cause ChatGPT to get lost in the weeds. As you can tell by now, there are lots of ways and lots of reasons that ChatGPT non-text outputs can so frustratingly miss the mark even when you add information in the prompt or augment its data in any way.

Chaining Prompts

Chaining prompts, or *prompt chains,* refers to a technique where a series of prompts are used in sequence, each building upon the last to gradually refine or expand on ChatGPT's responses. In essence, you're breaking the task into smaller, more focused steps that enable ChatGPT to better manage an appropriate response than it could do with one long and complex prompt.

This technique is especially useful when you want to accomplish tasks that require multiple steps, when you want to achieve different aspects of creativity, or when the task involves a lot of detail that could be overwhelming for you to describe or for ChatGPT to parse in a single prompt.

In short, prompt chaining gives you more control over what ChatGPT is producing so that you don't end up with a response that may take ages to unravel and instruct ChatGPT on what to fix or replace. By taking short, specific steps, ChatGPT is better focused, and so are you. Issues can be isolated to specific prompts in the chain, which makes solving them easier. These simplified instructions refine ChatGPT's understanding of what you seek and allow you to enhance outputs along the path, which then leads to more accurate, relevant, and creative results.

In each of the following examples, the prompts are designed to build upon each other. This allows ChatGPT to focus on getting each step right and use relevant information based on the evolving direction of the inquiry.

Example of using prompt chaining in research

Prompt chaining can be very helpful in researching almost any topic on ChatGPT. Be mindful of whether the ChatGPT version you are using is connected to the internet or not. If it is, you'll get more current results than if it isn't. If it isn't connected to the internet, you may need to add current information in another way. You can do that by attaching files to prompts, adding information in the prompt, adding info in the "Customize ChatGPT" feature (found under your profile pic on the upper right side of the ChatGPT UI), added to RAG by your IT team, or fine-tuning (also done by your IT or AI team).

To help you get started in using ChatGPT to help you research topics, here's one example of a prompt chain:

Initial Prompt: "What are some major challenges facing renewable energy adoption?"

AI Response: ChatGPT lists challenges like cost, storage, infrastructure, and regulatory barriers.

1st Chained Prompt: "Can you elaborate on the storage issues for renewable energy?"

AI Response: ChatGPT then discusses the intermittency of renewable sources and the need for battery technology improvements.

2nd Chained Prompt: "What are the latest advancements in battery technology for this purpose?"

AI Response: ChatGPT provides information on recent developments in battery storage, such as solid-state batteries or flow batteries.

Example of using prompt chaining in event planning

Whether you are planning a large corporate event, a wedding, or a kid's birthday party, ChatGPT can deliver ideas, guide your decisions, help you catch oversights and issues early, and deliver a fully detailed plan to your specifications. Here's one example of how to use chained prompts in event planning:

Initial Prompt: "I'm planning a small birthday party for a friend. What should I consider?"

AI Response: ChatGPT suggests considering the number of guests, venue, food, and activities.

1st Chained Prompt: "What are some good venue options for a group of 20 people?"

AI Response: ChatGPT offers options like a private dining room in a restaurant, a community center, or a park picnic area.

2nd Chained Prompt: "Could you help me create a checklist for organizing a picnic in the park?"

AI Response: ChatGPT lists items like permits, park rules and contacts, suggested menu of food and drinks, seating options, entertainment options, and cleanup supplies.

Example of using prompt chaining in troubleshooting a technical issue

ChatGPT is very good at helping resolve technical issues, or almost any complex issue really. And if perchance ChatGPT instructions turn out to be a little hard for you to grasp, you can also ask for further clarification, or simply prompt it to "explain it to me as if I were a 10-year-old." Here's an example of how to use chained prompting to get help with a technical problem.

Initial Prompt: "My computer is running slow. What could be causing this?"

AI Response: ChatGPT's response mentions possibilities like low memory, too many background processes, or malware.

1st Chained Prompt: "How do I check if I'm out of memory?"

AI Response: ChatGPT provides instructions on checking computer memory usage through the operating system's task manager.

2nd Chained Prompt: "What steps can I take to free up memory?"

AI Response: ChatGPT advises closing unused applications, clearing temporary files, or upgrading hardware.

3rd Chained Prompt: "That wasn't the issue after all. What should I check next?"

AI response: ChatGPT suggests additional actions.

You can keep the chat going as long as needed by using chained prompts. However, if you decide to change topics entirely, it's best to open a new chat so that ChatGPT doesn't continue to respond as if your new query pertains to this topic instead of a new topic.

Example of using prompt chaining in writing a story

Writers — published, professional, or novices — can use ChatGPT to help with writing creative stories. Typically, it's best to use ChatGPT as an assistant rather than as an artificial writer for several reasons including preserving your own voice and creative vision and avoiding legal and ethical issues like plagiarism and copyright infringements. That said, here's an example of how to use prompt chaining in writing:

Initial Prompt: "I want to write a science fiction story. Can you suggest a plot?"

AI Response: ChatGPT provides a basic plot outline about a group of astronauts discovering a new life form on a distant planet.

1st Chained Prompt: "Can you develop the main character's background for me?"

AI Response: ChatGPT describes the main character as a seasoned astronaut with a background in astrobiology, driven by the desire to find extraterrestrial life.

2nd Chained Prompt: "What conflict could arise in the story related to the new life form?"

AI Response: ChatGPT suggests a conflict where the life form has properties that could cure a disease on Earth, but harvesting it could risk destroying the planet's ecosystem.

You can continue this interaction as long as needed for you to get a story plan to your liking.

TIP At the end of this interaction, ask ChatGPT to make an outline, storyboard, or summary for you to refer to or follow while writing this story. That will help you keep your storytelling on track and your characters responding within their defined nature and experience.

Example of using prompt chaining in learning to cook

You can use ChatGPT to expand your horizons in a lot of ways. For example, you may decide to learn how to cook dishes from another country or culture. Here's an example of how to use prompt chaining to do that:

Initial Prompt: "I'm interested in learning how to cook Italian food. Where should I start?"

AI Response: ChatGPT recommends starting with basic dishes like pasta and marinara sauce and learning about common Italian herbs and spices.

1st Chained Prompt: "Can you provide a simple recipe for homemade marinara sauce?"

AI Response: ChatGPT provides a recipe including ingredients like tomatoes, garlic, olive oil, and basil, with instructions on how to prepare the sauce.

2nd Chained Prompt: "What's a good beginner-friendly Italian dish to pair with marinara sauce?"

AI Response: ChatGPT suggests making spaghetti aglio e olio or a classic margherita pizza as dishes that pair well with the sauce and are suitable for beginners.

3rd Chained Prompt: "How do I make a classic margherita pizza? What sides and drinks should I pair with it? Also, make me a shopping list for this meal."

You can go as far as you want with this exchange leading to you learning new things, tasting new yummy dishes, and maybe surprising your friends or family with your new cooking skills.

Example of using prompt chaining to understand a historical event

ChatGPT can provide explanations of historical and current events. It can even provide you with explanations from different perspectives. For example, you can get ChatGPT to tell you what happened during the Civil War from the viewpoints of various persons such as Southern landowners, slaves, Underground Railroad participants, law enforcement, soldiers on both or either side, politicians, religious leaders, and laymen working on both sides of the border.

This can be an interesting exercise that can expand your understanding of almost anything. But be sure to fact-check ChatGPT responses and not just accept them as truth. That said, here is an example of using prompt training to help unravel and understand major events:

Initial Prompt: "What was the cause of the American Civil War?"

AI Response: Explains that the American Civil War was primarily caused by issues surrounding slavery and states' rights.

Chained Prompt: "Who were the key figures in the lead-up to the Civil War?"

AI Response: Lists key figures such as Abraham Lincoln, Jefferson Davis, Harriet Beecher Stowe, and Frederick Douglass.

Chained Prompt: "Could you summarize the impact of Harriet Beecher Stowe's *Uncle Tom's Cabin* on the war?"

AI Response: Describes how the novel played a role in shaping public opinion about slavery and intensified the sectional conflicts that led to the war.

REMEMBER ChatGPT can hallucinate — meaning it can make stuff up that didn't really happen — and it has more than a few biases it gleaned from researching human behavior on the internet. So be careful what you believe, and fact-check its answers always.

Specifying a Writing or Artistic Style in Prompts

Specifying a writing or artistic style in your prompts guides ChatGPT to provide a response that more closely matches your intent or goal. For writers, artists, photographers, musicians, and others, this first necessitates clearly defining — if only in your own mind — what the end product of your work with ChatGPT is to look, feel, sound, or read like.

Notice that I said the *end product* and not *ChatGPT's response*. That's because ChatGPT can't do all the work for you, and it can't output a finished product. You'll need to copy and paste ChatGPT's response into other software to produce a final product. To get to that point, you can guide ChatGPT to produce something useful like a first draft, an art study, a blueprint or preliminary plan, or some other foundational, planning, preliminary, or practice form. From there you must shape the output to your own liking, needs, purpose, intent, or goal. This may just be a matter of applying professional polish to ChatGPT's final output, or it could mean using that output as a mere

steppingstone on your path to creating a much greater work summoned from the depths of your own talent.

Take the time you need to get a good grasp of the details comprising your creative vision, and then work to incorporate style and other instructions in your prompts accordingly. Defining the tone, mood, or aesthetic you seek from the outset helps generate what you need to augment or support your creative process.

Alternatively, asking ChatGPT to emulate the style or voice of famous persons and artists can give your own work a more polished, creative, or fun flair. Don't be surprised if it refuses to copy modern day writers and artists because its guardrails are designed to help it avoid infringing on copyright and other intellectual property protections. But don't count on those guardrails to protect you from all such liabilities.

WARNING ChatGPT repurposes data to generate its responses. In so doing, it can illegally copy the work of other people that's protected by law.

Be careful not to cross any legal lines. But also realize that emulating the voice of a famed author or the brush strokes of a renowned painter in your prompt can be a shortcut of sorts (because you need not spell out further details). This prompt tactic can act as a map because it effectively charts the nuances of style you prefer that might otherwise be difficult to fully describe.

It's also good to prompt ChatGPT to follow your own style or a style you designed to appeal to a specific audience. You can try giving it an example of your writing or artistic images in the prompt, but its guardrails may balk at copying it. If that's the case, you'll need to be able to describe your style in as much detail as you can.

Maintaining style consistency

Just like building a house wherein each brick must be consistent with the next to ensure structural integrity, so too must a consistent style thread its way through each piece of any given creative work, whether it be chapters in a novel, paintings in an exhibition, elements in an advertisement, or tracks on an album. A consistent style glues the work together, making it recognizable and memorable. It's the signature that makes your reputation or brand stand out and leave a mark on a world above millions of other creative souls trying to distinguish their work too.

Your own style or a style you've chosen for a certain project will also speak to specific audiences, like the singing of mythical sirens are said to draw sailors. By specifying a style in your prompt, you'll be able to generate ChatGPT responses that will attract specific audiences. The emotional journey that a style can evoke in audiences is a thing to behold, and certainly one you want to leverage. For example, a comedic touch can lift spirits, while the dark allure of a gothic setting can send shivers down the spine as surely as a physical touch.

Treading with sensitivity: The cultural dimensions of style

Lastly, the cultural dimension of style is a delicate balance of representation and respect. Styles that are deeply rooted in particular cultures or historical periods add meaning or perspective to your work given that they carry the stories and spirits of those times and places. But if you step into a style that isn't your own, it becomes your responsibility to portray the elements with authenticity and sensitivity. This is more than just an artistic choice; it's a bridge or an affront to those you want to connect with.

In essence, specifying a style isn't merely about choosing a set of aesthetic parameters; it's about setting intentions, building connections, establishing boundaries, and honoring the diverse tapestry of human expression. It's a tool that shapes the creative

journey, ensuring that the final destination aligns with the vision that was set forth at the outset.

In other words, style is no small thing. Think through it, and only when you have the particulars well defined and worded, write your prompts. This isn't something you want to botch through carelessness, ignorance, or a sense of urgency.

Examples of Specifying Style in Prompts

You can more effectively meet the objectives of your project, resonate with your intended audience, and produce work that's coherent and impactful by specifying a style in your prompts. To help you get your footing in how to make this tactic work, I've listed a variety of examples:

Writing Style Example: A prompt specifies a "Hemingway-esque minimalist writing style" for a short story. This guides ChatGPT to use concise and straightforward language, focus on surface elements rather than the inner thoughts of characters, and employ a "show, don't tell" approach.

Artistic Style Example: Perhaps you're tasked with creating a series of posters in the Art Deco style. Prompting ChatGPT to follow this style would cause it to use geometric shapes, strong colors, and a sense of luxury and exuberance that characterizes the period between the 1920s and 1940s.

Music Style Example: Prompting ChatGPT to write a piece in the Baroque style of Vivaldi would cause it to focus on showcasing violin soloist performances as well as using certain instruments typical of the period, such as the harpsichord, and following the compositional techniques of the time.

Photography Style Example: Prompting ChatGPT to generate images in the style of Ansel Adams would cause it to

use black-and-white landscape photography, with a strong emphasis on contrast, lighting, and nature.

Graphic Design Style Example: Prompting ChatGPT to create visuals in a minimalist style would focus it on generating a graphic design with simplicity and good use of negative space. ChatGPT would also incorporate monochromatic color schemes and basic geometric forms in its output.

Film Style Example: Prompting ChatGPT to write direction as for shooting a film in the style of French New Wave cinema would cause it to focus on techniques such as jump cuts, shooting on location with natural lighting, and using handheld cameras to create a sense of immediacy and authenticity.

Literary Style Example: An author can prompt ChatGPT to write a novel in the magical realism style popularized by Latin American writers. This would effectively direct ChatGPT to weave fantastical elements into a realistic narrative in a way that treats the extraordinary as perfectly normal similar to the styles of the works by Gabriel García Márquez or Isabel Allende.

Architecture Style Example: An architect might prompt ChatGPT to design a building with a Brutalist style. This would effectively point ChatGPT towards using raw concrete as the main material, with a focus on geometric, block-like forms that project a sense of strength and functionality. The architect may also want to prompt it to deliver a list of materials needed to build it, with the number of each and projected costs.

Adding Roles and Personalities

Assigning specific roles or personalities for ChatGPT to assume in prompts renders more pointed or targeted responses, or a different perspective. When ChatGPT assumes a role, it can deliver a response that's more contextually relevant and accurate. You can also use this role-playing capability to boost customer

engagement when using ChatGPT as a customer service or IT service desk chatbot.

When your customers, fans, or students interact with ChatGPT that has a defined and consistent personality or job role, the language and expertise displayed by the AI create a more predictable and oftentimes more relatable experience. Customizing ChatGPT to respond in this way provides another advantage because the audience you made it for can more easily steer the conversation to address their immediate needs, whether they require technical assistance, educational support, or simply entertainment.

Establishing emotional connections

Personifying ChatGPT in this way can also evoke empathy and establish an emotional connection, making both the conversation and the information it contains feel more human. There are lots of ways you can use this technique to provide unique encounters. For example, when ChatGPT assumes the role of a historical figure, it can provide unique insights or perspectives on historical events or perspectives. But you don't have to listen to only one historical figure.

Imagine hearing the impact of a US Civil War event from a politician, a bartender, a plantation owner, and a slave — all from that time period. The information gleaned about the event would be richer, more nuanced, and more complete. Similarly, when acting as a fictional character, ChatGPT can re-create the nuances and speech patterns of beloved personas or scenes from literature or film and even add perspectives from other characters in the same or another film to its response, offering a delightful and unique experience.

Emulating educators

In the field of education, ChatGPT role-playing can be a powerful tool. As a science or math tutor or language instructor, ChatGPT can help users learn new concepts and practice skills in a conversational manner. Indeed, ChatGPT's ability to mimic one-

on-one tutoring may disrupt current educational systems by tossing group teaching and testing in favor of personalized teaching and individual learning-based testing.

Whether in or out of education, problem-solving becomes more tailored when ChatGPT adopts a relevant role or roles. For example, you can use it to see several perspectives of a problem to help you find a solution that doesn't create another problem elsewhere. As another example, giving ChatGPT a customer service representative persona equips it to adeptly handle inquiries about products or services in an acceptable manner for customers. And if you're seeking advice on personal matters, ChatGPT can assume the role of a therapist or counselor to provide you with a sense of support and guidance. Just be sure to remember that, although comforting, ChatGPT isn't a substitute for professional human counsel.

Don't underestimate ChatGPT's entertainment value either. Perhaps your students would rather hear Goofy explain math. That would certainly make math less intimidating and be entertaining too. In a different example, ChatGPT can take on the role of a chef, sharing culinary secrets and coaching you through using a challenging recipe to make a delightful dinner for your date.

REMEMBER ChatGPT can assume several roles or jobs in the same prompt. You don't have to assign it one role per prompt. Do still be concise with the instructions in the prompt to which the chatbot must respond from all the roles or personalities you gave it.

Examples of Prompts Assigning ChatGPT Roles

By assigning ChatGPT specific roles, you can get it to render outputs that are more focused, informative, and enjoyable for any given audience. Even if that is an audience of one: you!

Customer Service Representative role: Assisting with product information, troubleshooting, and complaints.

Example Prompt: "You're a customer service rep. I have a problem with my recent order, which arrived damaged. How do I get a replacement?"

Science Tutor role: Offering explanations on scientific topics and helping with homework or study preparation.

Example Prompt: "You're a science tutor. Can you explain the concept of photosynthesis to me?"

Fitness Coach role: Giving advice on exercise routines, nutrition, and wellness.

Example Prompt: "You're my fitness coach. I need a new workout plan to build muscle strength."

Historical Figure: Engaging in conversations as a person from history, providing insights into their life and times.

Example Prompt: "You're Cleopatra. Tell me about your strategy for ruling Egypt."

Fictional Character role: Adopting the persona of a character from literature, movies, or other media.

Example Prompt: "You're Sherlock Holmes. How would you solve a mystery involving a stolen painting?"

Language Instructor role: Assisting with language learning, including grammar, vocabulary, and conversational practice.

Example Prompt: "You're a French language instructor. Can you help me with my pronunciation?"

Travel Guide role: Offering recommendations and information about travel destinations, accommodations, and activities.

Example Prompt: "You're a travel guide in Rome. What are the top five things I should do on my visit?"

Personal Assistant role: Helping with scheduling, reminders, and daily tasks.

Example Prompt: "You're my personal assistant. Can you organize my schedule for the week?"

Chef role: Providing recipes, cooking tips, and culinary advice.

Example Prompt: "You're a professional chef. I need a recipe for vegetarian lasagna."

Therapist or Counselor role: Offering a listening ear and guidance on personal issues in a supportive manner.

Example Prompt: "You're a therapist. I'm feeling stressed about work and need advice on healthy coping strategies."

Examples of prompts assigning ChatGPT dual roles

By assigning ChatGPT dual opposing, complementary, or collaborative roles or personalities in the same prompt, you're making ChatGPT combine knowledge from different areas of expertise or perspectives to provide a more comprehensive response to your request. You'll likely be amazed at how useful this tactic can be in your work. Following are some examples to help you think about what roles ChatGPT can assume to best help you. Be sure to make it clear in your prompt whether ChatGPT is one person who performs more than one role, or whether each role is to represent a separate person.

Prompt: "You're both a historian and a travel guide. I'm visiting Athens and want to know about the historical significance of the Acropolis as well as some practical tips for my visit."

Prompt: "Imagine you're a personal fitness trainer and a nutritionist. I'd like advice on creating a workout plan and a diet schedule to help me lose weight."

Prompt: "You're a science tutor by day and an amateur astronomer by night. Could you explain the basics of gravity and tell me what constellations I can see in the night sky this evening?"

Prompt: "Pretend you're a professional chef who also writes mystery novels. Can you provide me with a recipe for a classic French dish and then weave a short mystery story around it?"

Prompt: "You're a career counselor and a financial advisor. I'm considering a job change and need help understanding the potential career growth and financial implications of my decision."

Prompt: "You're a botanist and a landscape designer. I'd like to know which plants are best suited for a temperate climate garden and how I might arrange them aesthetically."

Prompt: "You're a tech support specialist and a cybersecurity expert. I need assistance with fixing my computer, which is running slow, and I'd like tips on how to protect it from viruses and hackers."

Prompt: "You're an interior decorator and a Feng Shui consultant. I'm redecorating my living room and would love some advice on color schemes and furniture arrangements to promote a good energy flow."

Prompt: "You're a children's book author and a child psychologist. I'm looking for a story that will help children understand the importance of sharing, along with some insights on how to encourage this behavior."

Prompt: "Imagine you're a climate scientist and an environmental activist. I'd like an explanation of the greenhouse effect and some practical steps I can take to reduce my carbon footprint."

Examples of prompts assigning ChatGPT dual roles aimed at

creative works

Prompts that assign ChatGPT multiple roles can spur ChatGPT to integrate creative thinking with specialized knowledge to produce original and compelling content. Following are some examples to ignite your own creativity and guide ChatGPT to get you there.

Prompt: "You're an advertising executive and a psychologist. Help me craft an advertisement for a new meditation app that not only draws attention but speaks to the psychological benefits of regular mindfulness practice."

Prompt: "Imagine you're a science fiction writer and a futurist. I need assistance in outlining a novel set a hundred years in the future, with a plot that revolves around the societal impacts of artificial intelligence."

Prompt: "You're a graphic designer and a mythologist. Create a concept for a creative image that blends modern design with ancient Greek mythology, perhaps featuring a reimagined version of the Minotaur in a contemporary labyrinth."

Prompt: "You're a composer and a poet. I'm looking for a unique score of music that captures the essence of a rainy day, accompanied by lyrics that convey the introspective mood that such weather inspires."

Prompt: "You're a choreographer and a cultural historian. I need a dance routine that incorporates traditional Latin dance moves into a modern performance, reflecting the evolution of these styles over time."

Prompt: "Imagine that you're a children's book illustrator and a marine biologist. I'm writing a story about the adventures of a young dolphin and need some creative illustrations that are scientifically accurate and engaging for kids."

Prompt: "You're a screenwriter and a detective. I'm looking to develop a crime drama screenplay with a twist ending. Help me outline the plot and create a surprise reveal that would stand up to a real detective's scrutiny."

Prompt: "You're a stand-up comedian and a political analyst. I'm working on a comedy sketch that satirizes modern politics. Can you help me write a monologue that's both humorous and insightful?"

Prompt: "Imagine that you're a video game designer and a music historian. I'd like to create a video game level that takes the player through different historical eras of music, with each stage featuring a score that reflects its time period."

Prompt: "You're a playwright and a linguist. I need help writing a play that includes characters from different countries, each speaking with a distinct dialect that accurately represents their region, while ensuring the dialogue remains clear and engaging for the audience."

Creating a Meeting or Group of AI Personas in a Prompt

Not only can you get ChatGPT to assume multiple roles in the same response, you can put those roles into a given setting, scenario, or grouping. For example, you can prompt ChatGPT to emulate the responses of various members on a committee or in a meeting. This approach pushes ChatGPT to consider a topic from multiple angles, mirroring the diverse expertise and opinions that real committee members might bring to the table. This method helps you get more depth and breadth in ChatGPT responses and gain a more nuanced understanding of the issues at hand. Again, it's a good idea to be clear in the prompt that each role is to respond as a separate person.

In this way you can do collective brainstorming all by yourself. You can also explore how a committee, your department heads, or the board are likely to adopt or reject your ideas or proposals. Given ChatGPT's guardrails, it's unlikely that you can make ChatGPT mimic the real people in your department or on your board or elsewhere in your company, but it can still render a close

approximation, especially if you can also provide member agendas, opinions, and corporate politics in the prompt. If you can't do that or don't know those details, don't worry. Just add as much info as you have in the prompt, and ChatGPT will work with that.

You can also use this method to create a virtual stage for practicing conflict resolution, polishing your negotiation skills, or learning how to find common ground within a group. By role-playing different positions, from leadership to skepticism, ChatGPT provides insight into the complex social mechanics that drive committee interactions and how you might respond, cope, or survive such in a specific encounter.

Using ChatGPT for this kind of simulation can also be instrumental in illustrating or developing decision-making processes. ChatGPT provides an interactive but relatively safe space for you to work on balancing diverse viewpoints to lead to an informed consensus or majority rule.

WARNING If you're using an enterprise version of ChatGPT, your boss or other company leaders can see everything you do in ChatGPT. Never forget that your chats with ChatGPT are stored and reviewed and can be held against you if they're inappropriate, break laws, or break company policy in any way. Possible consequences might include losing your job, fines or even criminal prosecution, and other penalties defending on the offense.

You can also use this method to spark your own creativity. Any virtual group that you create can examine and help refine your ideas through their interactions.

You, your team members or employees, or your students can train for real-world group interactions using this method of prompting ChatGPT. You can also develop or improve your emotional intelligence by using this method to test and train your skills

against varied emotional responses that can arise during group discussions. Similarly, you can use ChatGPT to train and test yourself or others on workplace safety training and other group skills training.

Strategically, this exercise can teach alliance formation and the persuasive tactics necessary to sway group opinion. This can be helpful in everything from sales training in companies to policy development in government agencies.

Last but certainly not least, you can use ChatGPT in simulated group discussions to train people how to work with people different from themselves and underscore the importance of diversity and inclusivity in shaping well-rounded and equitable decision-making processes.

Examples of prompts creating a simulated committee or meeting

ChatGPT can simulate a multifaceted discussion that might occur in a real-life committee or meeting, providing rich insights via a simulated dialogue on any given topic. These prompts can simulate a committee meeting with ChatGPT:

> **Prompt:** "Imagine you're part of a city council. As the chairperson, outline the agenda for today's meeting on urban development, and then as the environmental advisor, raise your concerns about the impact on local green spaces."

> **Prompt:** "You're in a product development team meeting at a tech company. As the lead engineer, propose a new feature for the next product release, and then as the financial officer, discuss the budget implications."

> **Prompt:** "Pretend you're on the board of a nonprofit organization. As the fundraising chair, present a new campaign idea, and then as the community outreach coordinator, explain how this will benefit the community engagement efforts."

Prompt: "You're part of a school board meeting. As a parent representative, express concerns about the new curriculum changes, and then as the principal, provide justifications for these changes based on educational research."

Prompt: "Act as members of a space exploration committee. As the head scientist, propose a mission to Mars, and then as the safety officer, discuss potential risks and necessary precautions. As a US senator, explain the political risks and advantages that may affect public backing and government funding for the project."

Prompt: "In a hospital committee meeting, as the head nurse, suggest improvements for patient care, and then as the hospital administrator, argue against the improvements because of how these changes would affect staffing and budgets."

Prompt: "During a climate action group meeting, as a climate scientist, present the latest findings on global warming, and then as the policy maker, suggest actionable steps for legislation."

Prompt: "At a meeting of a tech startup, as the CEO, lay out the vision for the next five years, and then as the lead developer, give feedback on the technical feasibility of this vision."

Prompt: "In a committee discussing community safety, as the police chief, provide statistics on crime rates, and then as a local business owner, share concerns about how increased police presence might affect business."

Prompt: "At an emergency response team meeting, as the logistics coordinator, explain the plan for disaster relief, and then as the public relations manager, discuss how to communicate with the public to keep them informed and calm and help them remember what to do in a crisis.

Examples of prompts giving ChatGPT four or more roles

Did you know that you can give ChatGPT many roles or personalities in a single prompt to get multiple perspectives in one output? This tactic causes ChatGPT to synthesize multiple viewpoints into a single, multifaceted response. It's useful for breaking out of a brain rut, an echo chamber, or your own biases and limitations because it instantly provides a richer and more nuanced exploration of complex topics. It's an excellent way to get a holistic view of societal, legal, policy, political, and global issues too.

However, I wouldn't advise going overboard with that because too many roles can confuse the model and limit the quality of the role responses within ChatGPT's output. Feel free to experiment to see what works best for you. Meanwhile, here are some prompt examples to spur your imagination and illustrate some of the possibilities.

> **Prompt:** "Answer from four separate roles: as a philosopher, an economist, a sociologist, and an environmentalist. Discuss the concept of universal basic income from each of these perspectives, considering its ethical implications, economic viability, social impact, and environmental sustainability."

> **Prompt:** "Answer from four separate roles: as a historian, a military strategist, a politician, and a peace activist. Analyze the causes and outcomes of the Cold War, detailing the historical context, strategic decisions, political maneuvers, and advocacy for peace and disarmament."

> **Prompt:** "Answer from four separate roles: as a physicist, a poet, a science fiction writer, and an astronaut. Describe the experience of traveling at the speed of light, blending scientific accuracy with poetic imagery, speculative possibilities, and personal reflections on space travel."

Prompt: "Answer appropriately on the problem of petty theft from four separate roles: as a psychologist, a detective, a criminal, and a judge. Give a brief and general view on the nature of this type of criminal behavior as a psychologist, including psychological analysis; and discuss the investigative challenges as a detective; explain why this isn't a crime but a mental illness issue from the perspective of the criminal's point of view, and briefly explain the judicial process involved in determining justice for petty theft crimes."

Prompt: "Answer from four separate roles: as a nutritionist, a personal trainer, a chef, and a food critic. Provide insights on the importance of a balanced diet and exercise, along with tips for preparing healthy yet flavorful meals and a short critique of current food trends."

Prompt: "Answer from four separate roles: as a classical musician, a music producer, a music therapist, and a teenager who loves pop music. Discuss the relevance of classical music in today's world, considering its traditional values, modern production techniques, therapeutic benefits, and appeal to the younger generation."

Prompt: "Answer from four separate roles: as an AI ethicist, a tech entrepreneur, a data scientist, and a privacy lawyer. Explore the topic of data privacy in the age of AI, addressing ethical considerations, business interests, data analysis techniques, and recent legal frameworks."

Prompt: "Answer from four separate roles: as a climate change activist, an oil industry executive, a renewable energy scientist, and a government policy advisor. Debate the future of energy production, considering the urgency of climate action, economic realities, technological innovations, and policy development."

Prompt: "Answer from four separate roles: as an art critic, a museum curator, an avant-garde artist, and a casual art enthusiast. Examine the significance of modern art from these

different viewpoints, discussing its critical reception, curatorial challenges, artistic intentions, and public perception."

Prompt: "Respond from four separate roles: as a cybersecurity expert, a hacker, a digital rights advocate, and a law enforcement officer. Delve into the complexities of internet security, covering the technical aspects, the hacker's perspective, the importance of protecting digital freedoms, and the role of law enforcement in cybercrime prevention."

Chapter 6

Manipulating Prompts for More Refined ChatGPT Responses

IN THIS CHAPTER

» **Formatting via prompts**

» **Prompting to manipulate the structure of outputs**

» **Deciding between adding negative and positive examples to prompts**

» **Establishing vocabulary usage for outputs**

» **Building intent into prompts**

» **Creating environments within prompts**

» **Repurposing earlier chats**

» **Reducing token costs**

Sometimes you'll want ChatGPT to produce outputs to a higher standard, or at least to project requirements and company guidelines. This chapter shows you how to overcome certain limitations in ChatGPT outputs so that you end up with results of better quality and are useful in the forms and formats that you need in actual production or publication.

Formatting in Prompting

You may be surprised to learn that ChatGPT has limited formatting capabilities. Personally, I think it should do better — much better — with formatting, but it really isn't much of a problem. Unless you're using ChatGPT as a live customer-facing or service chatbot, you can't use most of ChatGPT outputs anyway without copying and pasting them to other software.

Fortunately, you can use plenty of software options to format ChatGPT responses.

Most of the formatting that ChatGPT does is geared toward structuring responses and improving readability. (Examples include applying text styles such as bold, italic, and strikethrough.) ChatGPT can also organize information using headers, block quotes, lists, and various levels of indentation. It uses these formatting options to present complex information in a more digestible way.

As to technical content, ChatGPT can display code blocks and inline code and visually separate them from the rest of the text to reduce confusion. Computer code blocks are displayed with a handy Code Copy button and proper syntax highlighting to make reading and understanding code examples easier.

ChatGPT can create simple text-based tables for data representations, but don't expect sophisticated data visualizations. These tables are useful when comparing information side by side, such as in lists of features, product comparisons, or numerical data. Creating visualizations that provide data drill downs and other complex, interactive data reads are mostly beyond ChatGPT's capabilities at the moment. This shortcoming can be significant if you're looking for more complex data manipulation or presentation capabilities. However, this will change as ChatGPT continues to improve with added features, capabilities, models and mini models. Be sure to regularly check for updates.

Harnessing ChatGPT's graphic and formatting limitations

Perhaps most disappointing of all is the fact that ChatGPT can't generate complex document layouts such as multicolumn text, flowing text around images, or grids that adapt dynamically to different screen sizes or input. When it comes to advanced document formatting or visually sophisticated outputs for reports, presentations, or publications, you're out of luck. Prompting

ChatGPT to do this level of formatting work will get you nowhere. Instead, paste ChatGPT's outputs to your favorite document or content management system (CMS) program and do the formatting there.

Rich media, such as images, graphs, videos, and embeds, are also outside the scope of what ChatGPT can do directly within its text responses. But ChatGPT can generate textual descriptions of images or suggest visual elements that you can use to guide your work in external tools.

ChatGPT provides only static responses so you can't get it to provide any interactive elements such as buttons, forms, or real-time updates in its outputs. If you want to make a change or request an update to a response, you need to write another prompt to do so.

On the flipside, ChatGPT can display URLs and markdown-style links (hyperlinks embedded in text), but many environments where ChatGPT is deployed don't allow clickable links, primarily for security reasons. In those situations, you can't click to navigate directly to external resources from inside ChatGPT. If you need access to referenced materials or you prompt ChatGPT to provide a list of its sources, copy and paste the links or titles to a search engine search bar and find the items online that way. OpenAI's approach to links in ChatGPT continues to prioritize security, but the specifics can vary depending on the version and platform being used.

By keeping its responses primarily text-based, ChatGPT ensures broad compatibility across different environments, from mobile devices to web browsers. However, ChatGPT's capabilities can vary depending on the specific platform or implementation. For example, ChatGPT can generate and work with code, which can be considered a form of interactive content. Also, ChatGPT's capabilities are frequently expanded, and not all versions are uniform in the expression and availability of such.

As previously mentioned, upgrading security is the prime reason that clickable hyperlinks are often disabled in ChatGPT outputs.

This action helps to prevent malevolent attacks like phishing (fraudulent communications disguised as messages from reputable sources) or malicious redirection. In addition, limiting dynamic content improves ChatGPT's performance because it helps avoid unintended behaviors or performance issues in environments or integrations where links and renderings wouldn't be supported.

Many of these limitations may be addressed or overcome in the future. Future ChatGPT versions may also offer adaptable features that respond to the environment that ChatGPT applications reside in or that find a way to apply a variety of formatting templates. Perhaps some other capability will appear later. Only time will tell.

It's also possible that ChatGPT's user interface (UI) will evolve to support real-time data updates, interactive forms, or multimedia embedding. This could allow broader user engagement, meaning you could interact with it in several dynamic ways and for more complex use cases. In any case, ChatGPT is improving and evolving in leaps and bounds at an extraordinarily fast pace from one version to the next. It's highly likely that future versions of ChatGPT will provide more interactive experiences directly within the outputs.

Examples of prompts with formatting commands that ChatGPT can render

Following are some examples of formatting commands that ChatGPT can directly interpret and display using basic markdown-like syntax. These commands allow for text styling such as bold, italic, headings, lists, and simple hyperlinks. ChatGPT can render these formats within the conversation using structure and emphasis to make it easier for you to read its responses.

Prompts with formatting commands that ChatGPT can render:

Bold Text

Prompt: "Make the word bold stand out."

Rendered: **bold**

Italic Text

Prompt: "Make this sentence italic: The house was painted yellow anyway."

Rendered *Here's your sentence in italic using markdown:*

The house was painted yellow anyway.

And here's the HTML version:

<i>The house was painted yellow anyway.</i>

You can use either format depending on where you plan to use it!

Headings

Prompt: "Render this as a heading."

Rendered: **Render this as a heading**

Bullet Points

Prompt: "Display these items in a bulleted list: apples, oranges, bananas."

Rendered:

- apples
- oranges
- bananas

Numbered List

Prompt: "List the following items: first, second, third."

Rendered:

1. first
2. second
3. third

Blockquote:

Prompt: "Render this as a blockquote: 'This is a quote.'"

Rendered:

| **This is a quote.**

Links (Text and URL)
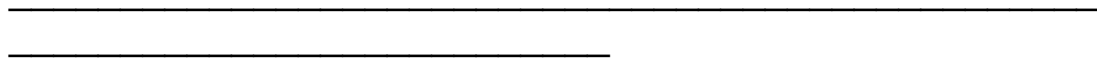
Prompt: "Render this as a link: OpenAI."

Rendered: OpenAI

Horizontal Line

Prompt: "Place a horizontal line below this sentence."

Rendered:

_____
_____

These prompts work well in a new empty chat but if used in an ongoing chat, it may give you a heading version of it such as "Italic Sentence Instructions" instead. That's likely due to ChatGPT considering your earlier chat exchanges in its calculation on how to respond to your formatting prompt. ChatGPT can and does get confused sometimes. If it does, write a new prompt clarifying what you want or start a new chat.

Examples of prompts with formatting commands that ChatGPT can design but not render

The following are examples of formatting commands that ChatGPT can understand and describe but not visually render in the output. Such commands often involve advanced HTML or CSS features such as custom text colors, font styles, alignment, and other detailed formatting. Although ChatGPT can generate

the required syntax, it doesn't display the effects directly within the user interface.

Text Color

Prompt: "Make this text red."

Design: This text is red.

ChatGPT cannot render custom colors in text.

Background Color

Prompt: "Display this text with a yellow background."

Design: This text has a yellow background.

ChatGPT cannot display text with a background color.

Font Size

Prompt: "Increase the font size of this text."

Design: This text is larger.

ChatGPT does not adjust font sizes.

Custom Fonts

Prompt: "Display this text in a custom font like Arial."

Design: This text is in Arial font.

ChatGPT cannot render different fonts.

Underlined Text

Prompt: "Underline this text."

Design: <u>This text is underlined.</u>

ChatGPT cannot render underlined text.

Text Alignment

Prompt: "Align this text to the center."

Design: <div style="text-align:center;">This text is centered.</div>

ChatGPT cannot visually adjust text alignment.

Strikethrough Text

Prompt: "Display this text with a strikethrough."

Design: <s>This text has a strikethrough.</s>

ChatGPT does not render strikethrough formatting.

REMEMBER ChatGPT sometimes gets confused about what you're asking it to do. That's why you may get a variety of responses that do not match your formatting commands in a prompt. For example, it may respond with HTML and CSS codes, some general messages such as suggesting I change font in Word or Docs, or with a completely useless image featuring a text design. Anytime ChatGPT misses the mark try rewording your prompt, adding more information or direction in a subsequent prompt, or starting a new chat and repeating the prompt there.

Prompting ChatGPT to Generate Computer Code

I'm just going to touch on using ChatGPT to generate computer code here. The topic deserves its own For Dummies book, and I'm sure there are several, but I don't want to ignore this capability completely given that generating code is among the top uses of ChatGPT. In a nutshell, ChatGPT makes it possible for people with no programming skills to create computer code in any programming language by essentially prompting it into being.

Unfortunately, ChatGPT is more like a junior developer than a senior developer, so the output you get will likely be buggy and glitchy, if it even works at all. It will get the code mostly right, but a developer usually has to step in to manage and complete it.

That's why I consider this capability more suited to professional developers than general users. But there may be plenty of people who don't know peep about programming who will succeed, either now or in the future, in getting ChatGPT to write a full-fledged, ready-for-production program for them.

Despite all the hype and marketing claims, it's not simple to take the code ChatGPT writes for you and turn it into a working app.

Manipulating Structure in Prompts

Manipulating the structure of prompts is a key method to coax responses from ChatGPT that better fit your purpose. More pointedly, well-structured prompts make it clear what kind of answer you are expecting which reduces ambiguity and elicits a more focused response.

Being clear about what you want will also save you time and reduce costs too. Remember that you are limited to a certain number of tokens (made of digital word parts) in both prompts and responses. In subscription versions of ChatGPT your monthly usage is likely capped by a set number of tokens whereas you will be billed by the number of tokens used in enterprise tiers. That's reason alone to be clear and concise in your prompting.

Examples of adding structure to business, technical, and scientific prompts

This group contains examples of prompts that require detailed ChatGPT responses based on an understanding of technical and scientific principles. The topics below range from programming languages and software tools to fundamental concepts in physics and biology. But of course, these are but a handful of examples from a gazillion possible prompts in as many different fields. The

point here is to illustrate ways to add structure to prompts to elicit more refined responses for ChatGPT.

"What are the key differences between Python 2 and Python 3?" This prompt is direct and requests a comparison, guiding ChatGPT to focus on contrasting elements rather than providing a general overview of each version.

"Explain the concept of gravitational waves in the context of Einstein's theory of general relativity." This prompt provides a subject (gravitational waves) and context (Einstein's theory), instructing ChatGPT to tailor the explanation within a specific theoretical framework.

"Could you provide a step-by-step guide on how to create a pivot table in Microsoft Excel?" By asking for a step-by-step guide, the prompt signals ChatGPT to format the response as a sequence of instructions, making it practical and actionable.

"List the top five advantages of using renewable energy sources over fossil fuels and provide a brief explanation for each." Requesting a list with explanations directs ChatGPT to organize the information in a clear, ranked format, with supporting details for each point.

"Compare the economic policies of John Maynard Keynes and Milton Friedman, particularly regarding government intervention in the economy." This prompt asks for a comparison and sets a specific aspect (government intervention) to focus on, leading to a targeted analysis of both economists' views.

"Demonstrate how recursion works in programming by giving an example with a factorial function in JavaScript." The prompt calls for a demonstration, which implies showing the concept in action, and it specifies the context (recursion) and the medium (JavaScript code), ensuring a precise and illustrative response.

"What strategies can businesses employ to improve customer satisfaction in online retail?" By asking for strategies, the prompt anticipates a response that's practical and geared toward actionable solutions, suitable for business applications.

"Illustrate the process of photosynthesis using a diagram and accompanying descriptions." This prompt requests a visual (diagram) along with text (descriptions), directing ChatGPT to provide a multimodal explanation of the process.

Examples of adding structure to creative and analytical writing prompts

This group contains examples of prompts that focus ChatGPT on creative storytelling and in-depth literary analysis in its responses. These are just a few examples of an endless list of possible prompts. The point here is to show you how adding structure even to a prompt asking for creative outputs helps better aim ChatGPT towards responding in the direction you want to go.

"Write a short story about a detective solving a mystery in a futuristic city, in the style of cyberpunk." The prompt specifies the content (detective story, futuristic city, mystery) and style (cyberpunk), ensuring that ChatGPT's creative output matches the requested genre and aesthetic.

"Outline the plot of Shakespeare's 'Hamlet' and discuss its central themes." The prompt requests an outline, which implies a summary rather than a full retelling, and it asks for an analysis of themes, guiding ChatGPT to provide both narrative and interpretive content.

"Compose a poem that captures the essence of a serene morning in the countryside." This prompt directs ChatGPT to use descriptive language and poetic devices to evoke the peaceful and picturesque atmosphere of a rural morning.

"Analyze the character development of Elizabeth Bennet in Jane Austen's 'Pride and Prejudice.'" This prompt asks ChatGPT to examine how Elizabeth Bennet's character evolves throughout the novel and discuss the factors that influence her growth and decisions.

"Create an advertising slogan for an eco-friendly cleaning product." This prompt requires ChatGPT to craft a catchy and persuasive slogan that highlights the benefits and eco-friendly nature of a new cleaning product. To add even more structure to this prompt, add the audience or demographic you want the slogan to appeal to the most.

Adding Positive and Negative Directions to Prompts

Including positive and negative directions or examples in prompts offers several advantages. It provides clear guidance to ChatGPT by reducing ambiguity by showing both what is desired and what should be avoided. Clarity leads to more relevance and accuracy in responses. Negative examples help ChatGPT filter out outlier data points, and irrelevant or incorrect responses lead to more precise results.

Further, ChatGPT learns more efficiently when boundaries are assigned within a prompt has an understanding of to clearly establish both correct and incorrect outputs. Boundaries formed by adding examples in the prompt. You can also reduce bias by countering ChatGPT's common errors or tendencies this way. Finally, using positive and negative examples allows you to quickly customize responses to fit your specific needs or goals.

Examples of using positive and negative directions in prompts

Writing Style

Prompt: "Write a formal email to a colleague. Use polite language and a professional tone. Don't include slang or overly casual phrases."

Effect: The model understands to keep the language formal and polite while avoiding informal phrases.

Summarization Task

Prompt: "Summarize the following article. Highlight only the key points. Don't include minor details or direct quotes."

Effect: The model focuses on the most important content, avoiding too much detail or unnecessary quoting.

Image Description

Prompt: "Describe a sunset scene. Include colors like orange, pink, and red. Don't describe cloudy skies or rain."

Effect: The description becomes more vivid with the preferred color scheme and avoids weather elements that don't match the intended image.

Tone in Dialogue

Prompt: "Generate a dialogue between two characters. Use a lighthearted, friendly tone. Don't use sarcasm or rude comments."

Effect: The dialogue stays upbeat and positive, without unintended harshness.

Creative Writing Prompt

Prompt: "Write a poem about nature. Use descriptive and emotive language. Don't include urban or man-made elements."

Effect: The model sticks to natural imagery and avoids references to cities or technology, keeping the tone consistent.

Providing Definitions

Prompt: "Define the term 'ecosystem.' Provide a concise and clear definition. Don't use overly technical jargon or complicated sentences."

Effect: The output is clear and accessible, avoiding any overly complex language.

Math Problem Explanation

Prompt: "Explain how to solve a quadratic equation. Walk through the steps in a simple, easy-to-understand way. Don't skip any steps or use advanced terminology without explanation."

Effect: The explanation remains thorough and easy to follow, without assuming advanced prior knowledge.

Product Review Generation

Prompt: "Write a review for a smartphone. Mention the quality of the camera and battery life. Don't mention pricing or features of other brands."

Effect: The review stays focused on the product's specific strengths without straying into irrelevant comparisons.

Historical Event Summary

Prompt: "Summarize the causes of World War I. Focus on political alliances and economic factors. Don't go into details about battles or military strategies."

Effect: The summary stays aligned with the prompt's focus on causes, avoiding unnecessary detail about warfare.

Generating Code

Prompt: "Write a Python function to calculate the area of a circle. Use the formula $\pi * r^2$. Don't use unnecessary imports or overcomplicate the function."

Effect: The model generates a clean, simple solution, avoiding unnecessary complexity or extra code.

Adding positive examples to prompts

You're not limited to including positive and negative directions in prompts via simple instructions of dos and don'ts. You can use

examples as well. Below are a few sample prompts illustrating how to add positive instructions in a different way.

Prompt Example: "Describe a time when you worked as part of a team to achieve a common goal. Highlight the positive contributions you made and how it led to the team's success."

Example ChatGPT Response: "Last year, I was part of a team tasked with launching a new product at our company. My role was to manage the marketing strategy. I conducted thorough market research to identify our target audience and developed a comprehensive campaign that included social media, email marketing, and partnerships with influencers. My efforts helped us reach a wider audience and generate significant interest before the launch. As a result, we exceeded our sales targets by 30% in the first quarter. The collaborative effort and everyone's dedication were key to our success, and it was incredibly rewarding to see our hard work pay off."

Prompt Example: "Share an experience where you had to overcome a significant challenge. Focus on the positive actions you took and the outcome of the situation."

Example ChatGPT Response: "In my previous job, I faced a significant challenge when our main supplier suddenly went out of business. This disruption threatened to halt our production line and delay deliveries to our clients. I took the initiative to research and identify alternative suppliers. I quickly established new relationships and negotiated favorable terms to ensure a seamless transition. Additionally, I implemented a more robust supplier management system to prevent future disruptions. Thanks to these proactive measures, we were able to maintain our production schedule without any delays, and our clients remained satisfied with our service. This experience taught me the importance of adaptability and proactive problem-solving in maintaining business continuity."

Adding negative examples to prompts

Including negative directions can also be done in numerous ways. Sometimes negative instructions tell ChatGPT what to avoid including in its response. Other times this type of instruction tells ChatGPT precisely what negatives to include in its response. Below are a few sample prompts illustrating how to add negative instructions in ways other than simple do and don't instruction.

Prompt Example: "Describe a time when you worked as part of a team to achieve a common goal. Highlight any challenges or negative experiences you encountered and how they affected the team's outcome."

Example ChatGPT Response: "Last year, I was part of a team tasked with launching a new product at our company. Unfortunately, there were significant communication issues within the team. My role was to manage the marketing strategy, but due to a lack of clear direction and misalignment with other departments, my efforts were often duplicated or contradicted by others. This resulted in a disjointed campaign that failed to generate the expected interest. The lack of collaboration and ineffective communication led to us missing our sales targets by a wide margin. This experience underscored the importance of clear communication and teamwork, and it was a valuable lesson in the need for better coordination in future projects."

Prompt Example: "Share an experience where you had to overcome a significant challenge. Focus on the difficulties you faced and the negative outcome of the situation."

Example ChatGPT Response: "In my previous job, I faced a significant challenge when our main supplier suddenly went out of business. This disruption threatened to halt our production line and delay deliveries to our clients. Despite my efforts to research and identify alternative suppliers, the process took longer than anticipated. I struggled to establish new relationships and negotiate favorable terms quickly enough to prevent delays. As a

result, our production schedule was severely impacted, and we failed to meet our delivery commitments. This led to dissatisfied clients and a loss of trust in our reliability. This experience highlighted the critical need for contingency planning and the importance of having backup suppliers in place to mitigate such risks."

Deciding on Closed versus Open-End Questioning in a Prompt

Open-ended and closed-ended questions are another great way to quickly guide ChatGPT to respond as you need it to. A closed-ended question is one that's structured to receive a limited, often very specific, range of answers, like a yes or no question. Indeed, closed-ended questions are typically answered with a single word, a simple phrase, or by choosing from a set of options provided. Putting a closed-ended question in your prompt is useful when you need to gather factual data, make decisions quickly, or clarify a particular point.

By comparison, open-ended questions don't have predefined answer choices, and the responses can be as short or as detailed as ChatGPT chooses to make them unless you've also limited the length of responses elsewhere in your prompt. Open-ended questions are useful for gaining deeper insights, understanding motivations, and exploring complex issues.

WHEN AND WHY TO USE CLOSED-ENDED QUESTIONS IN A PROMPT

When to use closed-ended questions in a prompt:

- When you need specific information
- When time is limited and you need quick answers

- When analyzing quantitative data

Why to use close-ended questions in a prompt:

- To obtain precise information
- To simplify the analysis of responses
- To make it easier for ChatGPT to answer

WHEN AND WHY TO USE OPEN-ENDED QUESTIONS IN A PROMPT

When to use open-ended questions in a prompt:

- When you want to explore a topic in depth
- When you're seeking qualitative data
- When you want to understand the reasoning behind someone's thoughts or actions or an analysis of the data

Why to use open-ended questions in a prompt:

- To gather rich, detailed information
- To encourage ChatGPT to dig deeper into the data
- To get ChatGPT to apply alternative perspectives, context, and nuances to its responses

Examples of including a closed-ended question in a ChatGPT prompt

You can include a closed-ended question in your prompt but also add more instructions to it. In other words, you don't need to limit your prompt to a simple question, unless you want to, of course. Following are examples of prompts that make good use of closed-ended questions.

"What is the capital city of France? Please provide a brief overview of its historical significance and main attractions."

"Is water a renewable or non-renewable resource? Explain the reasons behind your answer and discuss the implications for sustainable management."

"Does the Fibonacci sequence start with the numbers 0 and 1? Describe how the sequence progresses and its appearance in nature."

"Was the first person to walk on the moon Neil Armstrong? Share some details about the Apollo 11 mission and the impact it had on space exploration."

"Can you tell me if the novel '1984' was written by George Orwell? Discuss the main themes of the book and its relevance in today's society."

Examples of including an open-ended question in a ChatGPT prompt

Similarly, an open-ended question doesn't have to be the whole of your prompt. You can add other instructions in the prompt too. Following are examples of prompts that make good use of open-ended questions.

"How might climate change impact global agriculture in the next 50 years? Discuss various scenarios and potential strategies countries could adopt to mitigate these effects."

"What are some innovative ways technology can be used to enhance the educational experience for students in remote areas? Explore different tools and methods that could support learning."

"In what ways do you think the concept of work-life balance will evolve as remote work becomes more prevalent? Share your

thoughts on the future of the workplace and employee well-being."

"What are the ethical implications of artificial intelligence in decision-making processes? Delve into the potential benefits and challenges, considering scenarios where AI could be used."

"How can urban planners create cities that are both environmentally sustainable and livable for their residents? Discuss the principles of urban design and the integration of green spaces and public transportation."

Specifying Vocabulary and Terms in Prompts

You can specify vocabulary and industry-specific terms in prompts to ensure that the responses from ChatGPT are tailored to your needs or your audience's expectations. For example, in professional fields such as medicine and law, precise terminology is crucial not only for clear communication but for maintaining the integrity and credibility of the information. Similarly, using specific terms in educational activities can reinforce learning by consistently applying the language associated with the subject matter.

When your end-content is intended for a particular audience, customizing the vocabulary helps to make the information accessible and understandable, whether it's for industry experts or the general public. This customization is also vital for creating content enhanced by strategically chosen keywords to amplify search engine optimization (SEO).

Your company may expect you to prompt for certain vocabulary to maintain brand consistency. Doing so aligns ChatGPT responses with your organization's established brand voice and identity. Establishing and maintaining cultural sensitivity in your content may also require specifying terms to guide ChatGPT to use

language that's inclusive and respectful, thus avoiding potential offenses.

Personal preference or style can also drive your choice of certain words over others, especially in creative endeavors where the tone and style are hallmarks of your work. It's here that I'm going to point and wag a finger at the AI detector tools. Typically, those are designed to detect word and phrase repetitions, which ChatGPT does frequently. But guess what? So do writers, professional authors, and journalists.

It's human to favor certain words and phrases and use them frequently. AI detection tools thus don't detect AI but only favored and repeated words and phrases that either AI or a person could have written by universally claiming such as AI cheating. Because AI detection tools identify such repetitions as AI cheating whether human or AI written, students' academic records and professional careers are destroyed, with no means for them to clear their name or prove the piece as original work. I've searched for and tested every AI detection tool I could find, and none were infallible. Heck, I couldn't even find one that was consistent with itself. I could run the same tool on the same written work and get two different results about whether AI wrote it or not.

That said, it's time for you to consider some examples of specifying word choices in ChatGPT prompts.

You can specify any language, vocabulary, or industry-specific terminology you want ChatGPT to use in its response. Alternately, you may find it easier to specify the audience in the prompt and let the ChatGPT figure out the appropriate terminology to use. Give both a try, compare the results, and see which way works best for your purposes.

Following are a few examples of specifying vocabulary or word choices in prompts with a brief explanation of the impact on your response.

> **Prompt for Legal Content:** "Can you explain the concept of 'tort law' using legal terms such as 'plaintiff,' 'defendant,'

'negligence,' and 'damages'?"

Impact: This prompt ensures that the response is framed within the context of legal discourse, using terms that are specific to the field of law. It signals that the explanation should be suitable for readers with some understanding of legal concepts, possibly law students or professionals.

Prompt for Medical Information: "Describe the pathophysiology of myocardial infarction using appropriate medical terminology."

Impact: The specified medical terms guide ChatGPT to provide a detailed and technical explanation of a heart attack, appropriate for medical students or healthcare professionals. It indicates that the response should be scientific and precise.

Prompt for SEO Content: "Write an article on sustainable living with a focus on 'renewable energy,' 'carbon footprint,' 'recycling,' and 'green technology' for SEO purposes."

Impact: By highlighting these keywords, the prompt directs ChatGPT to create content that integrates these SEO terms, which can improve the article's search engine ranking for these topics. The response would be crafted to appeal to readers interested in sustainability while being optimized for search engines.

Prompt for Cultural Sensitivity: "Discuss the celebration of Diwali in a way that respects cultural traditions, using terms like 'Festival of Lights,' 'lamps,' 'sweets,' and 'fireworks' in the appropriate cultural context."

Impact: The choice of culturally relevant terms ensures that the response is respectful and informative about the Hindu festival. It reflects an understanding of the cultural significance of the event and uses appropriate language to describe it.

Prompt for Creative Writing: "Write a fantasy story that includes elements like 'wizard,' 'enchantment,' 'realm,' and 'quest.'"

Impact: This prompt signals ChatGPT to craft a narrative within the fantasy genre, using terms that are commonly associated with fantasy fiction. The specified vocabulary sets the tone and builds a world that will be familiar to fans of the genre, creating an immersive experience.

Establishing Intent in Prompts

It's essential to establish *intent* in a prompt because it's the central guidance for ChatGPT to follow in shaping its response. Your stated intent acts as a compass for the direction and depth of the information provided. For example, a prompt asking for an explanation of a concept for educational purposes will elicit a different response than one intended for expert analysis, even if the subject matter is the same. Without a clear intent to steer it in the right direction, ChatGPT will default to a general response, which probably won't be very useful.

TIP   A little-known tip for establishing intent in a prompt is to use what's known as a *contextual cue*. This is a subtle way of indicating the desired depth and angle of the response without overtly stating it. For example, if you're interested in the economic impact of a historical event rather than a general history lesson, you might frame your prompt as follows: "Considering the economic policies of the era, how did the Great Depression alter the financial landscape of the United States?" This cue suggests that the focus should be on the economic aspects, guiding ChatGPT to provide a financially oriented response rather than a broad historical overview. By embedding such cues within the prompt, you can steer ChatGPT's response more precisely without having to detail every aspect of your intent.

Examples of establishing intent in prompts for detailed and current information

These types of prompts require comprehensive and up-to-date information suitable for academic or informed analysis purposes. The users are looking for detailed summaries or comparisons that are relevant to current events or advancements in specific fields. Following are prompt examples with brief explanations.

Prompt: "I'm writing a research paper on renewable energy sources. Could you summarize the latest advancements in solar power technology?"

Explanation: Here, the intent is established by stating the purpose of the request (writing a research paper), which indicates a need for detailed and current information that's suitable for academic work.

Prompt: "In light of the upcoming election, provide a non-partisan overview of the main policy differences between the candidates."

Explanation: The intent is specified as non-partisan and timely (upcoming election), which informs ChatGPT to present an objective comparison without bias and to focus on current political issues, ensuring the response is relevant and impartial.

Examples of establishing intent in prompts for beginner-friendly advice

These types of prompts aim to produce outputs that are easy-to-understand by lay persons, young people, or beginners — even if the topic is complex. Following are a few examples with brief explanations on how intent is established.

Prompt: "As a novice gardener, I'm curious about easy-to-care-for plants. What are some low-maintenance indoor plants that thrive in limited light?"

Explanation: The user self-identifies as a novice, signaling the intent for beginner-friendly advice. ChatGPT understands from this prompt to provide simple, practical suggestions rather than technical horticultural information.

Prompt: "Engage a 5-year-old's curiosity with a fun explanation of why the sky is blue."

Explanation: The intent is clearly to entertain and educate a young child, directing ChatGPT to use simple language — possibly analogies or metaphors — that would be engaging and understandable to a 5-year-old.

Examples of establishing intent in prompts for advanced analysis

These types of prompts are intended to produce responses suitable for users or audiences with advanced knowledge or experience in a particular field. The prompts guide ChatGPT to provide in-depth analysis and sophisticated insights that cater to a higher level of understanding. Following are example prompts illustrating how intent is established.

Prompt: "For a seasoned investor like me, what are the emerging trends in the cryptocurrency market that could influence portfolio diversification?"

Explanation: The phrase "seasoned investor" sets the intent for a sophisticated analysis suitable for someone with advanced knowledge of finance and investing, prompting a higher-level discussion of the topic.

Prompt: "As an experienced software developer, what are the most promising advancements in artificial intelligence that could revolutionize programming practices?"

Explanation: The user identifies as an experienced software developer, indicating a need for a deep dive into the latest advancements in AI. The response should focus on sophisticated developments and their potential impact on programming practices, suitable for someone with extensive technical knowledge.

Adding Environment and Scenes to Prompts

Incorporating environment and scene details into prompts gives ChatGPT additional and often vital context to use in generating responses. When you paint a verbal picture of the setting in the prompt, ChatGPT becomes instantly more attuned to the nuances of the situation. For example, mentioning a library as a setting would naturally lead ChatGPT to avoid suggesting activities that might be disruptive in a quiet space.

Adding a setting in a prompt also shapes the emotional tone of ChatGPT's response. A cozy, rainy day could inspire a contemplative and soothing reply, whereas a packed music festival might prompt a more energetic and vibrant response. This tactic delivers immediate payoffs in the quality of responses, particularly in creative writing or storytelling projects.

Establishing a setting cues ChatGPT to tailor its responses to what's practical and fitting within the given scenario. As for when to include such details, it's especially beneficial in building an immersive world. It directly impacts the advice or solutions you're seeking, and it sets the stage for a gaming experience. In educational contexts, realistic scenarios ground the learning in practical, real-world applications.

Establish a scene or mood by using as-if statements. This allows you to set the tone and genre for ChatGPT's response without providing an elaborate description in the prompt. For example, telling ChatGPT to "Answer as if you're a detective in a noir film" instantly clues it to respond in a specific style. It can then use its understanding of genres and tropes to fill in the environmental blanks. This technique is a shortcut to richly shaping ChatGPT responses with minimal input.

Each of the following examples of a prompt provides a different way of integrating scenes and settings, from direct role-playing to situational context. Explanations follow each example. The setting you include in a prompt will affect both the content and the tone of ChatGPT's response.

Prompt: "Imagine you're a chef in a bustling New York City restaurant during the dinner rush. How would you quickly solve a shortage of your signature dish's main ingredient?"

Explanation: This prompt places ChatGPT in the role of a chef and sets the scene in a specific location with a high-pressure situation. It implies the need for a swift and practical solution suitable for a busy kitchen environment.

Prompt: "Write a dialogue between two old friends who unexpectedly meet in a quiet, snow-covered park, reminiscing about their shared experiences from childhood."

Explanation: Here, the environment is a serene, snow-covered park, which suggests a peaceful and reflective mood for the conversation. The setting encourages ChatGPT to generate a dialogue that might include nostalgic and contemplative tones.

Prompt: "Describe the process of photosynthesis as if you're a science teacher explaining it to a class of high school students during an outdoor lesson on a sunny day."

Explanation: The scene is an outdoor class, which may affect the language used — possibly more casual and engaging. The sunny day element could lead to practical demonstrations or observations that the teacher might incorporate into the lesson.

Prompt: "You're a private investigator in the 1940s, sitting in a dimly lit office with rain pattering against the window. A mysterious figure enters to hire you. How do you start the conversation?"

Explanation: This prompt sets a classic film noir scene, suggesting a certain stylistic approach to the conversation. ChatGPT is cued to adopt a tone that fits the genre, perhaps with a cautious or inquisitive opening line.

Prompt: "In the middle of a tense spacewalk, an astronaut needs to repair a damaged satellite. What steps would they take to ensure their safety and the success of the mission?"

Explanation: This prompt places ChatGPT in the vacuum of space, implying the need for technical, precise language related to spacewalk protocols and satellite repair. The tension of the situation suggests that the steps provided should be methodical and cautious.

Reviewing and Using Your Chat History

Reviewing your chat history is beneficial for several reasons. It serves as a journal of your previous interactions, thoughts, and inquiries and ChatGPT's responses. By looking back at your past chats, you can rediscover valuable information that you may have forgotten or that may have slipped your mind. It's like having a personal reference library at your fingertips, where you can revisit old topics or advice that ChatGPT provided a minute or months ago.

Chat history also serves as a record of how far you've come in developing your prompting skills. It can be fascinating and insightful to see how your questions and interests have evolved over time. You can also time travel back to earlier chats to continue those conversations and avoid repeating earlier prompts.

It's kind of cool that ChatGPT has no sense of the passing of time and can resume an earlier chat as if it were never interrupted. You can carry on with your train of thought in that chat without the need to retrace your steps. Such continuity is especially helpful when you're working on a similar project now, or you need to recall advice that was tailored to a specific situation you were dealing with at the time.

Your chat history can also serve as a reminder of the tasks you've completed or the goals you've set. In addition, it can help you identify patterns in your prompts or issues that you frequently encounter, which could help you improve your skills now. You can also reflect on past conversations and extract insights that could be useful for future decision-making or problem-solving now.

Your chat history is a valuable resource that helps you avoid redundancy, ensure continuity, track progress, and gain deeper insights, all of which can enhance the quality and efficacy of your projects and efforts. However, you can delete chats from the history, if you prefer. Roll over the chat title in the chat history bar to reveal the three dots. Click there for options, one of which will be a delete command.

Crossing Token Limits and Other Issues

All these tactics and techniques are valuable, and each, when used properly, can deliver solid returns. However, cost is and always will be a factor to consider in your projects. To that end, it's time for you to take a good look at where some of those costs lie.

In ChatGPT, tokens are units of text that include words or parts of words, punctuation, and spaces. It may come as a surprise to you that a single word can be broken down into multiple tokens, depending on its complexity. For example, simple words like *dog* might count as one token, but something more complex like *ChatGPT* might be split into two tokens. In every interaction, ChatGPT consumes tokens in both the prompt and its response.

Token costs and limits vary depending on the version or application of ChatGPT that you're using. Some versions have token limits, which refer to the maximum number of tokens allowed in a single interaction. In other words, your prompts and subsequent ChatGPT response are limited to a set number of tokens. Further, some ChatGPT subscription plans limit the number of tokens you can use in a month. For example, you are allowed to do fewer chats in the free plan, more in the Plus plan, and even more in the Pro plan. If you exceed the token limits you might even be cut off from using the model for the rest of a period or required to upgrade your subscription plan depending on the application. In the Enterprise plan, usage isn't limited to a set number of tokens, but you are billed, at least in part, by the number of tokens your company uses.

Managing token consumption is key to making interactions more efficient and cost-effective. Being concise with your prompt writing (inputs) is one way to reduce token usage. Longer and more complex prompts naturally consume more tokens, and so do long ChatGPT responses, so try telling it to be brief or to summarize to shorten some of those. Shorter prompts will reduce both input tokens and output tokens, minimizing overall token consumption.

Instead of providing extensive background details repeatedly in prompts, try adding longer information to custom instructions so that ChatGPT always has that on hand without your repeating it in prompts. You'll find that by clicking on your photo or icon on the top right of ChatGPT's user interface. When the dropdown menu appears, click on "Customize ChatGPT" and fill in the fields. Don't forget to come back to change those once you finish a project if your custom instructions don't apply to other projects.

Being mindful of how complex or lengthy your queries are and how detailed you expect the responses to be helps in managing costs.

Chapter 7

Learning Advanced Prompting

IN THIS CHAPTER

>> **Understanding all the ways to add data**

>> **Using ChatGPT memory features to boost your prompts**

>> **Zooming in on your end goal**

>> **Grasping how to extract info from images and attachments in the prompt**

In you learn basic and intermediate prompting skills. In this chapter, you learn advanced prompting skills and some unexpected ways to boost the power in your prompts using things like memory features and temperature settings. Don't worry. It's not as hard as you think. You can start using them right away too!

Starting at the End: Defining Desired Outputs before Prompting

If you want to make sure that ChatGPT results take the direction you want, give ChatGPT a clear sense of the destination. After all, it's impossible to plan the best path to take if you have no idea where you want to go.

Even if you're using ChatGPT to explore a topic or dive deep into data discovery, you should be clear about your reason for doing so. In other words, have a point to the exercise before prompting. Otherwise, you'll find yourself adrift, riding the wind or an

intellectual whim and at danger of spending hours falling down the notorious virtual rabbit holes. Of course, rabbit holes are okay if you have time to wander about.

But for most, ChatGPT is a tool to get work done. If that's what you use it for, you'll want to take the most efficient and direct path to your end goal. For example, if you're looking for a comprehensive explanation of a scientific concept, it's important to specify not just the concept itself but the depth of the explanation you need, the context in which you're going to use the information, and any aspects you're interested in. This level of detail in the prompt guides ChatGPT to generate a more fitted and useful response. Keep in mind that adding this level of detail to one or more prompts requires some thought and planning. Rarely will you or anyone else be able to capture all these details on a whim. It's easy to forget or overlook an important element in the moment.

To fully grasp this concept of working backward from result to query — or in the case of ChatGPT from response to prompt — consider why you're doing this exercise at all. Odds are that you've already formulated certain elements like these:

>> A specific idea
>> A concept
>> An execution method
>> Formats or mediums
>> The target audience
>> A specific message

Combining those things (however many or few) defines your end goal, which in turn informs and defines what you ultimately want in an AI response. Start there.

Once you have an end vision in mind, start planning your prompts in a way that points you toward that destination. You'll likely discover that you can take several routes in prompting to get you

there. Sort and choose from your prompt strategies according to the requirements that mean the most to you. Perhaps you're looking for the most efficient prompting path (one that uses fewer tokens) or the path that allows ChatGPT to be more creative (meaning it can stray further in its interpretations of the prompt and the data.

If you want to learn more about this technique and a variety of approaches like the Inverted V and decision theory, be sure to read my earlier book, *Decision Intelligence For Dummies.*

If you don't care to dive that deep into the science of decision-making and keeping AI on track, suffice it to say that beginning at the end will give you the best start in accomplishing what you want in both advanced prompting and content engineering.

TIP   Iterative prompting is a good fit for this approach once you have a well-defined end goal. Start with a broad prompt, and then progressively narrow the focus in subsequent prompts based on ChatGPT responses until you reach the output you desire.

Managing Data for Targeted Impact on Outputs

The way you present information and the kind of data you provide can dramatically shape the ChatGPT responses you receive. Managing and supplementing data in your prompts is one way to significantly influence the outputs. You can do this in several ways.

One way is to include context within your prompts. By providing background information or specifying the framework in the prompt, you can shape its responses better. For example, if you're asking about renewable energy, mentioning whether you're

interested in its environmental impact, economic benefits, or technological challenges will steer ChatGPT to consider data within those parameters and focus on the relevant aspects. Another way is to use clarifying follow-up questions in subsequent prompts. Consider asking for more details, requesting examples, or asking ChatGPT to compare and contrast concepts.

You can also supplement data in your prompts by providing specific examples, scenarios, reports, or data points for ChatGPT to consider. If you're discussing a complex issue like climate change, you might provide a hypothetical scenario a case study or name specific sources for it to use, which will point ChatGPT to the angle you're interested in exploring. If you prompt ChatGPT to provide data and resources in its responses, be sure to include a command for it to cite its sources. This will help you fact-check responses but also to dive deeper into the details. Adding constraints to prompts by setting boundaries is another powerful technique. For example, you might ask for a summary suitable for a child, a detailed report for an expert, or a persuasive argument for a skeptic.

Incorporating recent data or findings that might not be within ChatGPT's training data is also a valuable strategy. Because ChatGPT models are trained up to a certain point in time, they might not have access to the latest information. By providing updated facts, figures, or developments in your prompt, or by using a ChatGPT version that is connected to the internet, you can make ChatGPT responses as current and relevant as possible.

Lastly, you can use prompts to correct or counteract biases. If you notice that ChatGPT's responses seem to lean in a certain direction, you can prompt the app to consider alternative perspectives or to provide a more balanced viewpoint. This is particularly important in fields where new research or social changes might shift the understanding of a topic.

REMEMBER Think of your prompts as tools to sculpt ChatGPT's responses. Be mindful of the information you include, the questions you ask, and the constraints you set. This will help you to sharpen ChatGPT's focus and tailor its outputs to your specific needs and objectives. Remember, the more targeted your prompts, the more targeted ChatGPT's outputs will be.

There are two more sophisticated methods to manage and supplement data to shape outputs: providing supplemental data in custom instructions and using a technique known as *retrieval-augmented generation,* or *RAG* (see. (See the explanation a couple paragraphs down.)

Incorporating supplemental data directly in your custom instructions can be a game-changer. As mentioned earlier in this chapter, embedding additional information, such as recent statistics or findings, within your prompts is effectively updating ChatGPT's knowledge base. You'll find custom instructions in the dropdown menu under your picture or icon on the upper-right corner of ChatGPT's user interface, as shown in . In recent versions, you'll see "Customize ChatGPT" in the dropdown menu instead of "Custom Instructions."
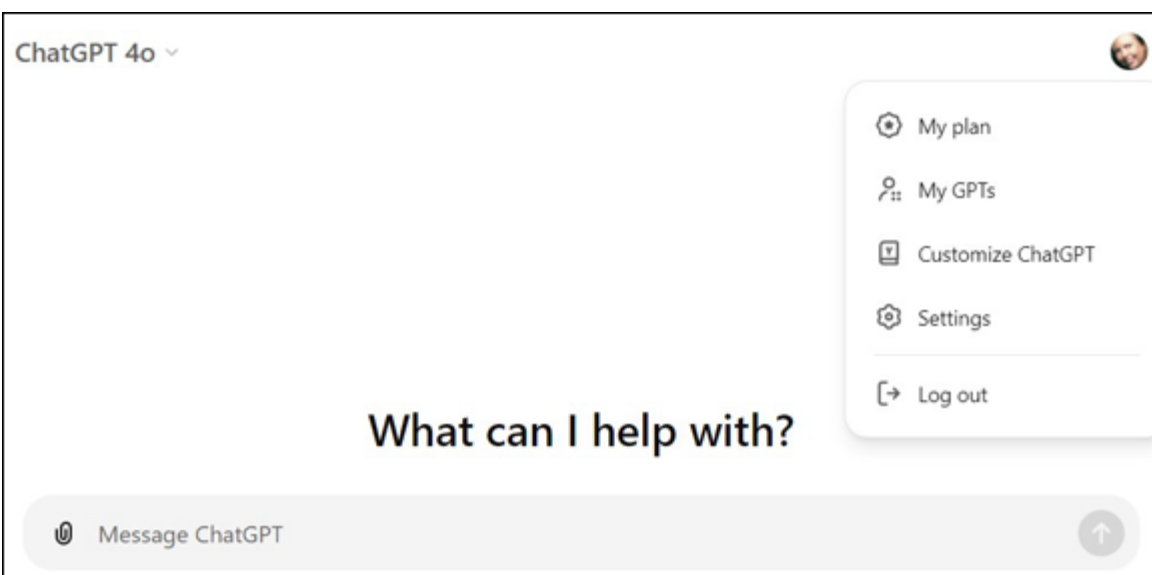
FIGURE 7-1: You can customize ChatGPT by going to the dropdown menu in the upper-right corner of the window.

However, this approach has limitations. ChatGPT can only interpret and use the data you provide within the scope of its abilities, and it may not always understand or apply the data correctly, especially if it's complex or requires expert analysis. Further, the data you provide in prompts is only applied to that thread or conversation. If you start a new chat, you need to enter that data in a prompt again for it to apply to that conversation too. One way to overcome this is to enter the data in custom instructions (or Customize ChatGPT) so it will be applied to all conversations until you change the instructions.

Retrieval-augmented generation, on the other hand, is like giving ChatGPT a research assistant. RAG allows ChatGPT to pull in information from a large dataset or external sources in real time as it generates responses. This means that ChatGPT isn't just relying on the information it was trained on; it can access and use newer, supplemental data to inform its responses. However, RAG also comes with limitations. The quality of ChatGPT's output depends heavily on the quality of the external sources it uses. If those sources are biased or inaccurate, ChatGPT's responses reflect that. Also, if the data is in nonstandard formats such as macro templates, spreadsheets, or proprietary formats, RAG in ChatGPT might not directly accept or handle these forms. RAG works best with plain text or data that can be transformed into a textual format.

If none of these methods meet your needs, you might consider looking for a specialized ChatGPT application designed for your specific domain, which would have been trained on a dataset that's more relevant to your field or area of interest. This could yield better results without the need for extensive customization or supplementation. However, some ChatGPT wrappers and specialized small language models allow you to add data to RAG instead of waiting on IT or an admin to do it for you. You learn about small language models in Chapter 2 but the term wrappers

may be new to you. A wrapper is a tool or interface built around ChatGPT to customize its functionality to fit a specific use case, profession, discipline, or field. You can think of it like software wrapped around another software, hence the name "wrapper."

Another option is to ask your IT department or technical team to refine the model itself. This could involve retraining the AI on a dataset that you provide, define, or choose. However, this is a resource-intensive solution that requires expertise in machine learning and AI, and it's not feasible for every situation.

Adding Data to Prompts

You've already discovered that one reason you might want to add data to your prompts is to guide ChatGPT toward a specific context or to ensure that the response takes into account the most current information, which might be outside of its original training data. But the placement of data within a prompt can significantly affect the quality and relevance of ChatGPT's response too.

You can think of the strategic placement of different kinds of data as setting the stage for a play. You need to place each piece of information in an order much like a character whose entrance and position on stage can influence the unfolding of the story.

REMEMBER In short, best practice is to weave data throughout your prompt in a way that feels organic and logical, much like you're telling ChatGPT a well-written story that includes your question or instructions for ChatGPT at the end. Start by setting the stage, introduce key details where they have the most impact, and conclude with the direction you want ChatGPT to take.

However, it's important to stay mindful of ChatGPT's limitations. Overloading the prompt with too much data or excessively technical details can confuse the model and result in irrelevant,

wrong, or incomplete responses. The art in effective prompting lies in providing just enough data to inform and guide ChatGPT's response without overshadowing your main question or request.

Using image inputs to add data and instructions to a prompt

Click on the paper clip icon on the left side of ChatGPT's prompt bar to reveal the pulldown menu you see in Figure 7-2. This is how you add images and files to your prompt. It's a good way to add data to your prompts without having to type all this information in the prompt bar.

ChatGPT is limited in how much it can work within regards to prompt attachments, however, so don't stuff too much in there. Generally, the same advice I gave you earlier on making prompts concise applies to the prompt attachments. In other words, don't upload a long document when you really want ChatGPT to use only a page or two.
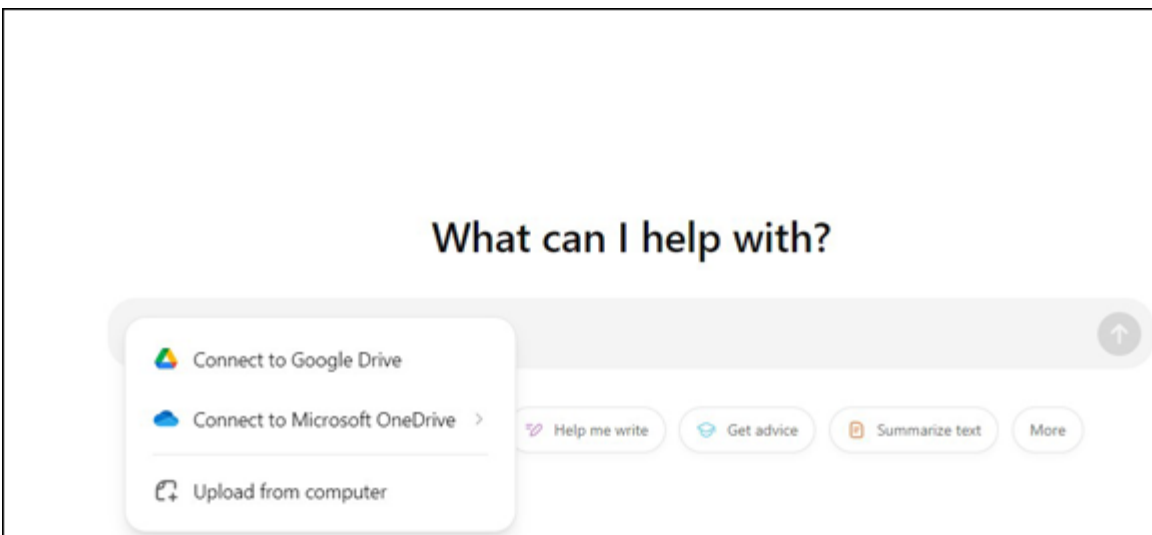
Generated with AI in ChatGPT

FIGURE 7-2: You can add files to the prompt bar by selecting the Upload from Computer option in the pulldown menu.

But you can do much more in the way of prompting by using images and other attachments in a more strategic manner. For

example, I can take a pic of a page from my book *Generative AI For Dummies* and prompt ChatGPT to develop a plan from that information. I've done so and depicted the steps in the figures to follow so you can see how this works.

First, I selected and photographed page 134 from my book *Generative AI For Dummies* about how to use AI aggregation to make stronger and more appealing content. You can see that in Figure 7-3.

Next, I attached it to the prompt bar by clicking on the paper clip icon on the left side of the bar. Then I added minimal instructions via text to the prompt bar. The part of the prompt that I typed reads: "Make a plan to design an online ad from the information in this image." You can see that in Figure 7-4.

I then initiated the prompt by clicking on the arrow in the prompt bar. You can see the beginning of ChatGPT's response in Figure 7-5.

Because ChatGPT's response is too long to fit in a screenshot, I copied and pasted the entire response here for your perusal.

If, after reading ChatGPT's response, you want to know more about how to use AI aggregation to develop more sophisticated and polished content, read "AI Aggregation" later in this chapter. But if you want to learn more about specific generative AI tools you can use in that method beyond or alongside ChatGPT, pick up a copy of *Generative AI For Dummies*.

With GenAI as a force multiplier, content teams can increase their ~~velocity~~ velocity while maintaining consistency and avoiding tedious busy work. Whether you're an individual creator or part of a larger media operation, mastering these GenAI-powered tactics will futureproof your short-form content engine.

Getting Better Results by Combining Different Types of AI

Before getting into the specifics of using various techniques to generate diverse forms of short content, I want to encourage you not to limit your writing and other creative works to the capabilities of one GenAI model or application. Consider combining different types of AI to access more options and capabilities, as discussed in this section.

AI aggregation

AI aggregation refers to the process of combining the outputs of multiple GenAI models working independently to create a unified final product. Applications of AI aggregation include creative projects that combine text, images, and audio; data analysis that integrates insights from various analytical models; content creation that merges text with data visualizations; and automated systems that incorporate different GenAI functionalities. For example, you can use Claude to write text and Midjourney to generate images to illustrate it. Perhaps you also want to use Synthesia AI to make a short video to include in your blog post or article and to reuse later as a TikTok video. In other words, you are using outputs from various models to create a unified finished work in a single document, canvas, presentation, or digital file.

The benefits of this approach include enhanced quality of results, a diversity of perspectives, and increased robustness. However, AI aggregation presents challenges such as complexity in integration, lack of consistency across different data types, and the resource intensity of running multiple models.

An example workflow involves selecting specialized GenAI models, generating outputs independently, aggregating these outputs while ensuring alignment with design and messaging, and refining the final product for coherence and quality. AI aggregation thus enables the creation of sophisticated outputs by leveraging the strengths of different GenAI tools.

FIGURE 7-3: An image of page 134 of *Generative AI for Dummies*.
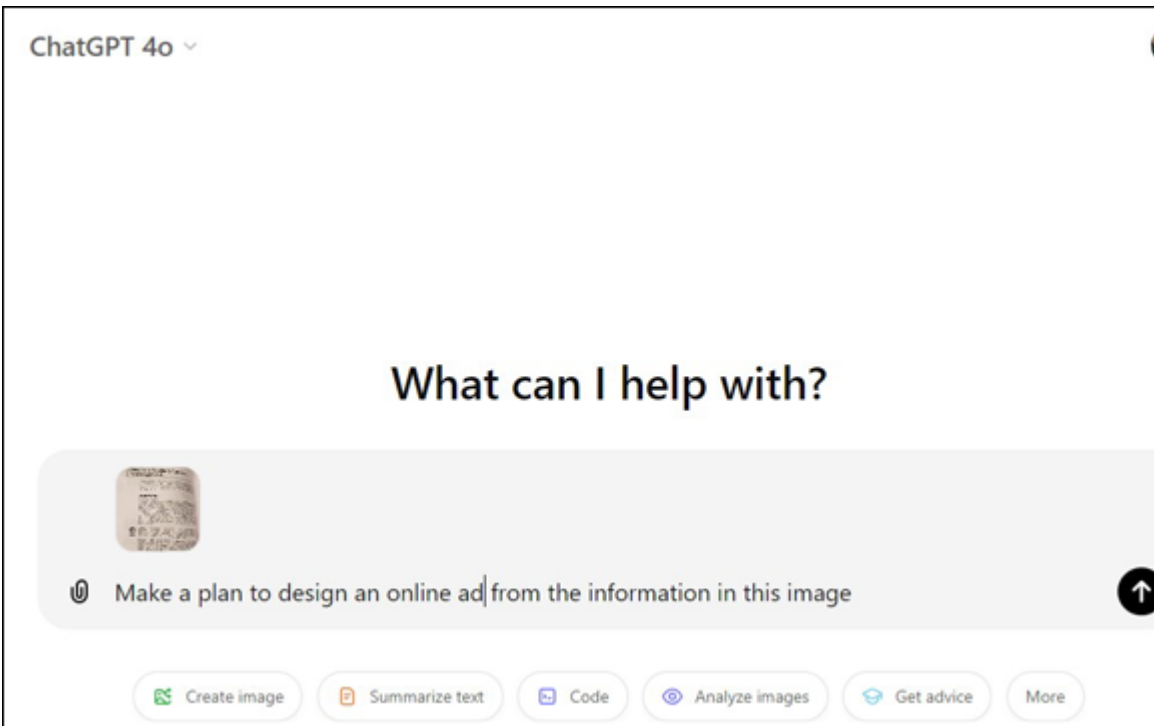
Generated with AI in ChatGPT

FIGURE 7-4: Adding the prompt after attaching an image.
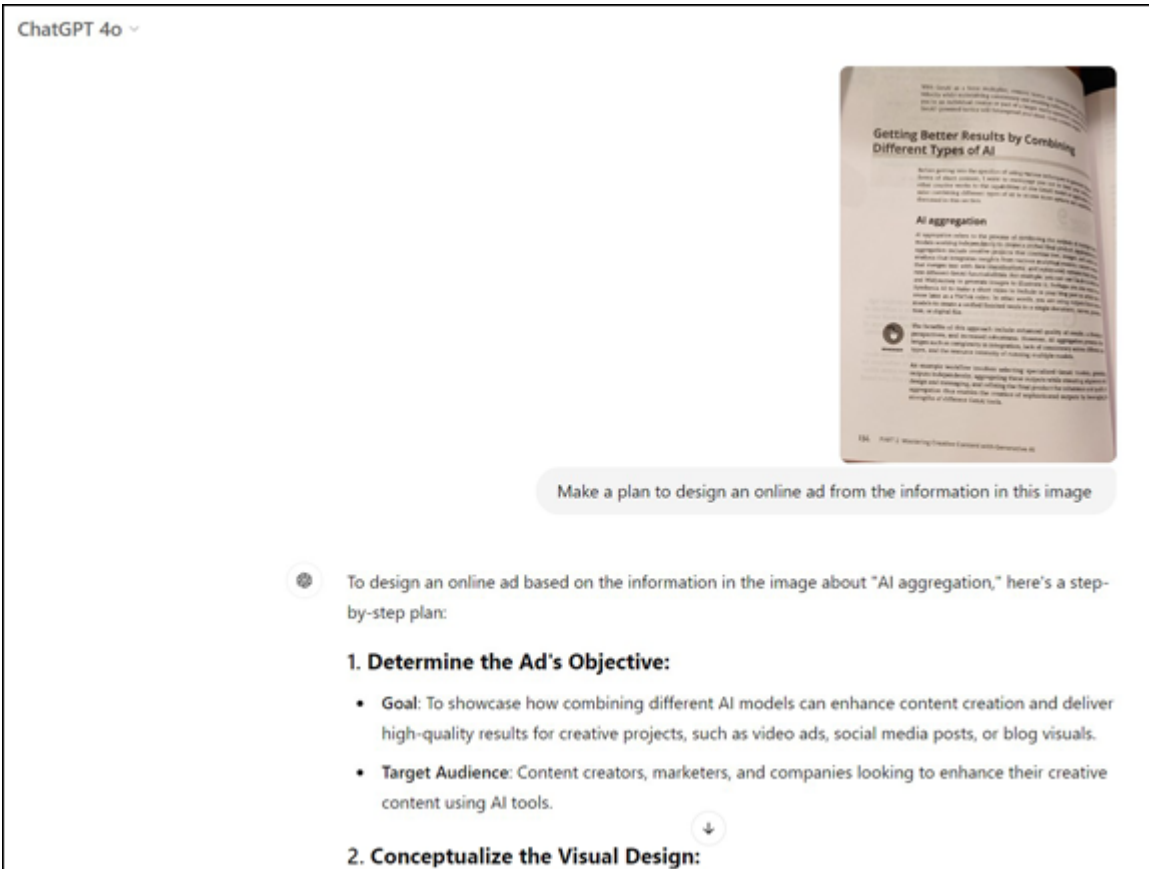
Generated with AI in ChatGPT

FIGURE 7-5: The output that ChatGPT generates after you click the arrow in the prompt bar.

CHATGPT SCRIPT 1

Prompt: Make a plan to design an online ad from the information in this image ChatGPT full response:

To design an online ad based on the information in the image about "AI aggregation," here's a step-by-step plan:

1. Determine the Ad's Objective:

Goal: To showcase how combining different AI models can enhance content creation and deliver high-quality results for creative projects, such as video ads, social media posts, or blog visuals.

Target Audience: Content creators, marketers, and companies looking to enhance their creative content using AI tools.

2. Conceptualize the Visual Design:

Primary Message: "Unlock Your Creative Potential by Combining AI Tools."

Visual Elements:

Images/Graphics: Use AI-generated images (from tools like MidJourney) to demonstrate the visual power of AI.

Videos: Include a short AI-generated video (created with tools like Synthesia AI) showing how multiple AI types can be combined into one cohesive project, such as a TikTok video or social media reel.

Text and Data Visualizations: Display how AI can integrate text and images with visual analytics, showing the fusion of content and data.

3. Ad Structure and Flow:

Header: "Get Better Results by Combining AI."

This should grab attention and indicate that the ad will show a solution for creative professionals.

4. Body Content:

AI aggregation concept: A short explanation in bullet points on how combining AI models can produce a unified final product, whether it's a video, an infographic, or a design project.

Benefits: Highlight the benefits such as:

Enhanced quality of results

Diversity of perspectives

Increased efficiency and robustness

Call-to-Action: "Try AI Aggregation for Your Next Creative Project" or "Boost Your Content Creation with AI Tools Today."

5. AI Tools Highlighted in the Ad:

GenAI for Text and Analytics: Integrating insights across data for text and visualization.

MidJourney for Image Creation: Generating unique images for visual illustrations.

Synthesia for Video Content: Quickly creating reusable AI videos for social media or marketing.

Illustrative Example: Show a step-by-step process of combining text, visuals, and video into a single unified output to demonstrate the workflow.

6. Design and Format for Online Platforms:

Banner Ads: Use striking visuals, a short tagline, and a clear CTA button.

Social Media: Create a series of carousel posts or a video ad that demonstrates the AI aggregation process, with each slide/post explaining one AI tool and its role in the final project.

Landing Page: Link the ad to a landing page that further explains AI aggregation, with case studies or demos showing its real-world applications.

This plan incorporates the essential idea of combining different AI tools to enhance the overall creative output, providing users with practical and visual examples of how AI aggregation can elevate their projects.

But that's just one example. Here's another. Imagine that you're attending a professional conference and are currently at a social event. Someone there makes an offhand comment that sparks a brilliant idea. You jot it down quickly on a napkin, as I've simulated in Figure 7-6.
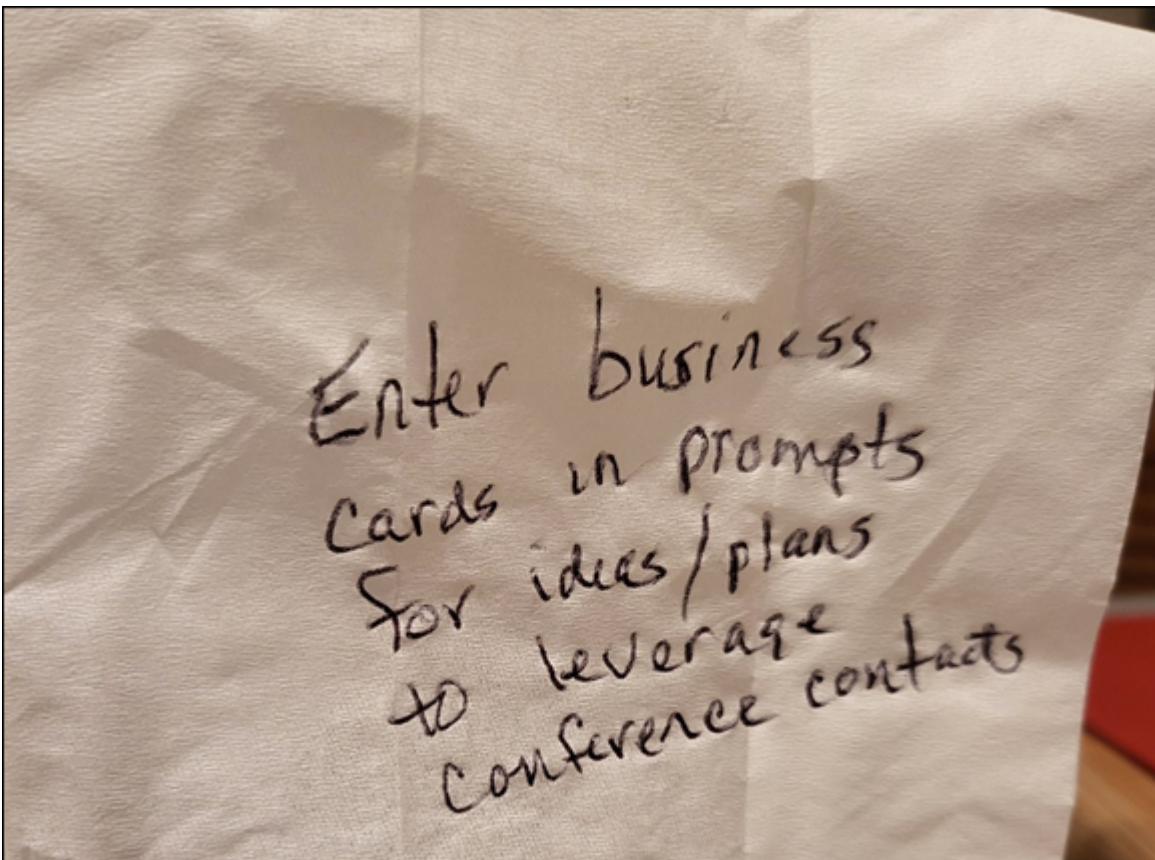
FIGURE 7-6: A handwritten note on a napkin can be later entered into ChatGPT with your prompt.

You can take a picture of it and use it in a prompt to get ChatGPT to flesh out your idea, suggest additional or alternative ideas, point to factors involved that you need to consider, plan to implement your idea, and on and on.

In my consulting work on using GenAI, I often teach executives, journalists, and businesspeople ways to capture spontaneous ideas to enhance their strategies and work. I teach artists and writers ways they can use tactics like this too, but tailored to the creative projects they're working on. Prompting with images and attachments truly is versatile. But back to the demonstration. In Figure 7-7, you can see my full prompt for this demonstration.

As before, I'm including a screenshot of ChatGPT beginning to respond to this prompt in Figure 7-8.

What follows is a copy of the prompt and ChatGPT's full response since the response is too lengthy to fit in a screenshot.

ChatGPT 4o ⌄

What can I help with?

Make a plan based on the info in this image. Suggest additional ideas including what and how often to communicate with key attendees to maintain contact and build relationships
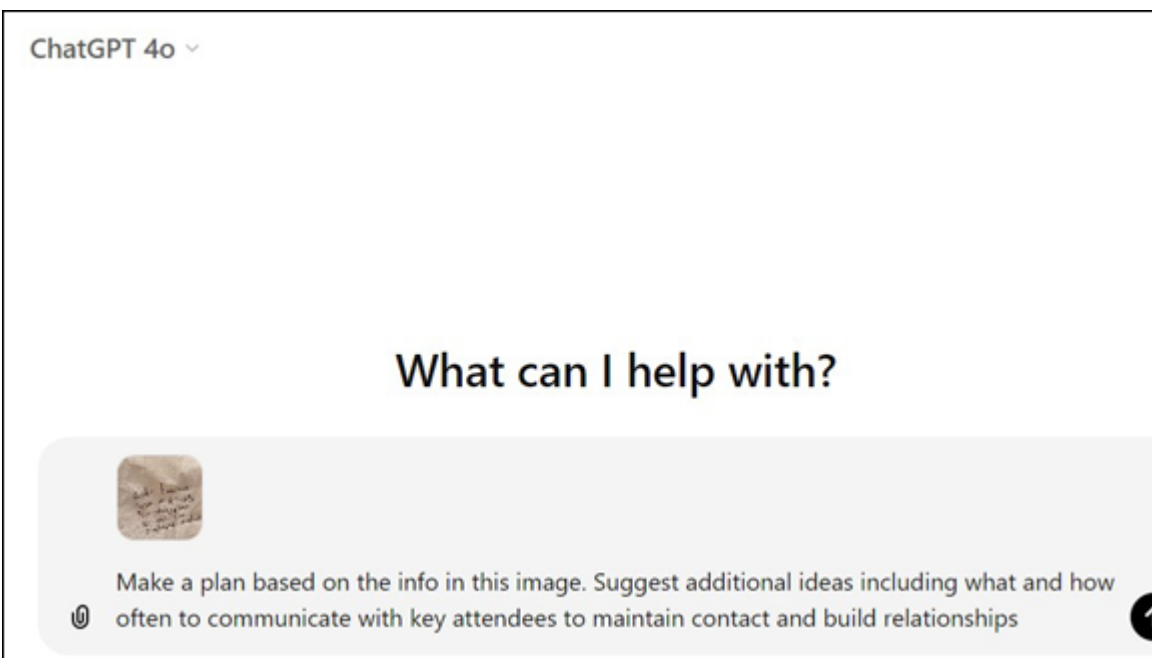
Generated with AI in ChatGPT

FIGURE 7-7: The prompt asks ChatGPT to plan based on the napkin image from Figure 6-6.
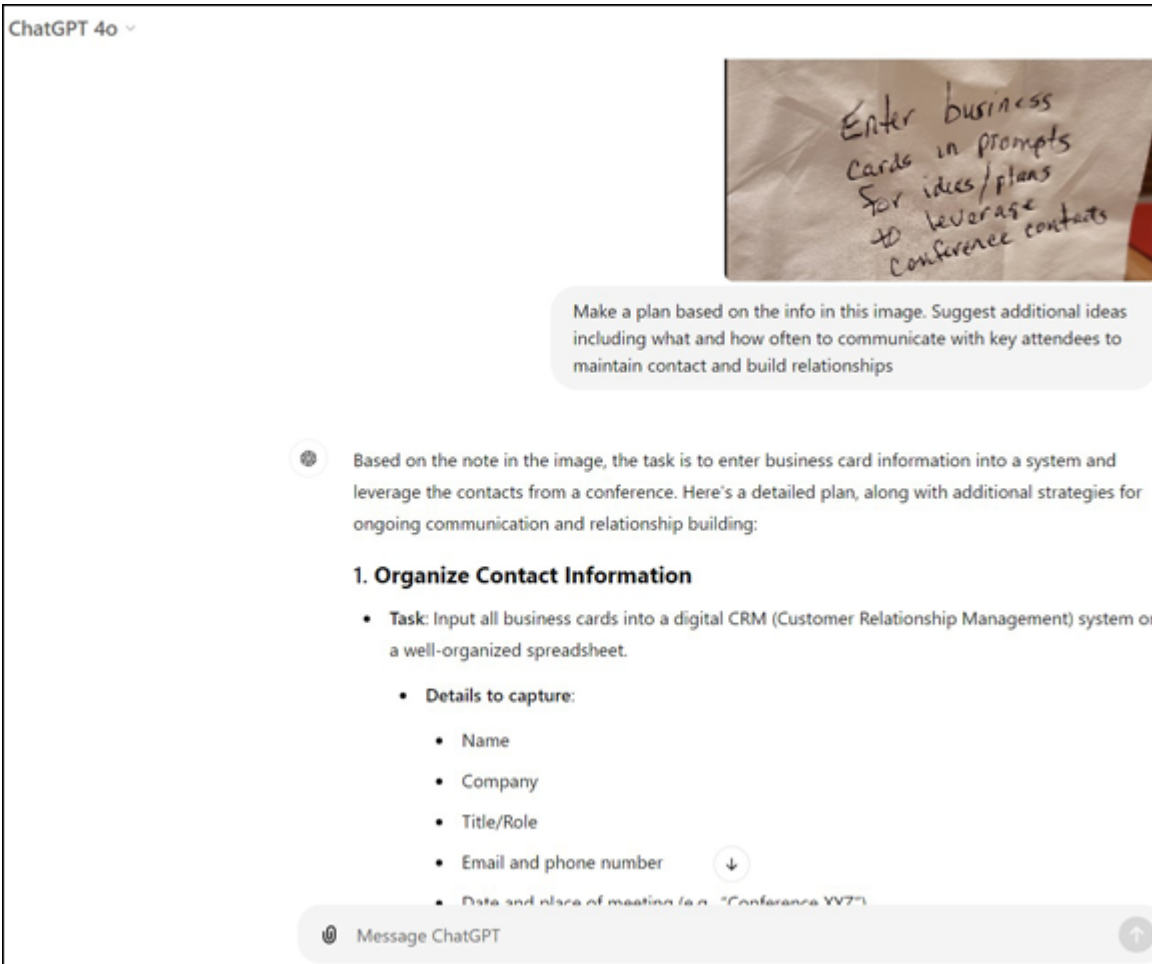
Generated with AI in ChatGPT

FIGURE 7-8: The response from ChatGPT after entering the prompt and uploading the image.

CHATGPT SCRIPT 2

Prompt: Make a plan based on the info in this image. Suggest additional ideas including what and how often to communicate with key attendees to maintain contact and build relationships.

ChatGPT response:

Based on the note in the image, the task is to enter business card information into a system and leverage the contacts from a conference. Here's a detailed plan, along with additional strategies for ongoing communication and relationship building:

1. Organize Contact Information

Task: Input all business cards into a digital CRM (Customer Relationship Management) system or a well-organized spreadsheet.

Details to capture:

Name

Company

Title/Role

Email and phone number

Date and place of meeting (e.g., "Conference XYZ")

Any personal notes (interests, potential collaboration, key discussion points)

Tools to use:

CRM systems like Salesforce, HubSpot, or simple tools like Google Sheets or Excel for tracking.

2. Create Follow-up Categories

Group attendees into categories such as:

Immediate collaboration prospects: Individuals or companies where there's a clear synergy or potential project.

Networking for future opportunities: Contacts who may be valuable down the line.

General professional connections: People you'd like to keep in touch with but have no immediate plans to collaborate with.

3. Initial Follow-up Strategy

Within 2–3 days after conference:

Send a personalized email thanking them for connecting. Reference your conversation or something memorable from the event to make the message personal.

For key contacts, suggest a follow-up meeting (virtual or in-person) to explore collaboration further.

For others, offer to stay in touch and mention how you might collaborate or share resources in the future.

Email Template for Collaboration Prospects:

Subject: Great Connecting at [Conference Name]!

Body:

"Hi [Name], I really enjoyed our conversation at [Conference Name] and wanted to follow up on [specific point discussed]. I think there's a lot of synergy between [your company] and [their company], and I'd love to explore how we might collaborate. Would you be open to scheduling a call sometime next week? Best, [Your Name]"

4. Ongoing Communication Plan

Monthly Check-ins (key contacts):

Share relevant articles, reports, or updates that could be of interest to your contacts.

Offer to introduce them to someone in your network who could be helpful to them.

Share updates about your work or projects you think might interest them.

Set reminders to send brief "check-in" emails or messages every month, even if it's just to ask how they're doing or to share industry news.

Quarterly Updates (general contacts):

Send a quarterly email summarizing your latest projects, successes, or relevant industry trends.

Mention that you'd love to stay in touch and that you're always open to discussing potential collaborations or exchanging insights.

Example: "I thought you might find this article on [topic] interesting based on our last conversation. Hope all is well — let's catch up sometime soon!"

5. Leverage Social Media and Professional Platforms

LinkedIn:

Connect with attendees on LinkedIn, making sure to add a personalized note referencing the conference.

Engage with their posts and updates to stay on their radar.

Share valuable content related to the conference topic or your industry.

Twitter/X or Industry-specific Platforms:

If applicable, follow up by tagging them in relevant discussions or sharing resources they might find useful.

6. Attend Future Industry Events Together

When relevant, suggest meeting up at future conferences or events. This creates continuity and strengthens the relationship.

If you're attending an industry event they might be interested in, send them a quick invite or suggest a casual catch-up over coffee at the event.

7. Set up Calendar Reminders for Follow-ups

Create reminders to follow up with key contacts at strategic intervals:

Immediately after the conference.

2 weeks later if there's been no response.

Monthly check-ins for high-priority contacts.

Quarterly updates for broader connections.

Tools:

Use CRM reminder features or simply set up Google Calendar reminders for when to follow up with each person.

8. Monitor and Adjust the Strategy

Track interactions in your CRM or spreadsheet to note:

When you last communicated.

The nature of the communication (call, email, social media).

Any updates on their status (new role, company updates, etc.).

Adjust your communication frequency based on their responsiveness and interest.

There's no reason to stop there. I can copy this plan to a Word document and then use each item as a prompt to get ChatGPT to do the work for me. Or, I can use chain prompting (you learn about that in Chapter 5) to get ChatGPT to execute this plan one step at a time. Then again, I could just take a screenshot or picture of just one part of the plan that I actually want (scrapping the rest of ChatGPT's plan) and on some future date, attach it to a prompt for ChatGPT to complete the work. How you choose to do any of this is up to you and whatever guidelines or rules your employer wants you to follow. The point here is that ChatGPT's flexibility allows you to work almost in any way you want.

You can use this tactic for any project and any purpose. Consider using it to improve an image you've created in a generative AI tool, whether it's within ChatGPT or some other tool. For this

demonstration, I created a simple black-and-white image in Craiyon, an AI-generated art platform, with a prompt instructing it to create an image that's wrong in several ways. The image I chose for this is shown in Figure 7-9.

Next, I attached the image in a ChatGPT prompt and instructed it to find and disclose the errors within the image and suggest ways to correct them. Figure 7-10 shows the actual prompt and part of ChatGPT's response.

And as I did in the other two examples, below is the copy & paste of the prompt and ChatGPT's full response.

FIGURE 7-9: One of nine images that Craiyon offered from my initial prompt.
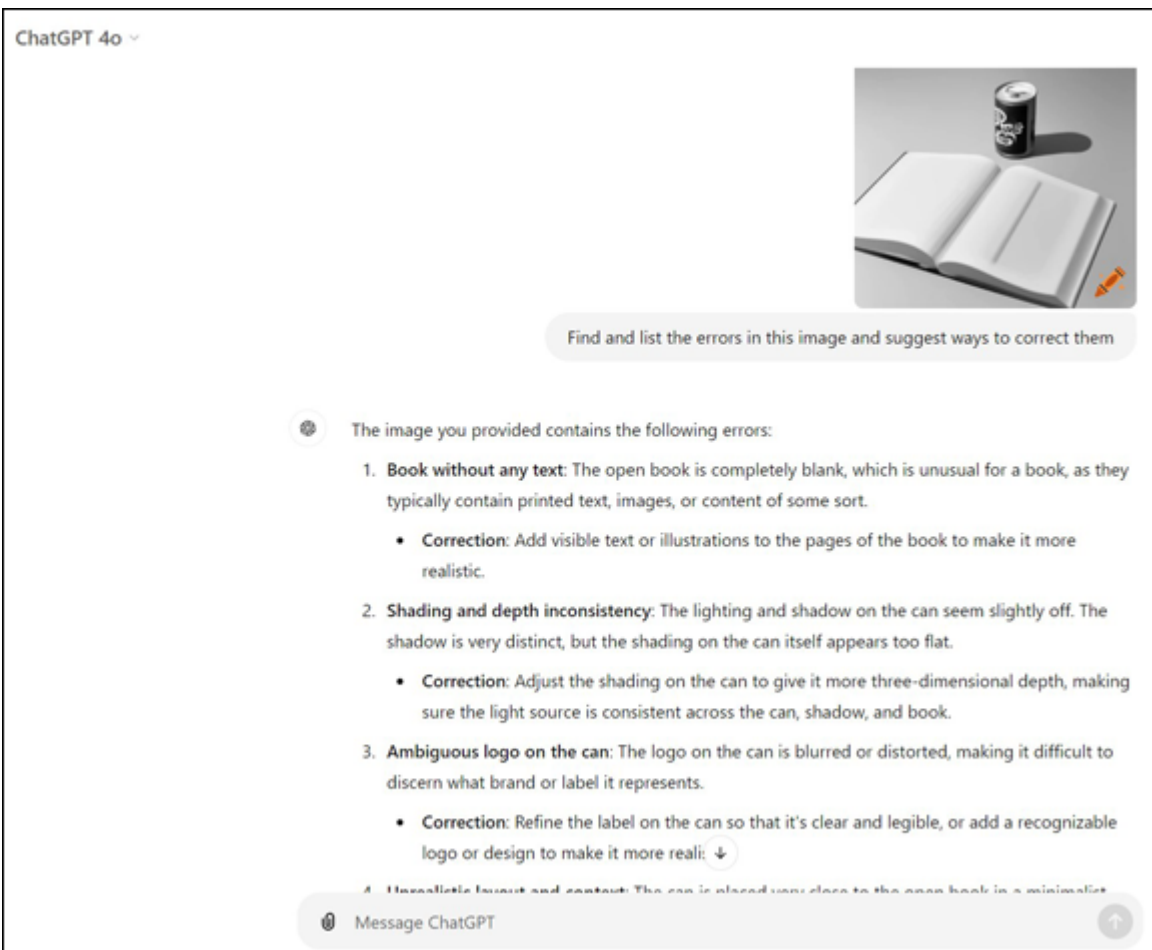
FIGURE 7-10: An uploaded image along with a prompt that asks ChatGPT to find errors in the image.

CHATGPT SCRIPT 3

Prompt: Find and list the errors in this image and suggest ways to correct them.

ChatGPT full response:

The image you provided contains the following errors:

Book without any text: The open book is completely blank, which is unusual for a book, as they typically contain printed text, images, or content of some sort.

Note that at the bottom of ChatGPT's response is "1/2" or "one of two," meaning that ChatGPT offered me two responses to this prompt: one of them is what I copied and pasted above. The second response was a ChatGPT fail. Specifically, it lied and said: "I'm sorry, but I don't have the ability to view and analyze images. If you could describe the content of the image or provide details about it, I'd be happy to help identify any errors and suggest ways to correct them." This response is unacceptable, of course.

I'm not sure what happened in the generation of the unacceptable response; the file may not have been handled properly at first, and then it took a second pass at it, or ChatGPT may have used two different versions of itself to find the answer. If that's the case,

I suspect 4o (Omni) gave me the detailed response and version 1o (Strawberry) didn't. But I don't know that to be the case. My suspicion is based on my experience, in which Omni tends to perform better on most tasks, but Strawberry is better at writing code and solving complex problems than Omni is. If you get a 1/2 response, choose one of the responses by clicking on it. If you don't like the responses, start a new chat and enter the same prompt again. This resets ChatGPT's calculation and should generate an acceptable response.

In any case, these are only three simple examples of an endless number of possibilities in how this tactic can work. There are an endless number of possibilities. My point here is that prompting ChatGPT isn't limited to the words you type or to any preset formulations. Your ideas and imagination determine what you can do with ChatGPT.

Adding information to memory in ChatGPT

You can tell ChatGPT 4o (Omni version) in your prompt to remember something, and it will! ChatGPT can remember any information you prompt it to store in its memory (such as your preferences or details) across multiple conversations, not just within a single session. This allows ChatGPT to apply this information to existing and new chats even if you come back later or after a long break.

When you tell ChatGPT to remember something in a prompt, it replies with a verbal confirmation and an icon saying, "Memory Updated," as you see in Figure 7-11.

If you want to add something else for ChatGPT to remember, just tell it to do so in another prompt. Or if you want it to forget something you told it to remember earlier, tell it what to forget in a prompt.
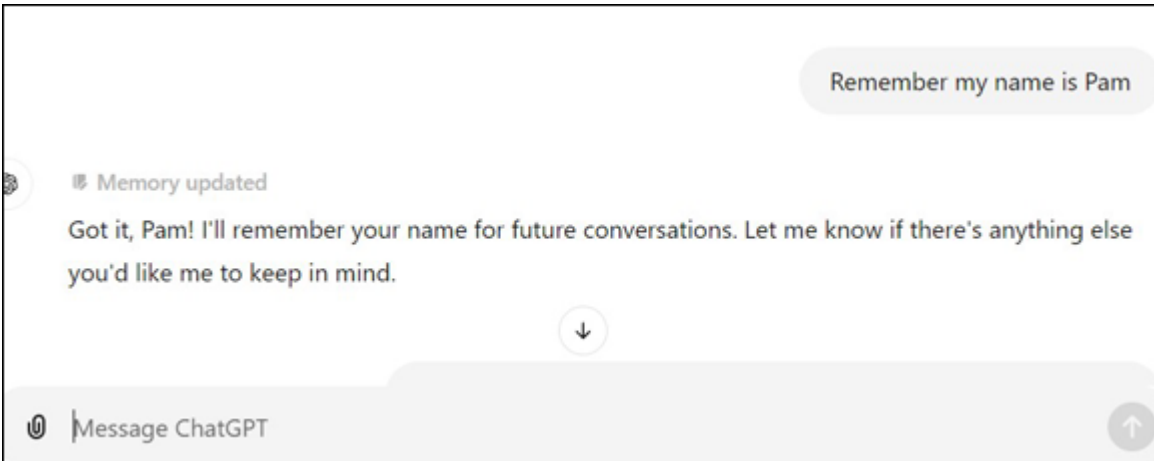
Generated with AI in ChatGPT

FIGURE 7-11: ChatGPT responds after being prompted to remember a name.

ASKING CHATGPT TO REMEMBER…

Here are some examples of things you can tell ChatGPT to remember:

Personal Information:

"Please remember that my name is Alex."

"Keep in mind that I'm working on a project about climate change."

Preferences:

"Remember that I prefer responses to be brief."

"Please remember that I enjoy learning through examples."

"Remember not to use lists in your responses unless I ask for one."

Ongoing Tasks:

"Can you remember that I'm studying for a math exam?"

"Please note that I'm currently learning Python, so I might ask questions related to that."

"Remember that I like coding in Python."

…OR TO FORGET

Examples of prompt commands to induce forgetfulness:

"Forget that my name is Alex."

"Please forget that I prefer brief responses."

"I have completed my project. Forget that I'm working on a project about climate change."

This is the point where you're probably wondering why you'd ever enter info into Custom Instructions or Customize ChatGPT fields if you can just tell ChatGPT to remember that info in a prompt. The answer is that using custom instructions and directly telling ChatGPT to remember something in a prompt serve slightly different purposes. You set up custom instructions once, and those stay in constant use unless you change them manually. On the other hand, storing data in memory via a prompt allows you to dynamically make updates during conversations. For example, you can ask ChatGPT to remember or forget details as you go.

Here's why you might use custom instructions:

» **Long-term adjustments:** Custom instructions let you set up a general, ongoing framework for how you'd like ChatGPT to respond across all conversations. For example, if you have a preferred way for ChatGPT to explain things, custom instructions can ensure your wishes are consistently applied.

» **Consistency across sessions:** Custom instructions apply across multiple conversations even if you don't specifically mention something in a prompt. They shape the tone, detail, or context of every response even if you forget to tell ChatGPT each time.

» **Specific guidelines:** If you want certain preferences to be remembered (like how much detail you want in answers or your usual areas of interest), custom instructions help keep things in check without your needing to remind the app each time.

In contrast, here's why you might use prompts to tell ChatGPT to remember something:

- » **Specific to a conversation:** It's great for things that are important within a single chat or series of chats, and it allows you to be more spontaneous. It's also quick to undo when you're done since you can tell it to forget in a prompt too.
- » **Flexible and temporary:** If you just need ChatGPT to remember something for the short term, it's faster and easier than going into settings.

Both approaches work well, but it depends on how often you want to maintain certain preferences and how often you want to change things in memory on a whim.

Manipulating memory in ChatGPT

Now that you know how and where to add and delete information from ChatGPT's memory, it's time to look at how and why you might want to do so.

You might recall that the key difference between memory and custom instructions is in the degree of flexibility. Memory is ideal for real-time quick adjustments in prompts, but custom instructions are better suited for establishing a consistent baseline. Although memory allows you to make changes on the go during chats, custom instructions stay the same until you manually update them in the settings.

You can leverage these strengths in several ways. For example, you might want to enter specific and more detailed information in custom settings to maintain consistency in results across chats on a large project.

For example, if you're writing a long academic paper, white paper, report, or book by prompting and writing in chunks rather than in one long prompt and response, it may be worth adding longer and more detailed instructions in custom settings to serve as the guidelines for every chat and response until that project is finished. Typically, instructions added to memory in prompts are quick and short, so they don't carry as many details as custom instructions can.

However, you're limited on how much information you can store in custom instructions. The input fields for custom instructions are generally designed to accommodate a reasonable amount of text, but they're not intended for large amounts of detailed or complex information. Typically, each field for custom instructions — such as, "What would you like ChatGPT to know about you?" or "How would you like ChatGPT to respond?" — can hold a few paragraphs of text. This allows you to provide sufficient information for some customization, but it isn't suitable for storing large documents, extensive data, or complex lists. You'll want to put those items in retrieval-augmented generation (RAG) instead.

You're also limited to how much information you can store in memory. I can't tell you the exact capacity because that depends on the platform and the version you're using. But memory is designed to handle a reasonable amount of information to help personalize interactions; it's not intended for storing large or highly detailed datasets any more than custom instructions or customize ChatGPT features are.

Here are some general guidelines on memory limits:

» **Reasonable Scope:** ChatGPT can remember personal preferences, ongoing projects, interests, and specific details you give it. But if you try to store too many details at once or extremely large chunks of text, ChatGPT won't remember it all.

» **Complexity:** Memory is best used for key pieces of information that tailor future conversations, such as your preferred learning style, favorite programming language, or recurring tasks. Highly complex or detailed information, like entire essays, large lists of technical specs, or multiple documents, may exceed the memory capacity. Again, it's better to add those items to RAG.

» **Updates Over Time:** You can add, update, or remove information in memory as needed, which allows you to keep it current without overloading it with too much at once.

If you aren't sure what ChatGPT is currently remembering for you, prompt it to give you a list.

If you're unsure about whether ChatGPT can retain certain details, you can test it. Just ask ChatGPT to remember those details, and it will let you know whether that's possible.

TIP Instead of thinking of this as an either/or option, strategically use information in custom instructions and memory so that you overcome the limits of both by making them work together to produce the results you seek.

Here are examples of manipulating information to get memory and custom instructions working in tandem:

1. **Memory command in prompt:** "Remember that I'm working on a new project involving AI ethics."

   Custom instructions update: You could set custom instructions like, "I want ChatGPT to provide detailed explanations with examples whenever discussing complex topics" and "Cite sources complete with URLs in responses that include facts, numbers, or statistics."

2. **Memory command in prompt:** "Remember that I'm currently working on a paper targeting an audience of pediatricians."

   Custom instructions update: "Write all responses using medical terminology and formal language suitable for an audience of physicians."

Speaking of memory, be cognizant of your chat history. ChatGPT automatically stores your chats so you can return to them later as though no time has lapsed. However, the chatbot has no memory of previous chats. That's odd, I know, because you just learned about ChatGPT's memory. But ChatGPT remembers only what you specifically tell it to remember. It doesn't remember any of the chats stored in your chat history in the sidebar on the left side of the user interface.

Even so, you might want to delete chats from your chat history for privacy and organization reasons. If you've shared sensitive or personal information about yourself, your customer, or your employer, removing the chat ensures that those details are no longer stored. It doesn't, however, necessarily prevent that data from being harvested to train other AI models or possibly leaking into responses ChatGPT delivers to other users. It's best if you never enter sensitive information in chats.

As your chat history grows, it can become cluttered with old or irrelevant conversations. Deleting these older chats can help keep things organized, making it easier to navigate and find the conversations that matter most to you.

Another reason might be the desire for a fresh start. If you've been working on a particular project or topic and want to shift your focus, removing past chats can help you feel like you're starting anew. Similarly, if previous conversations contain outdated or incorrect information, clearing them out can prevent confusion going forward, allowing you to reset your chat history with current, accurate information.

Sometimes you may want to avoid potential misunderstandings or misuse of certain conversations. You might want to delete chats

that could be misinterpreted, no longer reflect your views, or can be used against you in the future. Remember that if you're using an Enterprise version of ChatGPT, your employer can likely see all your prompts and responses. To prevent future complications, don't say anything in a prompt that you wouldn't say to your boss, and if you have done so already, you might want to delete that now.

On a more personal level, sometimes you may simply feel uncomfortable with the retention of certain discussions, even if they aren't sensitive. Deleting them can offer peace of mind and make you feel more in control of your environment.

Lastly, if you want to archive chats or delete your entire chat history at once, you'll find the necessary command buttons under settings on the user interface (found under your profile picture). In some versions, you'll also find a "clear all" button at the bottom of your chat history.

Changing the Model's Temperature

Changing the model's temperature means you're adjusting ChatGPT's creativity or randomness level. A lower temperature setting results in more predictable, conservative, and determinate outputs. This means the model will stick close to the most likely responses based on its training. It's useful when you want information that's straightforward, factual, and meets general expectations, including yours, your boss's, and your audience's.

On the other hand, a higher temperature setting allows the model to take more risks in its responses. Make it hot in here, and ChatGPT will take liberties left, right, and center in interpreting the data that often leads to more creative or unusual outputs. You might want to cut ChatGPT loose like this when you're seeking out-of-the-box ideas, brainstorming, searching for a range of

different perspectives, or trying to get its response closer to your own creative vision.

For example, if you're asking for a recipe for chicken soup, a lower temperature might give you a classic recipe, while a higher temperature might suggest a fusion of cuisines for an interesting spin on the traditional fare. Similarly, if you're asking for story ideas, a low temperature might give you familiar tropes, whereas a high temperature could provide you with a plot involving less conventional elements and unexpected endings.

To change the model's temperature, you, someone in your company's IT department, or an admin typically adjusts a parameter in the system that's controlling the model. This parameter usually ranges from 0 to 2, with 0 being the lowest temperature (most deterministic) and 2 being the highest (most random). The more balanced range are temps 0.5 to 1.0. You adjust this setting before making a request to the model. If you're using a customer-facing or consumer version of ChatGPT, you're not going to have a way to change this setting. But certain wrappers and ChatGPT applications and platforms will let users change the model's temperature themselves.

TIP   If you're unsure about what temperature to use, start with a moderate setting, like 0.5 or 1.0, and see if the responses meet your needs. You can then adjust the setting based on whether you want more conventional or more creative responses.

Changing the Model's Weights

Changing the model's weights involves updating or retraining ChatGPT's parameters. It's a technical method of affecting ChatGPT's outputs that most people won't have access or the skills to do. However, it's important for you to be aware of its existence if for no other reason than you know what to ask IT, and

how to articulate it, if you're having trouble with ChatGPT's performance on the job.

You change a model's weights to enhance performance, adapt to new data, or correct biases. You might want to do this if the model is making less than accurate predictions, particularly if it's overfitting, underfitting, or not generalizing well to new data. *Overfitting* happens when a model learns the training data too well, capturing not just the underlying patterns but also the noise and minor details that are irrelevant. *Underfitting* is just the opposite and occurs when a model is too simple to capture any of the underlying patterns in the data.

When *data drift* (when the data changes over time so that the AI model becomes ineffective) or *concept drift* (when patterns change which causes the model to become increasingly inaccurate over time) occurs, results can be wonky or wrong. That issue is common in areas like finance or personalized recommendations where data changes quickly. Adjusting the weights allows the model to better reflect these new patterns. Similarly, if you notice the model behaving in biased ways, changing the weights through additional training or fine-tuning can minimize the issue.

You can change a model's weights by training a new model or retraining an existing one. Neither is particularly cheap or easy to do. Fine-tuning is another method of slightly adjusting the weights of an existing pretrained model, making it more suitable for a specific task without having to start a new model from scratch. Unfortunately, fine-tuning is another difficult and complex task.

Another way to adjust the model's learning behavior is by modifying the learning rate, which controls how much the weights change during training. If the model isn't learning well, adjusting the learning rate can ensure more effective updates to the weights.

Chapter 8

Grasping Content Engineering Basics

In this chapter, you learn some basic content engineering. Don't let the term *content engineering* intimidate you; in this context it mostly means using two or more AI applications in a single project so that you achieve far better results than you could using only one generative AI application like ChatGPT. If it seems less intimidating, think of it as *content design*.

TECHNICAL STUFF Content engineering, or content designing, is the application of design, development, management, and content principles and practices, which includes text, images, audio, video, and other media types, often by combining the work of several AI tools to leverage their strengths and create a sophisticated and professional unified end product.

If you're wondering why these techniques that go beyond using only ChatGPT are in a book about ChatGPT, the answer is that while ChatGPT is currently the most popular generative AI chatbot it isn't a panacea for all use cases in content generation and content design. It's important for you to be aware of these techniques so that you know your options and how to use them in your quest to produce professional level content.

In short, these techniques help you overcome rather than succumb to the limitations inherent in ChatGPT as well as each AI model.

Output Stitching

You might think that the response you receive from your prompt is the end of the conversation if you think of ChatGPT like it's a search engine. But that's not true if you're using ChatGPT to develop ideas, research, content, or other projects requiring more than a quick answer. While a longer chat of back-and-forth exchanges between you and ChatGPT can produce a lot more than the response to a quick question, sometimes the lengthier chats and responses are not quite hitting the mark.

One way that you can rectify this situation is to use parts of two or more responses from ChatGPT – and even add in some response pieces from other generative AI models too — and "stitch" them together into a unified and much improved piece that you can then polish and use as you please. This simply means you're combining, mixing, and editing multiple AI responses to form an outcome that better suits your needs. The technique is called *output stitching*.

To stitch together parts of outputs from a variety of models, try prompting, say, ChatGPT, Claude (a ChatGPT competitor), and Perplexity (an AI-based search engine) in the same way. Then try all three again with related prompts or iterative prompts. Now consider all the outputs across all three. Select the wording from each that you like, and edit them into one unified, coherent new creation.

For example, I entered this prompt in ChatGPT, Claude (https://claude.ai), and Perplexity (https://www.perplexity.ai/search): "Explain how an electric car engine works."

COMPARE RESPONSES FROM CHATGPT, CLAUDE, AND PERPLEXITY

ChatGPT's response:

An electric car engine, or more accurately, an electric motor, operates using the principles of electromagnetism to convert electrical energy into mechanical energy, which propels the vehicle. Here's a breakdown of how it works:

Key Components:

Electric Motor: This is the heart of the system, converting electrical energy into mechanical energy.

Battery: Stores electrical energy (usually lithium-ion batteries).

Power Electronics Controller: Manages the flow of electricity between the battery and the motor, controlling speed and torque.

Regenerative Braking System: Converts kinetic energy back into electrical energy to recharge the battery when braking.

Working Principles:

Electrical Energy from the Battery: The battery stores energy in chemical form and releases it as direct current (DC) electricity. This DC energy powers the electric motor through the controller.

Power Electronics Controller: This system is crucial as it regulates the amount of power sent from the battery to the motor, adjusting the speed and torque based on how much the driver presses the accelerator pedal. In most cars, the DC from the battery is converted into alternating current (AC) to power the motor (if it's an AC motor).

Electric Motor Operation: Inside the motor, there are two key parts:

Rotor: The rotating part of the motor, connected to the wheels.

Stator: The stationary part that creates a rotating magnetic field when electric current flows through it.

When electrical current passes through the coils in the stator, it creates a magnetic field that interacts with the magnetic field of the rotor. This interaction causes the rotor to spin, turning the car's wheels.

Acceleration and Torque: Electric motors provide instant torque, meaning they deliver maximum power right away when the car accelerates. This is why electric cars often feel very responsive and quick off the line.

Regenerative Braking: When you brake or decelerate, the motor acts as a generator. Instead of using kinetic energy as heat (as in conventional cars), it

converts this energy into electrical energy and sends it back to the battery, extending the range of the vehicle.

In summary, electric cars work by using electric motors powered by batteries, where electricity is managed by a controller to adjust the power based on driving conditions. The electric motor's high efficiency and instant torque make electric vehicles energy-efficient and smooth to drive.

Claude's response:

I'll explain how an electric car's motor (rather than engine) works, since electric cars use motors rather than internal combustion engines.

The basic principle is elegantly simple: Electric motors convert electrical energy into mechanical energy through electromagnetic interaction. Here's how it works:

Basic Components:

Electric motor (usually an AC induction motor or permanent magnet motor)

Battery pack (typically lithium-ion)

Power electronics controller

Single-speed transmission

Working Process:

The battery sends DC (Direct Current) power to an inverter.

The inverter converts DC to AC (Alternating Current).

This AC power creates rotating magnetic fields in the motor.

These magnetic fields cause the rotor to spin, creating rotational force.

This rotation is transferred to the wheels through a simple transmission.

Key Features:

Instant torque availability (no need to "rev up" like gas engines)

Fewer moving parts compared to gas engines

Regenerative braking capability (converts kinetic energy back to electricity)

Higher efficiency (around 90% vs 30–40% for gas engines)

Would you like me to elaborate on any particular aspect of the system?

Perplexity's Response:

Electric car engines, more accurately called electric motors, operate on a fundamentally different principle than traditional internal combustion engines. Here's how they work:

Basic Principle

Electric motors in cars convert electrical energy from the battery into mechanical energy to drive the wheels. This process relies on the interaction between magnetic fields and electric currents to produce rotational force.

Key Components

Stator and Rotor

The electric motor consists of two main parts:

Stator: The stationary outer part containing wire coils

Rotor: The inner part that rotates, often containing permanent magnets or conducting rods

Battery and Inverter

The high-voltage battery provides direct current (DC) electricity.

An inverter converts this DC to alternating current (AC) for use by the motor[1,2].

How It Works

Energy Supply: When the driver presses the accelerator, the battery sends electrical energy to the motor via the inverter[1].

Magnetic Field Generation: The AC current flowing through the stator coils creates a rotating magnetic field[1].

Rotor Movement: This magnetic field interacts with the rotor, causing it to spin. The rotor's movement is what creates the mechanical energy to turn the car's gears and wheels[1].

Power Control: The inverter adjusts the frequency and amplitude of the AC current to control the motor's speed and torque[3].

Regenerative Braking

A unique feature of electric motors is their ability to act as generators:

When the driver releases the accelerator or applies the brakes, the motor can switch to generator mode.

The spinning rotor generates electricity, which is sent back to the battery, recharging it[1,2].

Efficiency and Simplicity

Electric motors are highly efficient and mechanically simpler than internal combustion engines:

They have fewer moving parts, reducing wear and maintenance needs.

They can provide full torque from a standstill, eliminating the need for a complex transmission[3].

Electric car motors represent a significant advancement in automotive technology, offering improved efficiency, reduced emissions, and a simpler mechanical design compared to traditional engines.

Note: The superscripted numbers you see in Perplexity's response point to its sources for that information. This is a great feature because it makes fact-checking and further information exploration easier. However, Perplexity hallucinates the same as its peers, and it can make up its sources. Be sure to double-check them. You can get Claude and ChatGPT to provide their sources by requesting such in your prompts. In ChatGPT, you can also put that command in memory or custom instructions.

REMEMBER Always verify all responses from any generative AI model or application.

Which parts of these responses would you stitch together to create a short and unique explanation of how these cars work for a general audience in your climate change speech?

Remember, you don't have to use any one response "as is." In fact, you should reword responses in your own words and style and to fit the requirements of the work you're doing. Why? Because it will likely have greater appeal for your audience, it will then adhere to your standards or company policies, and it helps prevent machine plagiarism.

The following examples are simulated and don't represent real interactions with another AI system. They're here only to illustrate how two generative AI systems might complement each other's responses and how pieces of each's response are joined in these scenarios to compose one unified piece.

In the following examples, I show you only the selected part pulled from each model's response, which would then be joined in a single unified piece. For instance, in Example 1, the stitched-

together piece would read: "A healthy dinner could include a lean protein source like grilled chicken breast, a side of steamed vegetables, and a quinoa salad. Don't forget to include a healthy fat source, such as avocado or a handful of almonds, to round out the meal." You would do the same for each example that follows.

Although I recommend that you perform this method manually so you can reword and polish the work to better fit the project you're currently working on, you can also automate this process. Technically speaking, that requires real-time integration and coordination between different AI systems which means your IT department will likely have to be involved to make it happen.

Example 1: Planning a Healthy Meal

Your prompt: I want to plan a healthy meal for dinner. Any suggestions?

ChatGPT: A healthy dinner could include a lean protein source like grilled chicken breast, a side of steamed vegetables, and a quinoa salad.

Competitor AI: Don't forget to include a healthy fat source, such as avocado or a handful of almonds, to round out the meal.

Example 2: Tips for Running a Marathon

Your prompt: I'm training for my first marathon. Any tips?

ChatGPT: Make sure to increase your mileage gradually to prevent injury, and incorporate rest days into your training schedule.

Competitor AI: It's also crucial to focus on your nutrition and hydration. Carbohydrates are important for long-distance running, so consider energy gels or sports drinks during your runs.

Example 3: Starting a Small Business

Your prompt: I'm thinking of starting a small business. What should I consider first?

ChatGPT: Begin by researching the market to understand the demand for your product or service and identify your target

audience.

Competitor AI: Also, create a solid business plan that outlines your vision, goals, and details on how you'll finance your operations.

Example 4: Writing advertising copy

Your prompt: Write 30-second ad copy for a new electric smart car called BuzzBee

ChatGPT: Experience lightning-fast charging and whisper-quiet electric power—no more gas stations or noisy commutes. Inside, intuitive tech meets comfort in a cabin built for modern living. BuzzBee is more than a car; it's your passport to a cleaner, greener tomorrow.

Competitor AI: Meet BuzzBee: The electric smart car that's creating quite a buzz.

Sleek, nimble, and 100% electric, BuzzBee zips through city streets with the agility of its namesake. Its honeycomb-inspired design isn't just eye-catching — it's engineering genius, maximizing strength while minimizing weight.

AI Chaining, aka "Model Chaining" or "Pipeline Chaining"

AI chaining essentially, uses the outputs from one AI model as inputs for the next in a chain of separate AI models. The purpose is to break down a larger, complex problem into smaller, distinct steps that different models handle well.

To use this method, you manually use an output from one AI model or AI application as part or all of the input in another AI model or application. Instead of cherry-picking pieces of the responses from different models to stitch together in a final piece

of content, like you do in output stitching, you take all or part of a response from one model and feed it into a prompt in another AI.

For example, you can take a response from ChatGPT and enter it into a prompt in Perplexity along with a command to "fact check," "explain further," or "expand this." Conversely, you can take a response from Perplexity and enter it into a prompt in ChatGPT with a command like "rewrite this using medical terminology," "summarize this," "expand on this," "turn the bullet points into narrative form," "use this information to make a plan for product marketing content," or "turn this into dialogue between a customer and a company product rep."

Since Perplexity is a new generation search engine built from the ground up on AI and automatically cites and links to the sources it used to develop its responses, it can be used to help verify the responses from another AI application like ChatGPT. This is why I used the ChatGPT to Perplexity order of AI chaining in the example above. Do you see how this combination of AIs can speed up your work processes as compared to traditional means of fact-checking and verification?

In the second part of the example above, I reversed the order of AI chaining to Perplexity to ChatGPT. This is so I can reshape Perplexity's factual responses into wording suitable for my project. In the example, I suggested adding commands to ChatGPT's prompt to change the wording to medical terminology for a physician audience, to summarize or expand the explanation that Perplexity provided, reformat the bullet points into a narrative, and so on.

REMEMBER Perplexity search, like any other generative AI tool, can and does hallucinate so verify the sources it cites by clicking on them and finding the info cited, or by finding those sources and verifying the information by more traditional means.

How you choose to use AI chaining and in what order you use the AIs are dependent on the work you are doing and the process that makes the most sense to complete it. This is another reason to learn about other generative AI models and applications. Features and capabilities are added often to all the existing AIs and new AIs are frequently emerging on the market. You want to be familiar with enough of them to have a good feel for the options available.

The possibilities are endless, and I encourage you to experiment with this method across many types of generative AI models and apps. However, you need to be aware of which model is powering any given AI app. For example, ChatGPT model options are discussed in Chapter 1. Other AI models exist that ChatGPT does not run on but competing generative AI apps and chatbots do. Check to see which model any given chatbot or AI runs on so you aren't asking the same underlying model to fact-check itself. You can check the models by simply asking the app or chatbot what model it uses.

If you use the output of one AI model as the input for the same model in a different app, you may get stuck in a repetitive loop, meaning not much that's useful will come from it.

REMEMBER AI chaining involves using the output from one AI model as the input for another to accomplish more complex tasks or improve results.

The following are ten fictional examples, meaning the models named here don't exist. The focus is not on a given model, but on the process.

Please remember that these examples are hypothetical and assume the existence of AI models with the capabilities described. In practice, chaining AI models requires careful consideration of the compatibility of their inputs and outputs, as well as the quality and relevance of the data they produce.

By presenting these vastly different examples of the process to you, I hope to spur your thinking beyond using this method only to produce better content in text. ChatGPT can do many things, but only if you're ready to put your problem-solving skills and imagination to work!

Examples of user-end AI chaining creative arts and entertainment

1. **Music Composition and Analysis:**

   First Model (MelodyMaker): Composes a piece of music based on a given mood or genre.

   Second Model (BeatBuddy): Analyzes the rhythm and tempo of a music piece to suggest changes for a different mood or style.

   Chain Example: Have MelodyMaker compose a calm piano piece. Then feed the composition into BeatBuddy to adapt it into an upbeat jazz version.

2. **Image and Description:**

   First Model (PicassoAI): Generates a digital painting based on a textual description.

   Second Model (ArticulateAI): Generates a poetic description of an image.

   Chain Example: Use PicassoAI to create a painting from a brief description, and then use ArticulateAI to generate a poetic interpretation of PicassoAI's newly created digital painting.

Examples of user-end AI chaining in business use cases

1. **Customer Service Improvement:**

First Model (EmotionDetector): Analyzes customer's speech for emotional tone.

Second Model (ResolveAI): Suggests customer service actions based on the detected emotion and conversation content.

Chain Example: Run a customer's spoken complaint through EmotionDetector to gauge their sentiment. Then feed the analysis into ResolveAI to guide the customer service representative's response strategy.

2. **Social Media Content and Engagement Prediction:**

First Model (TrendSpotter): Predicts upcoming trends based on social media data.

Second Model (EngageMax): Analyzes content to predict engagement levels.

Chain Example: Identify a trend with TrendSpotter, create content based on that trend, and then use EngageMax to predict and possibly tweak the content for maximum engagement.

3. **Disaster Response Coordination:**

First Model (CrisisMapper): Analyzes satellite imagery to map disaster-affected areas.

Second Model (ReliefRouter): Plans logistics for delivering aid based on maps and current road conditions.

Chain Example: After a natural disaster, use CrisisMapper to identify the hardest-hit regions. Then input that map into ReliefRouter to optimize the delivery routes for aid workers.

Examples of user-end AI chaining in specialized services and analysis

1. **Real Estate Analysis and Visualization:**

First Model (MarketMaster): Analyzes real estate data to predict property values.

Second Model (DesignDreams): Creates 3D models of homes based on architectural data.

Chain Example: Use MarketMaster to find undervalued properties. Then input the architectural data of those properties into DesignDreams to visualize potential renovations.

2. **Translation Enhancement:**

First Model (TranslatronX): Translates a sentence from English to French.

Second Model (GrammarGenius): Takes the French sentence and checks it for grammatical accuracy, suggesting improvements.

Chain Example: You could take an English sentence, run it through TranslatronX to get a French translation, and then feed that translation into GrammarGenius to refine the grammar.

AI Aggregation

AI aggregation refers to using different AI models to independently create separate but complementary elements that compose one unified piece of content. For example, you may be composing an advertisement or marketing content that contains several distinct elements, like text, images, audio, video, and interactive data visualizations (charts and graphs).

Indeed, you may be designing an entire marketing campaign and need to build a website, plus make banners, posters, and swag for your conference booth, develop ideas for prizes and a customer contest, and produce collateral materials translated into several languages.

Odds are that one generative AI tool won't perform brilliantly on all those tasks. Not even the mighty ChatGPT. That's when AI aggregation becomes your best play. Your mission is to identify which GenAI tools to use to generate which elements. You can then combine these elements into a unified piece like an ad, or

you can separately produce them, such as sending off your newly created designs to be produced and shipped by booth makers and banner printers, while continuing the theme on an event-based and newly built website.

In effect, you're gathering and using several generative AI tools to do separate tasks that will be used to comprise a whole project, be that a simple piece of content or an entire marketing campaign.

TIP   You can simplify this process by using ChatGPT to develop the overall plan and then to write prompts for each task suited to the GenAI tool that will execute them. In other words, use ChatGPT to develop and design the tasks for each of those tools to do. Using ChatGPT in this way helps ensure that the entire finished product is coherent, cohesive, and seamlessly integrated. Your core message will ring true and unchanged throughout the project too.

Example of AI aggregation for a super bowl ad

This example of AI aggregation is on creating a fictional Super Bowl ad that will be broadcast on TV and shared across social media platforms.

ChatGPT can perform many of these tasks. It's up to you to decide which AI tools you want to use in each phase of this process. You'll want to pick the tools that are right for that step in terms of capabilities and features, and how well they fit your workflow and project needs. Although not integrated, the mix of AI responses can be unified into one cohesive and impactful ad.

AI-Driven Super Bowl Ad Creation for a Sneaker Brand

1. **Concept and Script Development:**

   Task for AI Tool: Analyzes current social trends, past successful Super Bowl ads, and competitor advertising to

suggest creative concepts that are likely to resonate with viewers.

Task for AI Tool: Uses natural language processing to write a compelling script that incorporates humor, emotional appeal, and a strong call to action, tailored for the sneaker brand's target audience.

2. **Visual Storyboarding and Animation:**

   Task for AI Tool: Creates a detailed storyboard visualizing the script.

   Task for AI Tool 2: Generates animated sequences or suggests realistic CGI effects that can be integrated into the ad to make it more engaging and memorable.

3. **Music and Sound Design:**

   Task for AI Tool: Composes an original score or suggests licensed music that matches the energy and tone of the ad.

   Task for AI Tool: Designs sound effects and audio enhancements that complement the visual elements.

4. **Casting and Performance Optimization:**

   Task for AI Tool: Recommends celebrity endorsements or influencer partnerships by analyzing social media influence, audience demographics, and relevance to the brand.

   Task for AI Tool: Writes scripts for actors or voice-over artists, ensuring the delivery is perfectly tuned to evoke the desired audience reaction.

5. **Ad Testing and Refinement:**

   Task for AI Tool: Conducts virtual focus groups by exposing different demographics to the ad and gathering feedback through sentiment analysis to refine the ad's content and delivery.

   Task for AI Tool: Optimizes the ad's length and pacing for both TV and social media formats, ensuring maximum engagement and shareability.

6. **Media Buying and Scheduling:**

Task for AI Tool: Analyzes historical data on Super Bowl ad performance to determine the optimal time slot for the TV broadcast that aligns with the target audience's viewing habits.

Task for AI Tool: Strategizes a social media rollout plan, including teasers, behind-the-scenes content, and the main ad, to create buzz before, during, and after the Super Bowl.

7. **Cross-Platform Integration and Analytics:**

   Task for AI Tool: Tailors the ad for different social media platforms.

   Task for AI Tool: Provides insights on viewer engagement, conversion rates, and overall ROI.

8. **Post-Ad Engagement and Follow-Up:**

   Task for AI Tool: Engages with viewers through chatbots and automated responses to comments and inquiries on social media, maintaining the campaign's momentum.

   Task for AI Tool: Analyzes consumer behavior post-ad exposure to inform future marketing campaigns and product development.

Examples of AI aggregation in other use cases

In each of the following fictional scenarios, AI aggregation helps enhance the final product or experience.

You can use ChatGPT to do many of these tasks, but you'll likely find a competing chatbot or other AI application to be better suited for several of the tasks listed below. It's up to you to decide which AI tool you want to use for each task. The point is to leverage the strengths of each AI in combination with others to create a unified piece that exceeds the capability or quality of a single AI's output.

1. **Personalized Education Curriculum:**

   Task for AI Tool Task: Analyzes a student's learning style and academic history.

Task for AI Tool: Curates a list of educational resources tailored to the student's learning preferences.

Task for AI Tool: Designs interactive quizzes and tests for skill assessment.

Task for AI: Creates creative lessons to help the student with information retention.

Task for AI Tool: Provides real-time language translation for educational materials to remove language barriers.

2. **Automated Social Media Campaign for a New Product:**

Task for AI Tool: Generates catchy product names and slogans using natural language processing.

Task for AI Tool: Designs visually appealing graphics and animations for social media posts.

Task for AI Tool: Writes and schedules engaging content for various social media platforms.

Task for AI Tool: Analyzes engagement data to optimize ad targeting and timing.

Task AI Tool: Monitors social sentiment and provides reports on public reception of the campaign.

3. **Content Creation for Bloggers:**

Task for AI Tool: Generates blog post ideas based on trending topics and keyword research.

Task for AI Tool: Writes initial drafts of blog posts following search engine optimization (SEO) best practices so that both AI tools and traditional search engines can find and display your posts.

Task for AI Tool: Creates custom illustrations and infographics for posts.

Task for AI Tool: Suggests multimedia content like videos or podcasts.

Task for AI Tool: Analyzes reader engagement and provides insights for future content.

Task for AI Tool: Repurposes blog content so you can create many pieces of content from the same information but in different ways so that you can expand the reach of your content marketing efforts.

4. **Virtual Home Design Project:**

Task for AI Tool: Generates architectural blueprints based on user input regarding preferences and requirements.

Task for AI Tool: Creates interior design mockups and blueprints that incorporate current design trends.

Task for AI Tool: Simulates lighting and acoustics to optimize the living experience.

Task for AI Tool: Suggests sustainable materials and technologies to be used in construction.

Task for AI Tool: Estimates costs and timelines for the project.

5. **Eco-friendly City Planning Simulation:**

Task for AI Tool: Maps out efficient public transportation routes.

Task for AI Tool: Designs green spaces and recreational areas using environmental data.

Task for AI Tool: Predicts pedestrian flow and traffic congestion.

Task for AI Tool: Predicts the impact of proposed plans on local wildlife and ecosystems.

Task for AI Tool: Estimates the carbon footprint of the planned city layout.

6. **Event Planning and Management Platform:**

Task for AI Tool: Designs event layouts and themes based on the type of event and attendee demographics.

Task for AI Tool: Automates invitations and follow-up communications.

Task for AI Tool: Analyzes, summarizes and compares vendor quotes and contracts, from catering to entertainment.

Task for AI Tool: Makes suggestions to optimize attendee experience.

Task for AI Tool: Generates post-event reports summarizing success metrics and suggesting areas for improvement.

7. **Automated Customer Service System:**

Task for AI Tool: Engages with customers using a chatbot for initial inquiries.

Task for AI Tool: Directs complex queries to specialized AI systems or human agents.

Task for AI Tool: Analyzes customer feedback to improve products and services.

Task for AI Tool: Personalizes follow-up communications to ensure customer satisfaction.

Task for AI Tool: Predicts future customer needs.

Chapter 9

ChatGPT as a Replacement for Traditional Work Processes

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IN THIS CHAPTER

» **Constructing a balance between analytics and ChatGPT**

» **Understanding search engines versus ChatGPT versus hybrids**

» **Creating data visualizations in ChatGPT**

» **Grasping how to convert work processes into a prompting strategy**

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ChatGPT is rapidly gaining footholds across industries and company departments. If you haven't encountered ChatGPT or one of its competitors in your work already, the odds are that you will soon or you were just unaware of it. You may even be one of those people who use ChatGPT on the sly, without your company's consent or awareness, to make your work easier. Whether you're new to ChatGPT or adept at using it, you'll find some helpful tips and techniques here. In this chapter, you explore when to include ChatGPT in your processes and when to use it as a replacement for some of your current work processes.

Comparing ChatGPT to Search Engines and Analytics

ChatGPT and traditional search engines serve different purposes. Each has distinct advantages and disadvantages that can make them ideal for some tasks and not so ideal for others.

ChatGPT excels in generating humanlike responses, by considering certain context in making its responses, and providing detailed explanations that feel like a natural conversation. Its strength lies in its ability to discover data and process natural language so that you can give it commands in your own words instead of using a computer language. For instance, if you ask ChatGPT, "Can you explain the concept of quantum entanglement?" it can provide a thorough, coherent explanation, breaking down complex ideas into more digestible parts. That's a remarkable achievement for a machine!

However, one of the downsides of ChatGPT is that it may produce information that sounds plausible but isn't entirely accurate. It may even be completely wrong. This can be problematic when users rely on it for factual information. Additionally, ChatGPT's responses are generated based on patterns in data it was trained on, which means it might not always have the most up-to-date information or be able to provide real-time data.

In contrast, traditional search engines like Google and Bing excel in retrieving vast amounts of information over the internet. They can pull from an array of sources, offering users a variety of perspectives and the most current data available. For example, if you search "latest news on climate change," a search engine will provide you with the latest articles, research papers, and news reports. The major advantage of using a search engine is that you have access to historical and recent information, and you can see the source too.

However, traditional search engines require users to sift through multiple sources to find the specific information they need and the sources they trust. This can be time-consuming and overwhelming, especially for users who aren't sure how to frame their search queries and include keywords effectively. Additionally, search engines might not always provide the exact answers you seek, making you search again. They also might not provide the depth of explanation that ChatGPT can offer in a single, coherent response. Indeed, you can find yourself doing multiple searches to find information that ChatGPT can provide in a single response.

As generative AI tools like ChatGPT continue to soar in popularity they also threaten traditional search engines as more people turn to AI for answers than to search engines for lists. In an effort to stay relevant and to hold onto search ad revenues, search engines now offer AI responses at the top of search results followed by a list of traditional search results. ChatGPT is not the only generative AI tool used by search engines.

WARNING ChatGPT doesn't show its sources, like search engines do, unless you prompt it to do so. Unfortunately, those sources may be fabricated, so it's best to verify whether they're real.

Searching intelligently with Perplexity AI

There is a hybrid option that you need to know about too, if you don't already. Perplexity AI was built from the ground up as an AI search engine, whereas traditional search engines have tacked AI onto their existing product. Traditional search engines usually add AI to provide services like search summaries at the top of the search results page. This way they don't disrupt the entire search and ad revenue models, although some disruption is inevitable. One example of this is Google Overviews found at the top of Google Search results. Another example is Copilot summaries at the top of Bing search results.

I've heard some people refer to Perplexity as a "research engine" or an "answer engine" but I don't know how they think those terms mean anything different than a search engine. In any case, Perplexity AI was the first of its kind to show up on the market in a big way. Its claim to fame is that it gives you a comprehensive search result (as opposed to a rankings list) complete with footnoted and attached sources so you can easily fact-check it or look deeper into those sources for more insights. But you need to remember to check its sources because Perplexity, too,

hallucinates and makes errors just like ChatGPT and the rest of their kind. So don't get too comfortable with Perplexity. Stay diligent. Even so, I often find Perplexity helpful.

Optimizing an online presence

When it comes to analytics, traditional tools like Google Analytics provide detailed, quantitative data on website performance, user behavior, and other metrics. These tools are invaluable for businesses looking to optimize their online presence and make data-driven decisions. For example, a company can use Google Analytics to track the number of visitors to its website, the geographic locations that the visitors are in, the pages they visit, and how long they stay on the website. This data can then be used to improve the user experience and increase engagement.

ChatGPT, on the other hand, isn't designed to perform the same way as analytics do, but it can assist in interpreting and understanding analytics data. For example, if you add data from Google Analytics to your prompt, ChatGPT can explain what the numbers mean, identify trends, and suggest possible actions. For instance, if your prompt reads, "My bounce rate has increased by 20% over the last month. What could be the cause?" ChatGPT can offer potential reasons, such as slow page load times, irrelevant content, or poor user interface (UI) design.

The bottom line is that although ChatGPT excels in providing detailed, conversational responses and interpreting complex data, it may not always offer the most current or accurate information. Traditional search engines and analytics tools, on the other hand, are highly effective in delivering up-to-date information and detailed quantitative data but may require more effort on your part to interpret and synthesize the information. Each tool has its unique strengths and weaknesses, and the optimal use of each depends on your specific needs and skill sets. Using both in ways to leverage the strength of each can be highly beneficial.

Moving from BI (Business Intelligence) Apps to ChatGPT

Traditional business intelligence (BI) applications and ChatGPT differ significantly in their features, capabilities, and performance. Each serves a distinct purpose; they're not interchangeable applications.

BI tools traditionally focus on handling structured data, but some can manage unstructured data instead of or alongside structured data. Examples of BI apps include Tableau, Microsoft Power BI, Domo, Sisense, Looker Studio, Zoho Analytics, SAS Visual Analytics, SAP Business Objects, and Qlik.

BI apps pull information from various sources, such as databases, enterprise resource planning (ERP) systems (which integrate and manage core business processes), and cloud services. They offer sophisticated data integration and transformation functionalities, including extract, transform, load (ETL) which are processes that help clean and prepare data for analysis. BI apps excel at providing dashboards and visual reports, giving users charts, graphs, tables, and narratives for easy interpretation of data. They also support collaboration by allowing insights to be shared across teams. BI systems offer complex reporting functions, such as generating scheduled or custom reports that are central to informed business decision-making.

WARNING Be careful not to confuse BI apps with data visualization tools. Although all modern BI apps include data visualization tools, not all visualization tools are part of a BI system. A few examples of standalone data visualization tools include Tableau Public, Infogram, Google Charts, Datawrapper, and Plotly.

Integrating BI apps with ChatGPT

In contrast to both BI apps and standalone data visualization tools, ChatGPT provides a conversational interface so you can summon what you need simply by asking for it rather than navigating through a field of predefined esoteric or complicated configurations. However, this distinction is eroding as more BI and visualization tools add GenAI tools like ChatGPT to their products.

I find using ChatGPT to explore qualitative information, summarize findings, or extract key insights to be largely helpful. Although it's not a direct replacement for traditional BI apps or visualization tools, ChatGPT's strength in ad-hoc analysis and the ability to quickly answer questions in a narrative style is a good supplement for these two data tool categories.

By this I mean that you can use BI to do some really powerful and very exacting analysis work on your own data and other data sources. ChatGPT, on the other hand, is more of a generalist. It can give you data points and make visualizations from whatever data it was trained on, but if you want analysis on your company's private or proprietary data, you'll need to retrain, fine-tune, or otherwise add the data you want analyzed to retrieval-augmented generation (RAG) or your prompts. Any of those options can prove limiting in cost, time, skill, availability, or data size.

On the other hand, ChatGPT is a great tool if you're looking for analysis of general data (as opposed to proprietary data) or want to create an analysis, summary, or visualization from a limited amount of data suitable to add to RAG or in a prompt.

I have a full and deep appreciation for BI tools (for several years, I was *PCMag*'s Big Data and BI Maven) and heavily favor them for serious data-crunching of any company's proprietary and sensitive or protected supplemental data, but I do appreciate the speed and ease in cranking a few visualizations out of ChatGPT to add to my speaker's slides or infographics and other content. In fairness to ChatGPT, you couldn't get decent data visualizations from it until recently. Given that some of the features are still in the early stages, there are some limits in what it can do.

Until recently, ChatGPT could only generate Python code that you could use to create charts in another, separate tool like Google Charts for Developers. But now it can generate some types of data visualizations. Examples of common data visualization forms that ChatGPT can generate include line, bar, and pie charts as well as histograms, heatmaps, geographic maps, and scatter and box plots. A new capability can transform a static chart that ChatGPT created into an interactive chart, as shown in Figure 9-1.

 Click on the icon (see margin) at the end of the text in the output to reveal ChatGPT's analysis, as you see in Figure 9-2.

Generated with AI in ChatGPT

FIGURE 9-1: ChatGPT can create an interactive chart from your data.

ChatGPT 4o ⌄

Number Of Hurricanes Worldwide

Analysis   ✕

```python
import matplotlib.pyplot as | Always show details ⬤ | ⧉ Copy code

# Data for the visualization
years = ['1992', '2018', 'Average (1990-2022)', '2022', '2023'
hurricane_counts = [59, 59, 47, 45, 45]

# Create a bar chart
plt.figure(figsize=(10, 6))
plt.bar(years, hurricane_counts, width=0.5)
plt.title("Number of Hurricanes Worldwide")
plt.xlabel("Year")
plt.ylabel("Number of Hurricanes")
plt.ylim(0, 65)

# Add values on top of each bar
for i, count in enumerate(hurricane_counts):
    plt.text(i, count + 1, str(count), ha='center')

plt.show()
```

Message ChatGPT

ChatGPT can make mistakes. Check important info.

Generated with AI in ChatGPT

FIGURE 9-2: ChatGPT will show the analysis of the information after you click the icon at the end of the paragraph.

If you want to switch a chart from static to interactive, click the arrow icon at the top right of the chart output shown in Figure 9-3.

Number Of Hurricanes Worldwide
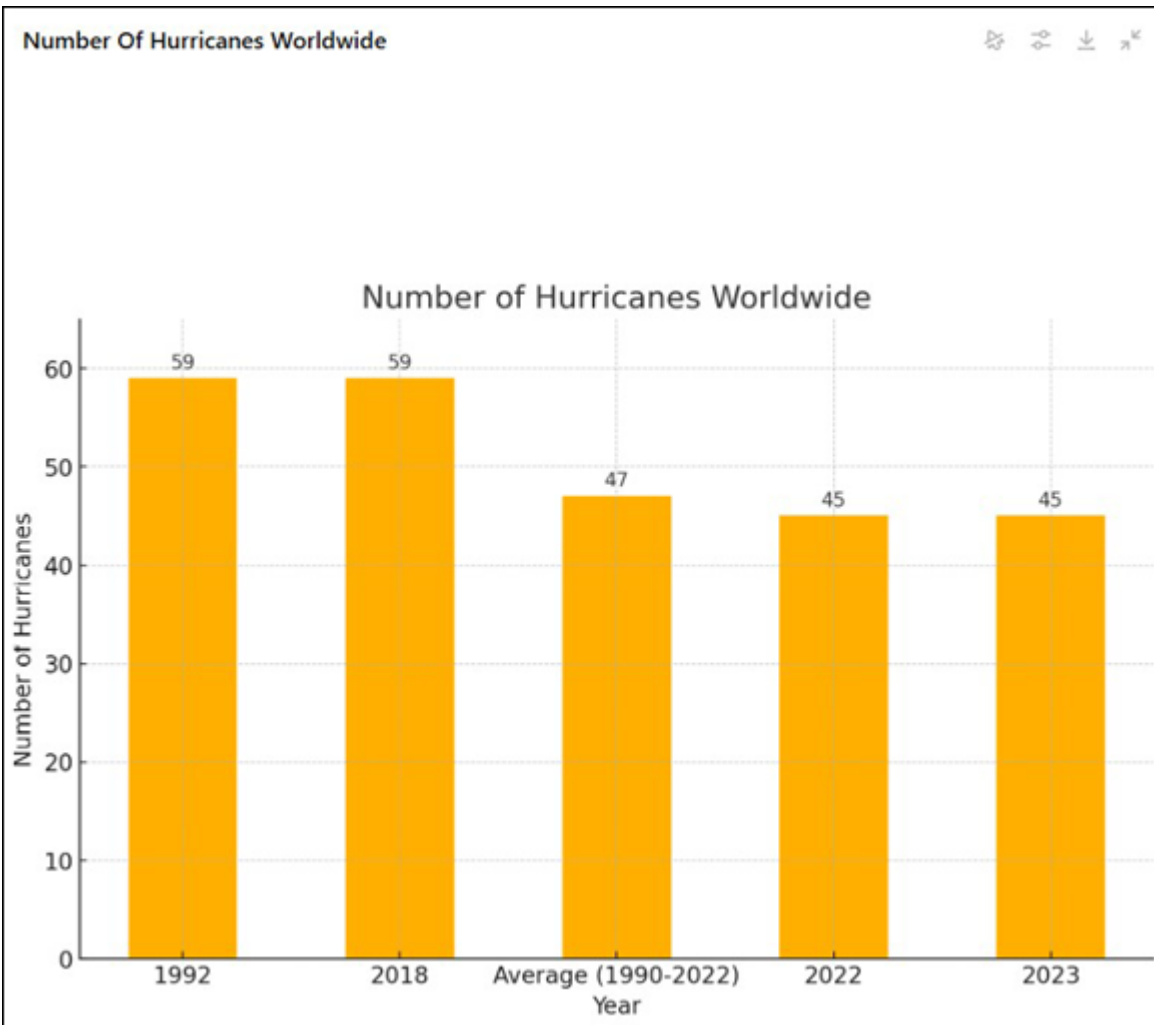
Generated with AI in ChatGPT

FIGURE 9-3: Click the icon in the upper-right corner of the screen to switch a chart from static to interactive.

Figures 9-4 and Figure 9-5 compare a static chart generated by ChatGPT with a chart converted to interactive form.

To revert from an interactive chart to a static form of the same chart, click on the icon shown in Figure 9-5 at the top right.

Accentuating ChatGPT's positives

Think of BI applications as well suited for data analysis and managing complex queries to perform predictive modeling, "what-if" scenarios, and multidimensional analysis. Their focus is on delivering precise, data-driven metrics to support your or your

organization's decision-making. BI tools can also be directly connected with business processes and data subsets, like customer or department data, to perform precise and trustworthy tasks such as sales forecasting, inventory, and financial analysis.

U.S. Public School Enrollment By Race/Ethnicity (Fall 20...

U.S. Public School Enrollment by Race/Ethnicity (Fall 2022)

Here's a bar chart illustrating the racial and ethnic composition of U.S. public school enrollment in fall 2022. Each bar represents the number of students (in millions) from each racial or ethnic group, highlighting the demographic distribution across public schools. Let me know if you need further adjustments or additional details! [>-]

Generated with AI in ChatGPT

FIGURE 9-4: A static chart that ChatGPT generated.
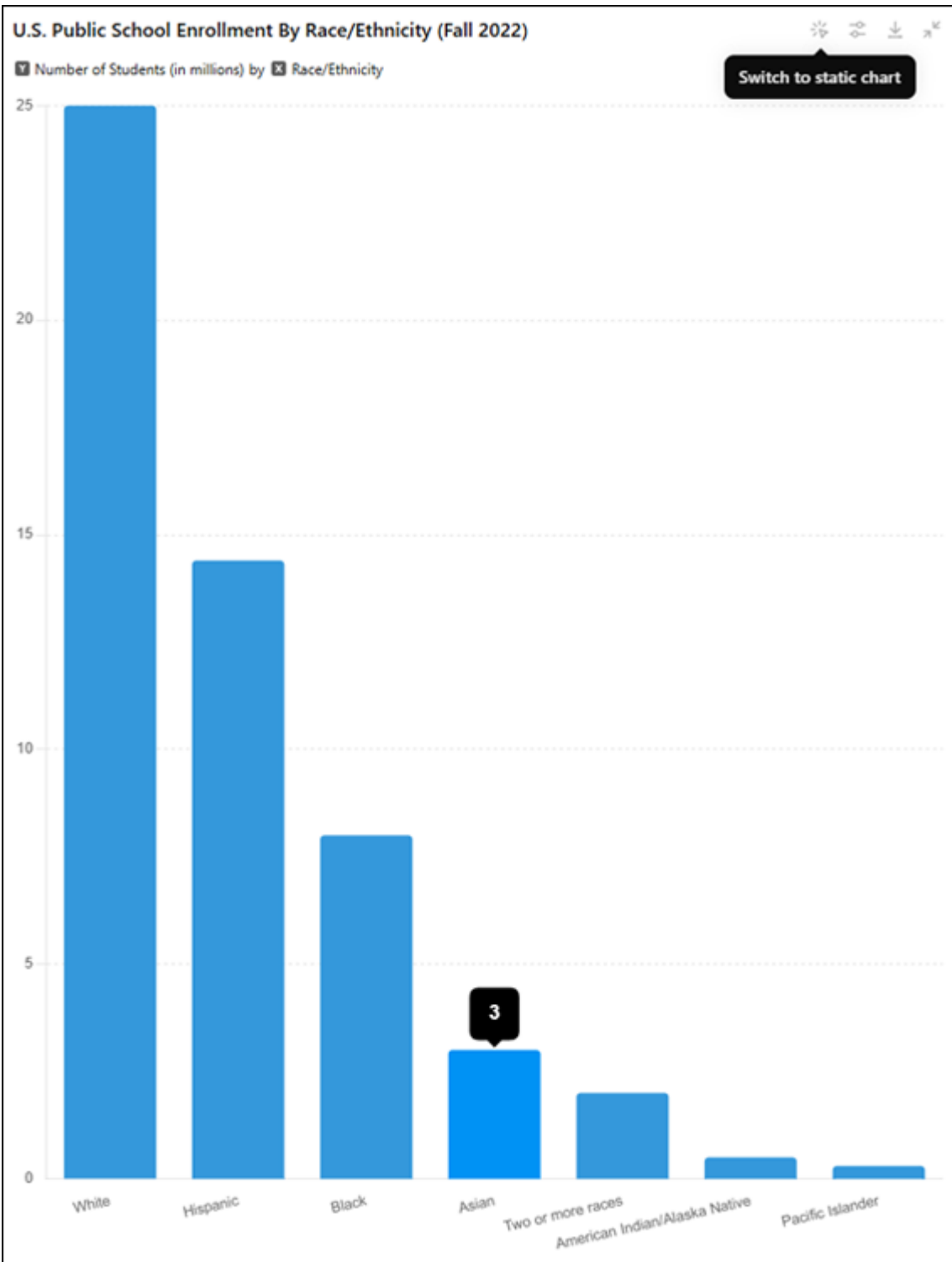
Generated with AI in ChatGPT

FIGURE 9-5: An interactive chart that ChatGPT generated.

ChatGPT, on the other hand, is designed to perform on what I think of as "conversational analytics," meaning I can just ask it for an analysis, or I can prompt it to analyze data in human conversations as well as hard data. You can use it to explore data to find data points in a hurry, or ideas and connections you may not have otherwise seen in a sea of data. It's highly adept at working with unstructured data, which just means data that contains more natural, conversational, and informal language such as the text in your prompts, social media posts, handwritten notes, and pretty much anything meant to be a human-to-human communique.

ChatGPT is a godsend for those who don't understand database structures or complex query languages and find BI systems too complex to understand despite the natural language enhancements some BI systems offer. For most people who aren't into statistics and complicated math, ChatGPT is ideal for discussing strategic questions or providing a broader understanding of qualitative data. In other words, despite its limitations, it provides a great service in bridging the gap between technical analysis and human interpretation.

Generally speaking, BI tools currently deliver outputs at a much higher accuracy rate than ChatGPT. BI tools also do not hallucinate. That means that BI app outputs are more suitable for critical decision-making. Further, BI systems are often equipped with real-time data capabilities, providing instantaneous insights based on near-real-time or live data. BI systems are also optimized for handling large data volumes across multiple data sources.

However, unlike BI tools, ChatGPT can't access real-time business data unless it's integrated with such systems, and its responses are typically based on its training data rather than direct database connections. It's useful for high-level strategic exploration and in explaining concepts without delving into the deep metrics that BI offers.

Ultimately, BI and ChatGPT serve different yet complementary roles. Whereas BI tools bring structured depth and rigor to data analysis, ChatGPT offers intuitive, interactive conversations and qualitative understanding. Depending on the requirements in doing your job and your skill levels, the best fit for you could be ChatGPT or BI, but in many cases using both is ideal.

Embedding ChatGPT in Other Software

Deciding when and where to use ChatGPT alone versus ChatGPT embedded in or integrated with other software depends on your specific needs, goals, and the context in which you're working.

Using ChatGPT alone is ideal for general information retrieval, or where the interaction is straightforward, because it doesn't require complex actions. Notice that I didn't say simple interactions but, rather, straightforward. You can work with complex queries in ChatGPT but if that complex query requires ChatGPT to compute multiple actions, it usually works best when you break it down into a series of prompts focused on straightforward tasks. ChatGPT is also a great tool for personal assistance, such as explaining complex concepts or tutoring you in subjects like math or science.

On the other hand, embedding ChatGPT in other software is advantageous for professional and business applications. For instance, integrating ChatGPT into project management tools, office document tools, customer service platforms, content management systems (CMS), or customer relationship management (CRM) systems can bring ChatGPT responses into finished and polished formats and forms that are more efficiently and professionally produced than ChatGPT responses are on their own. Thus embedding or integrating ChatGPT with other software can streamline your workflows, automate customer support, and improve data management, among other enhancements and productivity improvements. Specialized tasks,

such as debugging within coding environments or creative assistance in design software, also benefit from the context-aware capabilities embedded in ChatGPT.

ChatGPT that you find already embedded in third-party platforms enhance workflows by reducing the need to switch between tools. Additionally, ChatGPT embedded in mobile apps or websites can improve user or visitor interaction by providing real-time customer support, interactive guides, and voice-activated assistance on mobile devices.

Integrating ChatGPT in data analysis tools can make them easier for everyday folks to use. It's also easier for employees whose core job responsibility doesn't include data deep dives and esoteric statistical skills. For these groups, ChatGPT can provide valuable recommendations based on data trends and analysis in support of informed decision-making without requiring complicated interactions with the tools. This contextual and data-driven assistance can be crucial for businesses and professionals at all levels.

If you're trying to decide between using ChatGPT alone or to integrate it with other software, or use it in software where it is already embedded consider the context and purpose of your task. Determine whether you need general information, personal assistance, or specialized support. Assess the complexity of the task and whether integration with other tools is necessary. Lastly, analyze potential productivity gains and efficiency improvements against the costs in both options.

WARNING Be sure to be fully informed on your company's policies governing AI use. If you're using ChatGPT on your own to do company work, you may be in breach of company policy and creating a security issue.

On the other hand, if you're using enterprise-level ChatGPT tools and other company-sanctioned business software with ChatGPT

embedded in it, you're usually good to proceed with your work. Just don't do personal stuff on the company AI. You can bet that someone is watching ChatGPT inputs and outputs, mostly to evaluate its performance and make tweaks to improve it. So no one is likely spying on you, but you may find yourself busted all the same if you're misusing your employer's AI assets.

CHATGPT: ALONE VERSUS EMBEDDED

Sample uses for standalone ChatGPT applications:

- Business use cases: Any that don't require additional software or tools to complete or take to production. Or that you're willing to move responses manually to another software application.

- Quick info: For fast answers, general advice, and data or idea explorations.

- Casual chats: For informal conversations or language practice.

- Personal tasks: Managing reminders or to-do lists.

- Learning: Studying or understanding complex topics without specialized tools.

- Generating your own ideas and content for personal or entrepreneurial use.

Sample uses for ChatGPT embedded in software:

- Professional use: Enhancing productivity in project management, customer service, CRM systems, or other business software.

- Specialized tasks: Context-aware support in coding, design, or domain-specific applications.

- Team collaboration: Integrated in platforms like Slack or Microsoft Teams for seamless communication.

- User interaction: Improving experiences in mobile apps or websites with real-time support.

- Data insights: Providing recommendations and insights within data analysis tools.

Converting Work Processes into a Prompting Strategy to Use in ChatGPT

Converting your work processes into a strategy for writing and planning prompts to use in ChatGPT involves understanding your workflow, identifying key areas where AI can assist, and crafting effective prompts to streamline tasks.

Imagine that you manage a marketing team responsible for creating content, responding to customer inquiries, and generating reports. You've decided to leverage ChatGPT to enhance productivity and efficiency. The first step is to understand the specific tasks within your workflow that can benefit from AI assistance — and which cannot.

Example Prompt 1: Create blog post content

Start with content creation. Your team regularly writes blog posts, social media updates, and newsletters. To convert this process into a ChatGPT prompting strategy, begin by identifying the types of content you need. For example, if you need a blog post on the benefits of remote work, you can craft a specific prompt for ChatGPT like this:

Example Prompt: "Write a 500-word blog post on the benefits of remote work, focusing on increased productivity, work-life balance, and cost savings. Include an engaging introduction and a conclusion that encourages readers to share their experiences."

By providing clear and detailed prompts, you guide ChatGPT to produce content that meets your needs. You can further refine this by including style preferences or specific points you want to cover.

Example Prompt 2: Address frequently asked questions

Next, consider customer inquiries. Your team handles a variety of questions about your products or services. To streamline this, create a set of prompts that address common queries. For instance, if customers frequently ask about shipping policies, you can use a prompt like this:

Example Prompt: "Provide a detailed response to a customer asking about our shipping policies, including shipping times, costs, and international shipping options."

This allows ChatGPT to generate consistent and accurate responses quickly, freeing up your team to handle more complex issues.

Example Prompt 3: Summarizing data

When it comes to generating reports, ChatGPT can assist by summarizing data and providing insights. Suppose you need a monthly marketing performance report. You can use a prompt like this to compile and summarize the data:

Example Prompt: "Summarize the key metrics from our monthly marketing performance data, including website traffic, social media engagement, and email open rates. Highlight any significant trends or changes compared to the previous month."

This helps in creating a coherent report that your team can then review and refine.

Refining and adjusting your prompts

To ensure your prompts are effective, it's essential to test and iterate. Start by using these prompts in a pilot phase. Gather feedback from your team on the outputs that ChatGPT generates. For example, you might find that the initial blog post prompt needs more specific guidance on the tone or target audience. Note the

adjustments made to Prompt 1 below and emphasized in italic here:

Refined Example Prompt: "Write a 500-word blog post on the benefits of remote work for a professional audience, focusing on increased productivity, work-life balance, and cost savings. *Use a formal tone and include an engaging introduction and a conclusion that encourages readers to share their experiences*."

Regularly review the performance of your prompts. If you notice that certain responses are not meeting expectations, analyze why and refine the prompts. For instance, if customer responses are too generic, you might need to include more specific details or context in the prompt.

Example Prompt Adjustment: "Provide a detailed response to a customer asking about our shipping policies, including standard shipping times (3-5 business days), costs ($5 flat rate for domestic shipping), and international shipping options (available to select countries with varying rates)."

Incorporate feedback loops where your team can suggest improvements to the prompts based on their experiences. This collaborative approach ensures that the prompts evolve to better meet your needs.

Finally, document your prompt strategy so you can follow, review, and update it as necessary. Create a repository of effective prompts categorized by tasks to reuse later or to share with others in your company later. This not only serves as a reference for your team but helps in onboarding new members who can quickly learn how to leverage ChatGPT effectively.

Example Prompt 4: Strategizing for concept design

But what if you're looking to create an artistic image, perhaps a painting or a booth design for your company to use at an industry conference? How can you convert these types of work processes into a prompting strategy?

Creative works require a different approach when converting work processes into a prompting strategy for ChatGPT. For this illustration, I'm going to stick to the idea of designing a visually striking booth for your company's upcoming industry conference. Traditionally, this process might involve brainstorming sessions, sketching ideas, and collaborating with designers. To convert this into a prompting strategy for ChatGPT, you need to break down the creative process into manageable tasks where ChatGPT can assist — and fill in with your own or your team's talent where it can't.

Step 1: Define Your Vision and Objectives

Start by clearly defining the vision and objectives for your booth design. What message do you want to convey? What key elements do you want to include? For example, if your company specializes in eco-friendly products, your booth should reflect sustainability and innovation.

Example Prompt: "Describe a booth design for an industry conference that showcases our eco-friendly products. The design should include natural elements like plants, sustainable materials, and interactive displays that highlight our commitment to the environment."

Step 2: Generate Initial Concepts

Use ChatGPT to generate initial design concepts. These concepts can serve as a starting point for further refinement. For instance, you can ask ChatGPT to provide ideas for different sections of the booth.

Example Prompt: "Provide three different design concepts for a 10×10-foot booth that includes a product display area, a seating area for discussions, and a digital screen for presentations. Each concept should have a unique theme related to sustainability."

Step 3: Detail Specific Elements

Once you have a general idea, focus on detailing specific elements of the booth. This includes color schemes, materials,

and layout. ChatGPT can help by generating descriptions and ideas for these elements.

Example Prompt: "Suggest a color scheme and material palette for a booth design that emphasizes sustainability. Include eco-friendly materials like bamboo, recycled metal, and organic fabrics. Describe how to use these materials in the booth's structure and furnishings."

Step 4: Visualize the Design

To visualize the design, you can create prompts that guide ChatGPT in generating detailed descriptions. For example to help design any paintings or murals you can generate a study, or even rough sketches of the overall booth design elements. Although ChatGPT primarily deals with text, it can generate images because it's integrated with DALL-E, or you can get it to describe visual elements that can be passed on to a professional booth designer or to another image-generator AI tool like Adobe Firefly or Midjourney.

Example Prompt: "Design and create an image of a visually appealing backdrop for our booth that features a large mural of a green forest, with our logo subtly integrated into the landscape. Include details on lighting and how it enhances the natural elements."

Figure 9-6 shows what ChatGPT generated from the example prompt.

Should you want to see any generated image in a larger size, click on it. Figure 9-7 shows the new way the image and prompt will be presented to you after you click on the image.

ChatGPT sometimes has trouble producing images. Figure 9-8 shows ChatGPT's response for my prompt asking for the same image in black and white. If something like this happens to you, try prompting it again, or simply switch to an image generator to produce the images you want.

Generated with AI in ChatGPT

FIGURE 9-6: An artistic concept of a booth that ChatGPT created.
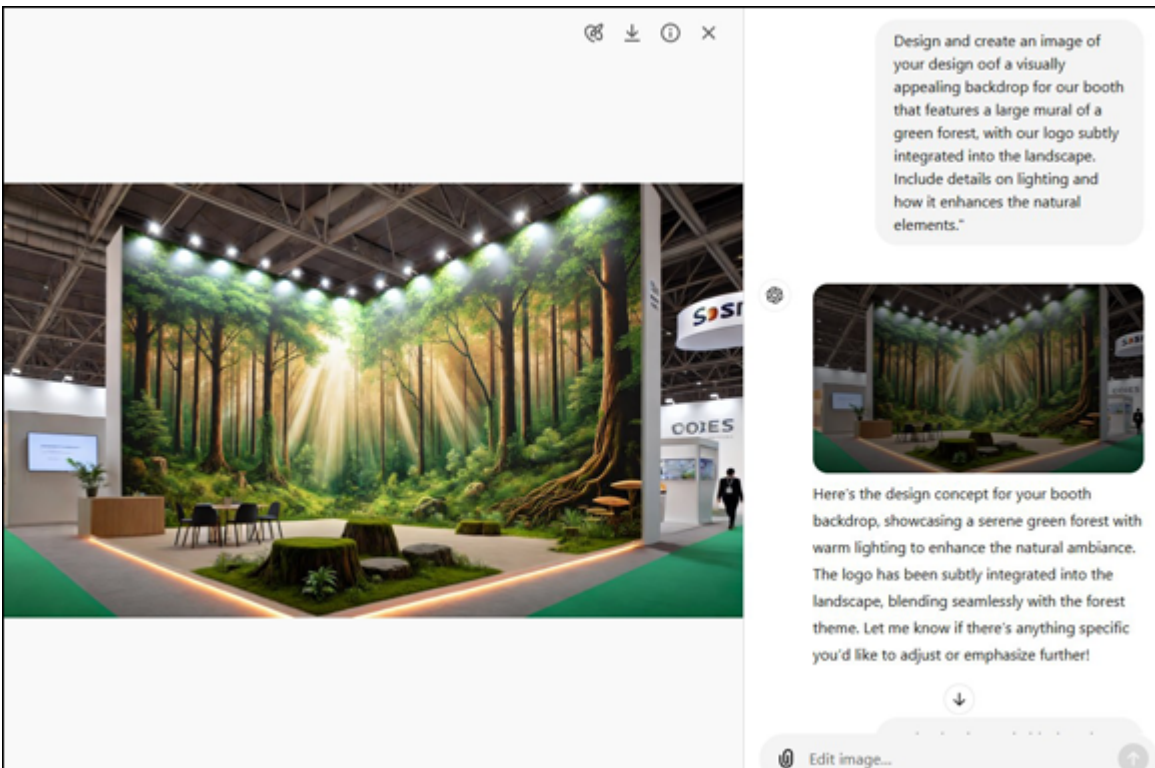
Generated with AI in ChatGPT

FIGURE 9-7: The artistic concept with the chat prompt and response included.

Step 5: Refine and Iterate

Review the initial outputs and iterate based on feedback. This step involves refining the prompts to get more accurate and detailed responses. Collaborate with your design team to ensure the AI-generated ideas align with your vision.
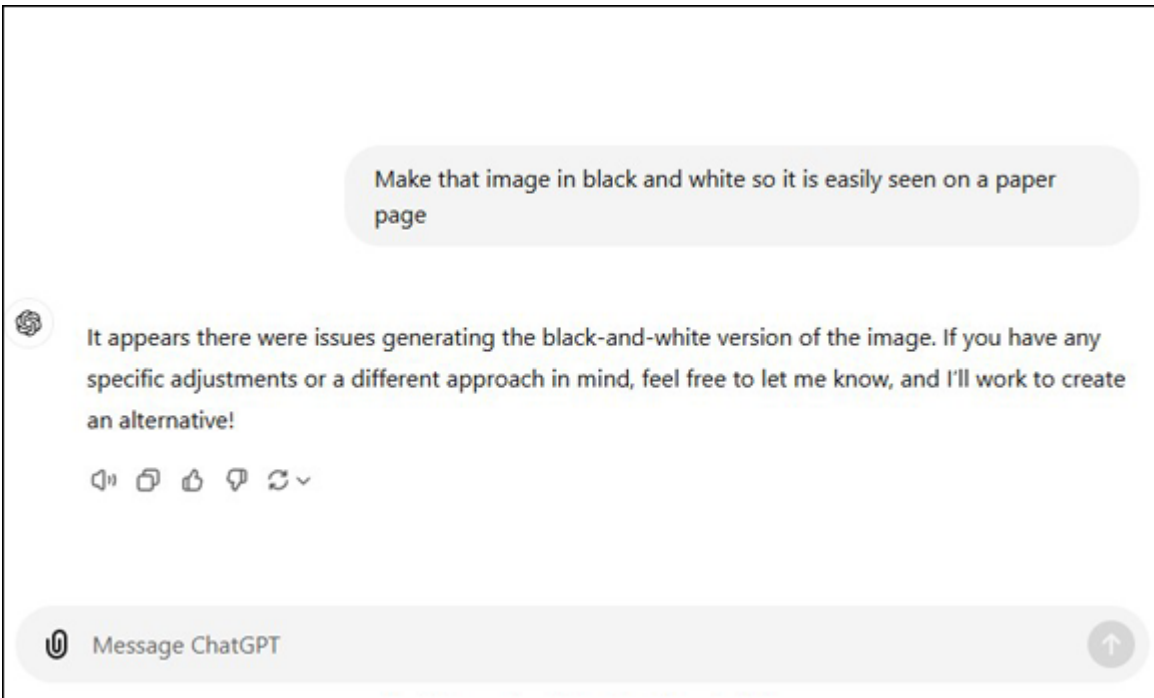
Generated with AI in ChatGPT

FIGURE 9-8: The response shows difficulty in producing the content requested in the prompt.

> **Example Prompt:** "Refine the previous booth design concept to include a central interactive display where visitors can learn about our products through touchscreens. Describe how this feature integrates with the overall theme of sustainability and innovation."

Step 6: Finalize the Design

Once you have a refined concept, finalize the design by creating comprehensive prompts that cover all aspects of the booth. This ensures that the final output is cohesive and ready for implementation.

Example Prompt: "Provide a final detailed description of our booth design, including the layout, color scheme, materials, and

interactive elements. Ensure the design highlights our eco-friendly products and creates an engaging experience for visitors."

Fine-tuning with additional prompts

If you want to create an artistic painting, the process involves a similar approach. Start by defining the theme and style of the painting.

Example Prompt: "Describe an abstract painting that represents the concept of innovation. The painting should use bold colors like red, blue, and yellow, and include geometric shapes that convey movement and progress."

Next, generate ideas for the composition and elements within the painting.

Example Prompt: "Provide three different composition ideas for an abstract painting on innovation. Each composition should include a focal point and use geometric shapes to create a sense of movement."

Detail specific elements and techniques to be used in the painting.

Example Prompt: "Suggest techniques for creating texture in an abstract painting, such as using palette knives, layering paint, and incorporating mixed media elements like fabric or metal."

Refine and iterate based on feedback from your artistic team.

Example Prompt: "Refine the previous composition idea by adding a gradient background that transitions from dark to light, symbolizing the journey from concept to realization. Describe how this background enhances the overall theme of innovation."

Finally, compile a comprehensive description for the final painting.

Example Prompt: "Provide a final detailed description of the abstract painting on innovation, including the composition, color palette, techniques used, and overall message conveyed by the artwork."

By following similar steps, you can effectively convert your work processes into a prompting strategy for ChatGPT. This approach

not only enhances efficiency but also allows for collaborative and iterative design, ultimately leading to a successful and impactful artistic creation.

In summary, converting your work processes into a strategy for writing and planning prompts to use in ChatGPT involves identifying key tasks, crafting detailed and specific prompts, testing and refining those prompts, and documenting your strategy for continuous improvement. By doing so, you can enhance your team's efficiency, ensure consistency in outputs, and ultimately achieve better results.

Adding Process Instructions to Prompts

Creating effective prompts often involves embedding clear process instructions to guide ChatGPT in delivering the desired output. To do this, you need to think about the steps and details that ChatGPT should consider while generating responses. This approach ensures that the output is not only relevant but also structured in a way that meets your specific needs.

Imagine you're working on a marketing campaign, and you need ChatGPT to draft an email newsletter. Instead of simply asking for a newsletter, you can add process instructions to your prompt to get a more tailored response. For example, you might want the newsletter to start with a catchy introduction, followed by a section highlighting new products, and ending with a call to action.

You could frame your prompt like this: "Create an email newsletter for our upcoming product launch. Start with a catchy introduction that grabs attention. Then provide a brief description of the new products, focusing on their unique features and benefits. Conclude with a strong call to action, encouraging readers to visit our website for more details and special offers."

By including process instructions in your prompt, you're guiding ChatGPT through the structure of the newsletter. The same

applies to other tasks such as writing reports, creating presentations, and even generating creative content.

TIP   Be specific about the tone and style you want. For instance, if you prefer a friendly and conversational tone for the newsletter, you could add: "Use a friendly and conversational tone throughout the newsletter to engage our readers."

TIP   Another tip is to provide examples within your prompt. If there's a particular style or format you like, reference it. For example: "Create an email newsletter similar to the one we sent last month about our summer sale, but with a focus on our new winter collection."

Incorporating process instructions into your prompts not only improves the quality of ChatGPT's output but also saves time by reducing the need for extensive revisions.

Part 3

Using ChatGPT in Everyday Situations

IN THIS PART …

Finding ChatGPT's fit at work

Learning how ChatGPT can help teachers

Manipulating and creating images

Scripting, writing, and editing

Producing video and audio with ChatGPT

Chapter 10

Working with ChatGPT in a Roundup of Business Disciplines

....

IN THIS CHAPTER

» **Comparing old with new processes**

» **Understanding how to think about ChatGPT**

» **Guarding against hallucinations and errors**

» **Grasping the many uses of ChatGPT across industries**

....

This chapter introduces you to some of the changes that will ripple through your work life no matter what industry or profession you're in. Of course, I can't cover every profession and industry in this one book, but this chapter will cover enough to give you an idea of the versatility, flexibility, and usefulness of ChatGPT in various disciplines.

Using ChatGPT for Marketing

ChatGPT can be a powerful tool in marketing, where creative thinking and tasks mesh with data-driven campaigns. Unfortunately, many users employ ChatGPT as a shortcut in dealing with content churn, meaning the rate or frequency at which published content is replaced, removed, or significantly updated over time, rather than a way to improve the performance of marketing campaigns and efforts. That's understandable to a degree, given that any job in marketing is typically an underappreciated and overworked position. On any given day, a

client or stakeholder confuses marketing with advertising and mistakes metrics for actual human connections.

You use ChatGPT to fill content buckets, a term that represents a topic or pillar around which content is created and published, and content funnels, which refers to the route marketing takes a potential customer (or reader) from initial awareness of your brand to ultimately converting to a purchase. But if that's all you use it for, the results tend to be less than stellar and, worse, can add to the perception that marketing jobs can be fully automated. This, of course, is wrong.

Don't worry: Later in this section, you'll see several areas in marketing, including content generation, where ChatGPT can be helpful.

Changing how you view ChatGPT

But first, I urge you to think of ChatGPT as a work accelerator tool rather than as a content automation tool. And the reason I suggest you do that is so you'll be in a better mindset to see more options in how you can use ChatGPT to augment and accelerate your work processes.

Below are a few scenarios to illustrate what I mean by this, and how I urge you to view your work and ChatGPT in a different way.

In this scenario, you're at a restaurant with a colleague discussing the need for an entirely different marketing approach to improve in-store sales for your retail company despite obstacles like recent store closures, sweeping changes in products and brands being offered, and steeper prices due to inflation.

The task seems daunting because there appears to be no ready enticement to encourage buyers to come by the store and shop in-person. You prompt ChatGPT for ideas, and it suggests, among other things, hosting pop-up events and exclusive in-store experiences to draw customers. You and your colleague are intrigued and want to explore the idea further. You prompt ChatGPT to "provide a plan, identify relevant key performance

indicators [KPIs], and create a realistic budget for 3 stores: one in Detroit, one in Atlanta, and one in Phenix City, Alabama."

See what ChatGPT responded to this prompt. Although its response was long but organized (see below), I'll present it to you in sections so you can focus on each one and think about what you might keep and what you might change using only your own experience and skills.

Here's the first part of ChatGPT's plan clipped from its response:

Pop-Up Events & Exclusive In-Store Experience Plan

Objective:

Boost foot traffic, increase customer engagement, and drive sales in the three stores by creating a sense of excitement and community.

Approach:

1. **Event Theme & Concept:**

   Detroit: "Made in Detroit" — A celebration of local artisans and businesses, showcasing local products and brands that align with your store's offerings.

   Atlanta: "Wellness Weekend" — A focus on health and wellness, partnering with local fitness trainers, nutritionists, and organic product suppliers to host classes and demos.

   Phenix City: "Family Fun Day" — Create a family-friendly event with games, local food vendors, and fun experiences like face painting and product sampling for adults.

2. **Activities Planned:**

   Product Demonstrations: Have vendors or staff demonstrate new products, giving customers the opportunity to see the value in action.

   Workshops and Classes: Depending on the event theme, workshops (e.g., **local crafts in Detroit, yoga in**

Atlanta, kid-friendly crafts in Phenix City) can provide an interactive experience.

Sampling and Tastings: Offer samples of products (food, wellness items, etc.) to create a direct touchpoint between the customer and the product.

Exclusive Discounts: Offer special discounts available only during the event to encourage purchases.

Now consider the next part of ChatGPT's response: Promotion plans and event schedules.

3. **Event Promotion:**

- **Email Campaigns:** Send email invitations to your existing customers, emphasizing exclusivity and the event details.

- **Social Media:** Leverage Instagram, Facebook, and TikTok to build excitement. Use targeted ads to reach people in each store's local area.

- **Local Partnerships:** Partner with local influencers or community groups to spread the word and provide credibility.

- **Flyers and Posters:** Place them in nearby cafes, gyms, and community centers to reach local audiences.

Event Schedule (for Each Store):

- Preparation: 4 weeks prior to the event.

- Promotion Launch: 3 weeks prior, build awareness through all channels.

- Event Days: Host on a weekend (Saturday and/or Sunday) to maximize foot traffic.

- Post-Event Follow-up: Thank customers for attending and offer a bounce-back coupon to encourage repeat visits within the next month.

This is a detailed plan that ChatGPT made from that one prompt. Now look at the third part of the response: suggested KPIs.

Key Performance Indicators (KPIs)

Foot Traffic Increase:

- Measure the increase in the number of customers visiting the store on event days compared to regular weekends.

Sales Growth During Event:

- Compare in-store sales during the event to average weekend sales in the previous month.

Customer Engagement:

- Track participation in workshops, sampling, or games.
- Measure time spent in-store by customers using tools like Wi-Fi tracking (if available).

Average Transaction Value (ATV):

- Compare ATV during the event to regular weekends.

New Customer Acquisition:

- Track the number of new customers who made a purchase and signed up for loyalty programs during the event.

Social Media Reach and Engagement:

- Track event-related hashtags, mentions, and follower growth during the promotion period.

Next up in that same ChatGPT response are budget notes for expense planning.

Notes on Budget:

- **Event Setup & Decor:** Covers equipment rentals (e.g., tents, tables) and decorative elements to make the event visually appealing.
- **Local Partnerships:** Costs for partnering with local artisans, fitness trainers, or food vendors.

- **Workshops/Entertainment:** Payments to workshop hosts, entertainers, or other talent participating in the event.
- **Sampling & Giveaways:** Product sampling costs, branded giveaways, and incentives for participation.
- **Staffing Costs:** Extra staff for event days, including training for engagement and ensuring smooth operations.
- **Discounts & Offers:** Costs related to offering discounts or coupons during the event.

Last but not least in this response is the summary for evaluation.

Action Plan Summary:

- **Preparation:** Begin with planning and securing vendors and partners 4 weeks in advance.
- **Promotion:** Launch a multi-channel promotional campaign 3 weeks prior to generate buzz.
- **Execution:** Host immersive pop-up events and exclusive in-store experiences with engaging activities.
- **Post-Event Engagement:** Send follow-up thank-you emails, including offers for future in-store visits to encourage repeat customers.

Think about which of these plan elements you might keep and which you may change. Go ahead and change them in a prompt and ask ChatGPT to output the plan again with the changes. Or, if this response caused you to think of an entirely different idea, you can write a prompt that will guide ChatGPT to output a plan for your new idea.

For the purposes of this discussion, it really doesn't matter what you changed or kept in ChatGPT's plan or what new plan you prompted ChatGPT to generate. The point is that you can make, change, and even finalize a marketing plan before you and your colleague finish dinner.

By carefully thinking about which processes ChatGPT can do for you to augment or accelerate your work, it's easier to envision how to make best use of it and even how to make innovations in how you work. Bottom line, ChatGPT can do much more than generate marketing content for the funnel.

TIP   Here's another way you can use ChatGPT to augment your work. Take a screenshot of your KPI data, attach it to your prompt, and ask ChatGPT to format reports and generate insights from specific KPIs in that data for a presentation to various stakeholders. Include in the prompt a request for marketing ideas to improve one or more KPIs.

You'll likely need to tweak a few things in the output, but even so, you should have 80 percent to 90 percent of what you need to make such a presentation. This is how you leverage your own skills and augment your work using ChatGPT. How many other ways can you think of for ChatGPT to do that? Go for it. This is exactly how you should be thinking to get the most from this technology.

Now, as promised, here's a look at some other ways you can use ChatGPT for marketing tasks.

One area where ChatGPT can be particularly useful is in content creation. It can generate marketing content ranging from general information to detailed sales content. ChatGPT can be helpful with the entire spectrum of content, from research reports and white papers, product information, and fact sheets to blog posts, social media updates, and email newsletters.

Another valuable application of ChatGPT is for customer engagement. You can integrate it into customer service platforms to handle common inquiries, freeing up human agents to tackle more complex issues. For instance, an e-commerce website can use ChatGPT to answer frequently asked questions about shipping policies, return procedures, and product details,

providing instant responses and improving customer satisfaction. If you prefer not to use ChatGPT as a customer-facing chatbot, you can use it to generate responses that a traditional, rule-based chatbot (e.g., Alexa or Siri) can then deliver to customers. This approach leverages the strength of ChatGPT (content or information generation) with the strength of traditional chatbots (reliably and correctly serving customers the correct "canned response"). This method eliminates common problems with ChatGPT, such as AI hallucinations and accidental data leaks.

ChatGPT can also assist in market research by analyzing customer feedback and reviews. By processing large volumes of unstructured text data, it can identify common themes and sentiments, helping marketers understand customer preferences and pain points. For example, a tech company can use ChatGPT to sift through product reviews and social media comments to gather insights on user experience, which can then inform product development and marketing strategies. Typically, you need to add that data to retrieval-augmented generation (RAG); attach a text, CSV, or Excel file to a prompt; or add the data in your prompt if it isn't too large.

For personalized marketing, you can use ChatGPT to tailor messages based on customer data. By leveraging customer profiles and purchase history, ChatGPT can generate personalized recommendations and offers. For instance, an online bookstore can use ChatGPT to send personalized emails suggesting new books based on a customer's previous purchases and browsing history. Typically, this requires integrating ChatGPT with your customer relationship management (CRM), recommendation engine, or similar system.

CHATGPT IN MARKETING

Pros	Cons
Efficiency in content creation	May require oversight to ensure accuracy

Quickly generates content	Can produce generic or repetitive outputs
Enhanced customer engagement	**Limited understanding of nuanced queries**
Provides instant responses to common inquiries	May struggle with complex customer issues
Personalization	**Data privacy concerns**
Tailors messages based on customer data	Requires careful handling of customer data
Market research	**Interpretation challenges**
Analyzes large volumes of text data for insights	May misinterpret subtle sentiments
Cost-effective	**Initial setup and integration effort**
Reduces the need for extensive human resources	Requires time and resources to implement
Creativity boost	**Dependence risk**
Offers diverse ideas and perspectives	Over-reliance may stifle human creativity

Retrieving Smart Answers for HR

Human Resources (HR) can use ChatGPT to good effect in many ways. If you're in HR, you can use the app as a chatbot or to create content for a self-help repository to handle routine inquiries from employees, such as questions about company policies, benefits, and procedures. By doing so, you can free up time to focus on more complex and strategic tasks. For example, if an employee wants to know how to apply for parental leave, ChatGPT can provide the necessary steps and direct them to the appropriate forms or contacts.

ChatGPT can also assist in the recruitment process by handling initial candidate interactions. When a candidate applies for a job, ChatGPT can engage with them to gather basic information, answer frequently asked questions about the role, and even schedule interviews. This not only speeds up the process but also ensures that candidates receive timely and consistent communication, which in turn creates a good impression of your company.

Another way that ChatGPT can help is in guiding new hires through the onboarding process. It can provide essential information about company culture, policies, and the new employee's specific role. A new employee might ask ChatGPT about the dress code or how to set up their email and receive immediate responses. New employees can find the info they need when they need it, and HR staff is less burdened.

ChatGPT is extremely quick in generating useful outputs like the one that follows, which is a video script on company dress code. Look at how this response example worked out:

The prompt:

"Write a script for an onboarding video welcoming new employees about dress protocol where the preferred attire is office casual, hair styles are only required to be clean and neat and otherwise the employee's choice. Encourage but don't require shoes to be practical and comfortable. Add other respectful information on looking professional while also dressing comfortably."

The response:

[Opening Scene: A bright, modern office space with cheerful background music playing softly.]

Narrator (friendly and welcoming tone):

"Welcome to our team! We're thrilled to have you on board. As you settle into your new role, we want to share some guidelines about our dress protocol to help you feel comfortable and confident at work."

[Cut to a diverse group of employees smiling and working together in an office setting.]

Narrator:

"At our company, we believe that dressing professionally doesn't mean sacrificing comfort. Our preferred attire is office casual. This means you have the flexibility to choose outfits that are both appropriate and comfortable for a productive workday."

[Cut to a montage of employees wearing a variety of office casual outfits: slacks, skirts, blouses, polo shirts, and casual blazers.]

Narrator:

"Office casual can include items like slacks, skirts, blouses, polo shirts, and casual blazers. We encourage you to express your personal style while maintaining a polished and professional appearance."

[Cut to a close-up of an employee with neatly styled hair.]

Narrator:

"When it comes to hairstyles, we only ask that your hair is clean and neat. Beyond that, feel free to choose a style that suits you best. We celebrate individuality and want you to feel like yourself at work."

[Cut to a variety of shoes: loafers, flats, and comfortable dress shoes.]

Narrator:

"We also encourage you to wear practical and comfortable shoes. While it's not a requirement, we find that comfortable footwear helps you stay focused and energized throughout the day."

[Cut to employees engaging in a meeting, looking professional and at ease.]

Narrator:

"Remember, looking professional is about more than just clothing. It's about how you carry yourself and interact with others. A positive attitude, respect for your colleagues, and a commitment to our shared goals are all part of what makes a professional workplace."

[Cut to an employee smiling and giving a thumbs-up to the camera.]

Narrator:

"We're excited to see the unique contributions you'll bring to our team. If you ever have any questions about dress protocol or anything else, don't hesitate to reach out to your manager or HR. Welcome aboard, and here's to a successful and enjoyable journey together!"

[Closing Scene: The company logo appears on the screen with the text "Welcome to the team!" underneath. The cheerful background music fades out.]

Narrator:

"Thank you for watching, and welcome to the team!"

[End of video.]

To produce the video in AI, you need to put the script in a prompt of a video generator like Synthesia, Colossyan, Deepbrain, InVideo, or HeyGen. Eventually ChatGPT may be able to generate videos, but that's beyond its capabilities now.

Training and development is another area where this technology can be beneficial and where ChatGPT scripting plus AI video generator apps will be helpful. ChatGPT can point to or provide employees with resources and answer questions related to training programs. For example, if an employee wants to enhance their project management skills, ChatGPT can suggest relevant training programs, provide a list of training videos, suggest credentials they might want to pursue, and offer detailed information on course availability and steps to enroll.

This isn't a set-and-forget exercise, however; HR departments must regularly update ChatGPT with current company information and policies. This can be done by asking IT or your company's AI department to retrain or fine-tune the model, or add updated and remove old information in RAG. Otherwise, response accuracy and relevance can drift off course over time. It's also important to monitor the interactions between ChatGPT and employees to ensure ChatGPT is performing well and identify any need for further training or adjustments to the model if performance is not performing to your expectations. Typically, this is done by periodically reviewing chat logs to spot response errors, and gathering feedback from employees about their experiences with ChatGPT.

COMPARATIVE TABLE OF PROS AND CONS OF USING CHATGPT IN HR TASKS

Pros	Cons
Efficiency: Automates routine inquiries, freeing up HR staff for more complex tasks.	**Limited understanding:** May struggle with complex, nuanced, or context-specific questions.
24/7 availability: Provides round-the-clock support to employees, improving accessibility.	**Dependence on data:** Requires regular updates with current company information and policies to remain accurate.
Consistency: Ensures uniform responses to common questions, reducing the chances of misinformation.	**Lack of human touch:** May lack the empathy and personal connection that human HR professionals provide.
Enhanced candidate experience: Streamlines initial interactions and scheduling during recruitment, offering timely communication.	**Potential for errors:** Incorrect responses can occur, necessitating oversight and review.
Scalability: Can handle a large volume of queries simultaneously, which is beneficial for growing companies.	**Employee resistance:** Some employees may prefer human interaction and be hesitant to use AI for HR-related queries.

Onboarding support: Guides new hires through the onboarding process, helping them settle in quickly.	**Privacy concerns:** Handling sensitive employee information requires robust data security measures to prevent breaches.
Training assistance: Recommends relevant training programs and resources, supporting employee development.	**Implementation costs:** Initial ChatGPT setup, model training, and ongoing maintenance can incur costs.

Harnessing ChatGPT in Legal

ChatGPT can serve as a valuable tool in the legal profession when you use it thoughtfully and with appropriate oversight. Several attorneys have found themselves in serious trouble for using AI outputs "as is." If you're a legal professional, you can leverage it for initial research and drafting tasks if you ensure there's human review and verification of output.

For document drafting, ChatGPT can create first drafts of routine legal documents like basic contracts, nondisclosure agreements (NDAs), or engagement letters. For example, an attorney might ask ChatGPT to draft a simple independent contractor agreement (see Figure 10-1) and then carefully review and modify it to ensure it meets specific jurisdictional requirements and client needs.

Independent Contractor Agreement

This Independent Contractor Agreement ("Agreement") is made and entered into on [Date] by and between [Your Company Name] ("Company") and [Contractor's Full Name] ("Contractor").

1. Services Provided:
Contractor agrees to provide the following services to the Company:
[Briefly describe services].

2. Payment:
The Company agrees to pay Contractor [amount] per [hour/project/month], payable upon [completion of services/specific date].

3. Independent Contractor Relationship:
Contractor is an independent contractor and not an employee of the Company. Contractor is responsible for all taxes, insurance, and benefits associated with their work.

4. Term and Termination:
This Agreement will begin on [start date] and continue until [end date or "completion of services"]. Either party may terminate this Agreement with [number] days' written notice.

5. Confidentiality:
Contractor agrees to keep all Company information confidential and not disclose it to any third party without prior written consent.

6. Governing Law:
This Agreement shall be governed by the laws of the State of [your state].

7. Entire Agreement:
This Agreement represents the entire understanding between the parties and supersedes all prior agreements. Amendments must be made in writing and signed by both parties.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

Company:
[Your Company Name]
By: _____
Name: _____
Title: _____

Generated with AI in ChatGPT

FIGURE 10-1: The independent contractor agreement created from a ChatGPT prompt.

TIP   Give ChatGPT a role in your prompt, and then give it instructions to complete from the perspective of that role. This will render outputs more suited to how you're actually working with legal documents. This helps guide ChatGPT in reviewing, analyzing, responding to, or drafting documents for you. Following is an example of this type of prompt, followed by ChatGPT's response in Figure 10-1.

The prompt:

"You are a paralegal. Draft a simple independent contractor agreement for an attorney's review."

WARNING I'll say it again: Never use ChatGPT as the final authority on any legal document. If you're an attorney, you may want to use the chatbot to draft a document and modify it accordingly. If that's the case, note the tools revealed after you click on the toolbox icon found below the prompt bar as shown in in Figure 10-2. Once the dropdown menu exposes the tools, click on Canvas (the pencil icon) that exists precisely for such editing purposes. Scroll over the section of text you want to edit and click the icon that looks like a "=" in a cartoon conversation bubble shown in Figure 10-3. The section you chose to edit will be automatically highlighted and an editing bar will appear to the right of it as shown in Figure 10-3. Make your edits there.
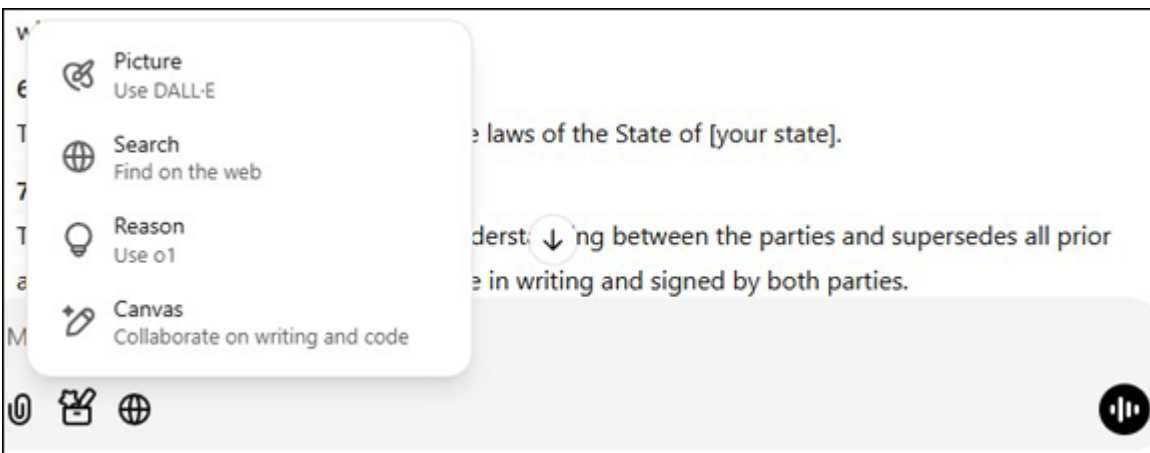
Generated with AI in ChatGPT

FIGURE 10-2: The toolbox under the ChatGPT prompt bar.

But that's not the only way you can edit this document.

Click on the icon at the bottom right of the screen to reveal another menu of tools as seen in Figure 10-4. Reading the icons from top to bottom:

The first one is to Add Emojis.

The second icon is to add Final Polish.

📖 The third is to adjust the Reading Level.

↕≡ The fourth is to Adjust Length.

✏️ The final icon is another pencil icon for the Suggest Edits command.

Generated with AI in ChatGPT

FIGURE 10-3: A screenshot of highlighted copy to be edited with the edit bar to the right for editing a ChatGPT response using Canvas editing tools inside of ChatGPT.

Generated with AI in ChatGPT

FIGURE 10-4: A second dropdown menu of editing tools.

When you click on this pencil icon you are commanding ChatGPT to review the document and Suggest Edits which you can then elect to apply or close as seen in Figure 10-5. All of this is very helpful but, you might want to skip the Add Emojis button if you're creating an official legal document. However, that button may brighten any notes you send to the paralegal for further document handling.

In legal research, ChatGPT can identify relevant cases and statutes. For example, when researching precedents for a particular type of contract dispute, ChatGPT might suggest relevant cases that the attorney can look up and verify. Be aware that AI tools like ChatGPT might occasionally reflect biases or make predictive errors due to the data they were trained on. This limitation is especially important for legal cases that involve sensitive issues, precedent interpretation, or potential client implications. Regularly cross-checking with trusted, up-to-date legal sources is essential.
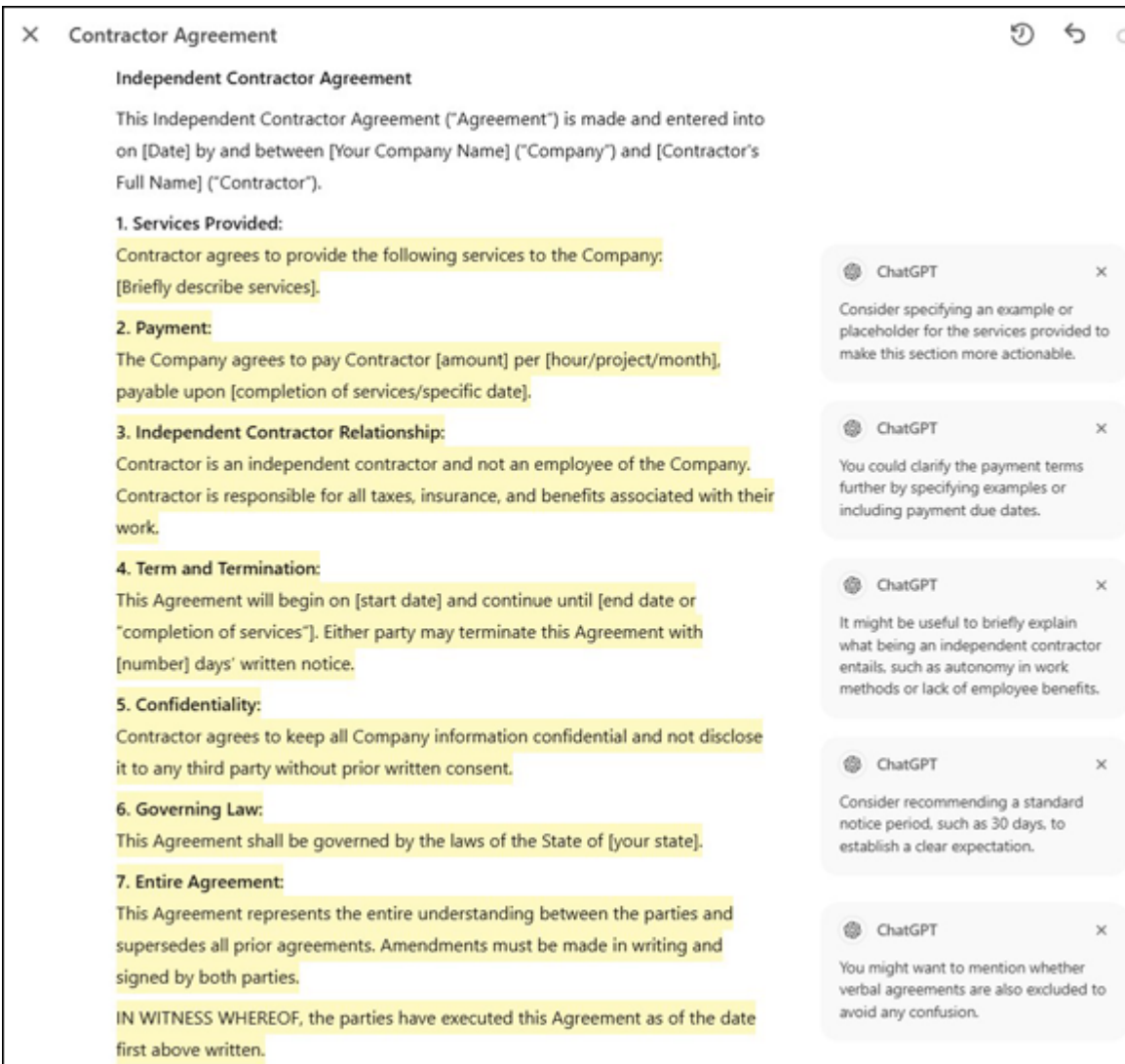
Generated with AI in ChatGPT

FIGURE 10-5: A screenshot of ChatGPT's suggested edits to contractor's agreement.

REMEMBER Legal professionals must treat ChatGPT as a preliminary tool rather than a definitive source. Attorneys should independently verify all citations and legal principles through an authoritative source like Westlaw or LexisNexis.

You can expedite due diligence work using ChatGPT to analyze and summarize large volumes of contracts or legal documents,

highlighting key terms and potential issues for human review. But carefully verify all findings because ChatGPT may miss crucial details or misinterpret legal language. Although ChatGPT can assist in these areas, you must ensure that documents not only meet statutory requirements but also align with best practices in contract language and legal nuances that ChatGPT might overlook.

ChatGPT can also assist in drafting initial responses to routine client inquiries or creating explanatory materials that break down complex legal concepts into simpler terms. But don't relegate even this seemingly simple task to ChatGPT alone. Thoroughly review and personalize all communication before sending it to clients. Also keep in mind any policies within your firm or the jurisdiction regarding AI usage in client interactions. Some legal organizations may limit or regulate AI deployment in client-related work.

One cool and potentially valuable use of ChatGPT is to prompt it to help you brainstorm different legal arguments or counterarguments. If you assign ChatGPT different roles in your prompts, it renders multiple answers, each a perspective from an assigned role that you may not have immediately considered or examined. For example, when preparing for a motion hearing as an attorney, you might use ChatGPT to explore potential opposing arguments and develop stronger rebuttals. Role-playing with ChatGPT is one of the most valuable actions you can prompt ChatGPT to take because it almost always delivers fresh insights for you to use.

TIP   Verify all legal information and adapt any generated content to specific jurisdictional requirements and client circumstances. Using specific, detailed prompts that include relevant jurisdictional information and particular legal requirements yields more useful results.

Be extra careful with client confidentiality issues when using ChatGPT. You, the legal staff, and any attorney in the firm should never input privileged or confidential client information into ChatGPT. Instead, safeguard your clients by using anonymized or hypothetical scenarios in your prompts.

Stay updated on ChatGPT's capabilities and limitations and stay aware that these may fluctuate between the different underlying GPT models. Understanding what tasks ChatGPT can and can't reliably perform helps you and your staff maintain professional standards and ethical obligations. Compliance with any relevant guidelines or ethical standards from bar associations or firms is essential, as is understanding the limitations of AI in complex legal matters.

Look for ChatGPT to continue to evolve and for ChatGPT tools trained for the legal profession to appear regularly on the market. It's important to keep up with advancements in AI technology so you can better gauge which ChatGPT tool to use when, and how to use ChatGPT most effectively overall. Regular training on AI, including data handling and prompt optimization, can help you maximize ChatGPT's usefulness within ethical and professional standards.

Storytelling in Journalism

ChatGPT can be an incredibly valuable tool for journalists. It provides assistance and support across various aspects of the work, from storytelling to data journalism to story pitches.

ChatGPT can assist you as a journalism storyteller in several ways. Two that come to mind are generating fresh story ideas and offering unique or multiple perspectives on current events. For example, covering politics in any country in a nonpartisan way can be complicated when you have your own opinions on which politician you'll support. You can prompt ChatGPT to check a

sentence or paragraph for a second opinion, or a machine evaluation as it were, on whether a statement you wrote that you know to be factual is written in a nonbiased manner. ChatGPT may not always get such assessments right, given that it often harbors biases too, but it can give you other perspectives to evaluate your work by. Try giving it specific roles — several roles even — in your prompt so you can consider your interpretation of the facts from more perspectives than just your own.

WARNING Never put your entire article draft in ChatGPT. That's especially true if you're a freelance journalist. If you do, you risk it being used to train another AI model, used to fine-tune the current model, or potentially being exposed in a data leak. Unless you're using ChatGPT in an Enterprise version sanctioned and protected by the news organization, don't share too much information on ChatGPT.

That said, consider the following example of another way to use ChatGPT. Perhaps you're a journalist covering environmental issues. If so, you might use the prompt, "Suggest unique angles for a story about the impact of climate change on coastal communities." ChatGPT might suggest focusing on the economic impacts, personal stories of affected families, or innovative adaptation strategies being implemented.

ChatGPT can aid in developing a compelling narrative of the facts. For example, if you're a journalist writing a feature on a local artist, you might use the prompt, "Help me create a compelling narrative arc for a story about a local artist's journey to success." ChatGPT could outline key milestones and emotional beats from your notes, research, and source interviews to include in your feature story.

If you're writing hard news full of facts and numbers, ChatGPT can help by interpreting data analysis results and by explaining complex statistical concepts. For example, you might ask, "Explain the significance of a p-value in data analysis." ChatGPT's

explanation could be extremely helpful if you have limited statistical skills or are up against a hard deadline, which pretty much sums up the journalist experience most of the time.

ChatGPT can also suggest ways to visualize data. Maybe you need it to recommend specific types of charts or graphs that best represent the findings. You can use this information to create those charts and graphs in a separate visualization tool or prompt ChatGPT to make them. It all depends on your specific requirements and individual preferences. You might want to visit Chapter 7 to see the figures illustrating ChatGPT-generated charts and the information around those figures detailing how to make them. That chapter also has a list of third-party visualization tools if you'd rather use one of those.

If you'd prefer to add informative text to your article instead of charts or infographics, ChatGPT can break down intricate information into understandable narratives. For example, if you use the prompt, "Summarize the key findings of a recent study on urban air quality," ChatGPT can distill the study's main points into an accessible summary.

> **TIP** You can use ChatGPT to summarize content or to explain anything that may be confusing or esoteric in lengthy PR pitches or legal documents, company annual reports, financial reports or statements, company info on websites, and other stuff you receive or run into regularly during daily journalism work. Obviously, this won't give you all the info you need, but it will give you a strong clue as to which leads to pursue and which to take a pass on and how you might want to prioritize or organize whatever you found useful so you know where to dig in to go deeper.

Although ChatGPT can provide general information and context to help with fact-checking, such as answering, "What are the main health effects of prolonged exposure to air pollution?" it's important to cross-check the app's output with reliable sources.

Hallucination and other errors will continue to be an issue with ChatGPT and its competitors because that's the nature of these models. AI scientists can't eliminate the potential for error without rendering the model entirely useless. Accept that truth and work accordingly. Really, you have to fact-check your work even when you don't use ChatGPT because human sources can get things wrong too.

ChatGPT can assist in organizing notes and highlighting key points in your journalist notebook. For example, you might write a prompt, "Organize my notes from an interview with a climate scientist." ChatGPT can categorize the information into themes like impacts, solutions, and personal anecdotes. You can also use it to summarize lengthy interviews or documents. For instance, using the prompt, "Summarize the main points from this 10-page report on renewable energy policies," ChatGPT can extract and condense the most pertinent information, saving you valuable time. Further, ChatGPT can gather background information on various topics. For example, you might ask it to "Provide a brief overview of the history of renewable energy development," from which you'd receive a quick summary of relevant articles, studies, or reports.

Another great use is for ChatGPT in journalism is help with story pitches. ChatGPT can draft compelling pitches by suggesting a headline and a short blurb explaining the gist of the story. If you need more, the app can also provide strong opening lines and an outline of key points.

For example, you might use the prompt, "Help me write 3 pitches for a story about the rise of urban farming from different angles for a general reader." ChatGPT can then provide three angles for that idea in three different pitches, each complete with a suggested headline and a short blurb to briefly explain the story idea, the heading, and blurb. For readers who are not journalists, or who aspire to be, a pitch is essentially a sales pitch on the merits of your proposed story to an editor who may give you the go ahead to pursue the story, or kill it entirely.

ChatGPT can also assist in customizing pitches for different editors or publications. That's especially helpful if you are a freelance journalist and want to pitch what's essentially the same idea from different angles to different kinds of publications. For example, you can prompt it like this: "Tailor this pitch for a magazine focused on sustainable living." ChatGPT responds by adjusting the tone and focus accordingly. You can also use ChatGPT to refine pitches to make them more concise and impactful. For example, using the prompt, "Edit this pitch to make it more engaging," ChatGPT can suggest specific improvements and tighten the language.

TIP   Add writer's guidelines as an attachment to your prompt to get ChatGPT to write a pitch more precisely tailored to that publication, website, or news outlet.

Beyond these tasks, ChatGPT can help you prepare for interviews by generating potential questions. For example, if you're preparing to interview a tech entrepreneur, you might use the prompt, "Generate a list of questions for an interview with a tech startup founder." ChatGPT can provide some insightful questions and follow-up queries for you. If you want to further refine ChatGPT's ability to craft interview questions, try attaching documents about the company or founder to the prompt, or attach an interview of a different person that you want ChatGPT to use as an example of the type of information you're looking to extract in this interview.

ChatGPT can also help you translate text to and from various languages, although you probably should run those outputs by a human interpreter rather than just running your translated piece in a foreign outlet or a cultural community in your own country. But ChatGPT can be helpful in making documents and interviews more understandable in your own language so you can report on what's happening in the moment. For example, you might input

this: "Translate this interview excerpt from Spanish to English." ChatGPT can usually provide an accurate translation.

Additionally, ChatGPT can draft social media posts to promote your stories. Try prompting it with this: "Create a Tweet to promote my latest article on sustainable fashion." The app generates a platform-appropriate post as a response. Add a highlight or two to the prompt if you want the tweet or social post to work like a teaser or blurb for your article.

TIP   ChatGPT's chat history search feature can be particularly useful for journalists. This feature allows you to quickly find earlier information or interactions you had with ChatGPT, making it easier to reference previous conversations without having to start from scratch.

For example, if you previously discussed a complex topic like blockchain technology with ChatGPT, you can use the chat history search to retrieve that information instead of asking again. A prompt such as, "Search my chat history for our previous discussion on blockchain technology," can bring up past interactions and sources, saving you a lot of time and effort.

You can streamline your workflow, speed your writing, and expand research and investigative aspects of your work with ChatGPT. It may not be perfect, but it can go a long way to making you more productive. However, make sure you're always using ChatGPT as a supplementary tool rather than a replacement for human judgment and expertise.

Consulting ChatGPT in Healthcare

The healthcare industry is still exploring where ChatGPT might be beneficial in various aspects of patient care, medical research,

and administrative tasks. Attempts so far have met with mixed results. Some deployments have been successful, and others haven't. The causes for these wins and failures are varied. The reasons for failing include a mismatch between task and technology, lack of AI talent and user understanding, pushing the technology to perform beyond its core purpose, ill-advised dependency, and data issues. Many winning deployments happen because of tasks and the tech being well matched, incredible creative thinking in projects, and loads of talent on both the front and the back ends, among other reasons.

But perhaps most defining in a solid ChatGPT deployment is whether the people working with it fully grasp its nature, limits, and core competencies of text generation and data discovery.

You might think that healthcare use cases are limited if ChatGPT's greatest strengths are generating text and discovering data, but you'd be mistaken. Both of those capabilities are key to an endless list of possibilities. Throw in the extra features and additional versions that keep popping up, and you end up with the means to expand the kinds of input and output modals to include things like x-rays, MRI images, and lab results like blood tests, while also sharpening the focus on the task which may be to detect, prevent, treat, cure, or discover disease or organ system malfunctions, among others.

There are other ways you can use ChatGPT in healthcare tasks. Here are examples to illustrate its flexibility and usefulness in specific use cases:

» **Generating multiple-choice questions (MCQs):** Educators use ChatGPT to create MCQs for assessments, aiding in evaluating students' understanding of medical concepts. However, the validity of AI-generated questions is under scrutiny, emphasizing the need for careful review before implementation. You can find more information on this at https://doi.org/10.1093/postmj/qgae065.

» **Simulating patient interactions:** ChatGPT serves as a virtual patient, allowing students to practice history-taking and

diagnostic skills in a controlled environment. This simulation helps medical students developed communication and clinical reasoning abilities. You can find more information on these types of use cases in a paper titled "Using ChatGPT in Medical Education for Virtual Patient and Cases" by authors Meredith Ratliff, Satria Nur Sya'ban, Adonis Wazir, Sarah Haidar, and Sara Keeth.

» **Assisting in exam preparation:** Medical students employ ChatGPT to clarify complex topics, generate study materials, and explain challenging subjects, thereby supporting their exam readiness. You can find more information on this use case in Geeky Medics online.

» **Enhancing clinical decision-making:** ChatGPT aids in formulating differential diagnoses and suggesting diagnostic tests based on patient symptoms, assisting learners in considering a broader range of possibilities. However, its accuracy and reliability are still under evaluation. You can find more information on this in the paper titled "Performance of ChatGPT on USMLE: Potential for AI-Assisted Medical Education Using Large Language Models" authored by Tiffany H. Kung, Morgan Cheatham, Arielle Medenilla, Czarina Sillos, Lorie De Leon, Camille Elepaño, Maria Madriaga, Rimel Aggabao, Giezel Diaz-Candido, James Maningo, and Victor Tseng.

» **Medical education:** Educators at Harvard are incorporating ChatGPT into their curriculum to help students learn how to interact with AI in clinical settings. They use the tool to generate sample patient cases and challenge students to critically evaluate the AI-generated information. For more information about this, go to

https://magazine.hms.harvard.edu/articles/how-generative-ai-transforming-medical-education.

» **Medical research and literature review:** Scientists at the National Institutes of Health (NIH) have experimented with using ChatGPT to generate research hypotheses and identify potential gaps in current medical knowledge, sparking new

avenues for investigation. For more information on using ChatGPT in medical research, check out "Global Trends and Hotspots of ChatGPT in Medical Research: A Bibliometric and Visualized Study" found here:

https://pmc.ncbi.nlm.nih.gov/articles/PMC11137200/.

Although ChatGPT offers valuable tools for medical education, recognize its limitations, including potential inaccuracies and lack of clinical experience. Therefore, complement its use with traditional educational methods and oversight by qualified professionals.

Cashing In on ChatGPT in Finance

ChatGPT is used across the finance industry in several ways, but mostly to enhance customer interactions, streamline processes, and support decision-making.

Arguably, the leading application for ChatGPT in the finance realm is customer service. That's understandable, given that ChatGPT is a chatbot.

Banks, investment houses, insurance companies, and other finance institutions use ChatGPT to handle customer inquiries, troubleshoot common issues, and provide information on financial products and services in real time. This approach reduces customer wait times, improves customer experience rankings, and allows human agents to focus on more complex tasks. For example, banks can employ ChatGPT to answer routine questions such as account balances and recent transactions as an instant, 24/7 service.

Financial institutions also deploy the app for investment research and analysis. Typically, they use it to summarize complex reports and deliver insights from large volumes of financial data to different stakeholders and constituencies. Analysts and investors

save time because ChatGPT synthesizes market information into actionable insights. For instance, investment firms use it to monitor quarterly earnings reports, highlighting performance indicators and identifying market trends based on recent news.

ChatGPT can also act as a financial planning assistant by offering general advice on budgeting, saving, and investing, yet customizing it to fit individual goals and risk tolerance. This feature allows people without direct access to a personal financial advisor to receive guidance on managing their finances. A retirement planning app, for instance, might use ChatGPT to help users estimate their retirement savings or evaluate different investment options.

In compliance and risk management, ChatGPT's language capabilities allow financial institutions to interpret regulatory documents and flag potential risk. That's handy and fast and helps keep them in line with complex and evolving regulations. Its ability to quickly analyze legal texts for updates and interpret these changes in common language make it a valuable tool for compliance teams. For example, ChatGPT might alert or explain to a bank's compliance officers a new anti-money laundering regulation or help them assess whether specific transactions meet the new reporting standards.

Automation of routine tasks, such as content generation, is another advantage in the finance industry, which seems to feed on an endless stream of reports and analyses. For example, a bank might use ChatGPT to generate regular transaction reports, identify discrepancies, or prepare presentations or summaries of financial performance over a specific period.

ChatGPT can also play a significant role in employee training within financial institutions. It can help staff understand complex topics like derivative instruments and credit risk analysis.

PROS AND CONS OF USING CHATGPT IN FINANCE

Pros	Cons
Efficiency: Automates routine tasks, saving time and reducing costs.	**Accuracy:** May produce errors if not properly trained or supervised.
24/7 availability: Provides round-the-clock support to customers.	**Security:** Handling sensitive financial data requires robust security measures.
Scalability: Easily scales to handle large volumes of inquiries and tasks.	**Regulation compliance:** Must ensure compliance with financial regulations and data privacy laws.
Personalization: Offers tailored advice and recommendations.	**Dependence on data quality:** Performance heavily depends on the quality of input data.
Consistency: Delivers consistent responses with human oversight.	**Lack of human touch:** May lack the empathy and nuanced understanding of human advisors.
Cost-effective: Reduces the need for large customer service teams.	**Complexity in implementation:** Integrating AI into existing systems can be complex and costly.

Using ChatGPT in IT Operations

ChatGPT is shaping up to be a valuable tool in information technology (IT) operations. This is a core department in every business, whether it's contracted as a managed service or operates on company premises. The areas it covers include things like infrastructure management, incident response, and both software and hardware troubleshooting. ChatGPT can help IT streamline processes, improve efficiency, and support decision-making. There are many ways IT can benefit significantly from a tool that can quickly analyze, interpret, and respond to complex data inputs.

Quite naturally then, ChatGPT is routinely added as a part of AIOps in many organizations. AIOps means "AI for IT operations" in tech speak.

But back to how IT uses ChatGPT. In cybersecurity incident reporting, ChatGPT can assist by quickly analyzing logs and interpreting error codes. When a crash occurs, which IT would properly refer to as "system downtime," ChatGPT can assist in troubleshooting the problem(s) by cross-referencing error codes with existing databases or suggesting corrective actions based on patterns learned from previous incidents. This capability saves IT time and effort and may reduce the downtime. Indeed, a case study by Forrester highlights how AI-driven tools like ChatGPT can improve mean time to resolution (MTTR) by assisting with automated log analysis.

Another application is in infrastructure management. ChatGPT can assist with system monitoring and some limited automation. In a cloud environment, the app can analyze resource utilization data, such as CPU or memory usage across virtual machines, and recommend scaling actions when thresholds are met or optimization is needed.

ChatGPT can also help IT teams with routine tasks like updating or creating content for knowledge centers and self-help repositories. It can assist help desks in similar ways. If you want specific information on how to use ChatGPT in IT, knowledge centers, or for help desks, consider taking one or more of my courses on LinkedIn Learning. I'm an instructor there, and my courses run the gamut on AI, IT, and help desk topics.

Overall, ChatGPT enhances IT operations by offering data-driven insights, providing efficient troubleshooting, and automating repetitive tasks, all of which optimize workflows and improve productivity in IT environments. However, the same warnings with other fields apply to IT. Make sure you allocate and assign individuals to provide oversight for ChatGPT and manage outputs carefully.

PROS AND CONS OF USING CHATGPT IN INFORMATION TECHNOLOGY

Aspect	Pros	Cons
Efficiency	Automates repetitive tasks (e.g., retrieving data), freeing up IT teams for higher-priority tasks.	Risk of over-reliance, potentially missing nuanced issues that require human analysis.
Troubleshooting	Speeds up error diagnosis by analyzing logs and error codes and offering potential solutions based on past incidents.	Limited in handling novel issues outside its trained data scope, which may delay or mislead troubleshooting.
24/7 availability	Provides around-the-clock support, useful for global IT operations or extended hours with minimal human intervention.	Potential struggle with complex, real-time responses during critical incidents, especially without human oversight.
Resource management	Analyze system metrics (CPU, memory) and suggests scaling actions, optimizing resource usage.	Not fully equipped for decision-making in critical resource allocation without deeper contextual analysis.
Knowledge base	Serves as an extensive resource for referencing documentation and providing guidance on a wide range of technical queries.	Risk of outdated information because models need periodic updates to stay relevant with evolving technology.
Customization	Can be tailored to specific IT needs (e.g., specific workflows, alerts) and integrated with other tools.	Requires time and effort for initial setup and continuous training to ensure accurate and reliable responses.
User experience	Offers a user-friendly, conversational interface that's accessible to both technical and nontechnical users.	Challenges with interpreting AI-driven responses, especially for technical troubleshooting.

Examining New Businesses Based on ChatGPT or GPT Models

If you're an entrepreneur or a budding startup founder, you may want to use ChatGPT in a few more ways than I've outlined for your industry. To that end, consider the following guide on starting a business based on services largely generated by ChatGPT or other GenAI models.

You can use ChatGPT to help you think of business ideas and make business plans for any type of business; your business doesn't have to sell GenAI-generated services or be built on AI from the ground up. Because I'm asked almost daily how to create a business using and selling ChatGPT-based services, I chose to use it here to illustrate how to use ChatGPT to develop a new business.

Art isn't the only thing you can generate and sell using GenAI. Imagine creating a platform that offers personalized storytelling services. For example, you can use ChatGPT to develop an app where users input a few details about themselves or a loved one, and the AI generates a custom fairy tale, adventure story, or the memories of an elder family member. This can be an excellent gift in memory of a loved one or as bedtime stories for children. ChatGPT can develop code for you that you can use to build an app in a different platform. If you don't want to make an app, interview people or provide an online form for your customers, and then create the story by prompting ChatGPT to do so using that information.

Maybe you'd rather create a virtual art gallery where other artists creating works in GenAI can display and sell their work. The gallery can also offer a service in which customers describe their desired artwork, and their chosen artist — or you — can generate a bespoke artwork based on their description.

Similarly, you can form a content creation agency that specializes in marketing materials built by a human + GenAI team to the customer's specifications. You can even entice companies to outsource their marketing content to your agency. Businesses can provide their brand guidelines and marketing goals, and you can guide and polish ChatGPT blog posts, social media updates, and ad copy tailored accordingly.

There are other unique opportunities out there too, such as in education. Consider tutoring school kids and adults alike in prompting skills or using ChatGPT to develop a unique study guide for students struggling with any topic. This could be particularly beneficial for homeschooling families or adult learners seeking to acquire new skills.

For the music industry, think about an AI-powered composition service. Musicians and composers can use AI to generate new melodies, harmonies, and lyrics. An entrepreneur might create a subscription-based service by which users receive regular batches of AI-generated music ideas and then refine and develop them into full compositions. It can be a valuable tool for songwriters experiencing creative blocks or looking for fresh inspiration.

Basic prompts to identify these and other business ideas can include questions like these:

- » "What are common challenges in the XYZ industry that could be alleviated or otherwise addressed with ChatGPT assistance?"
- » "How can ChatGPT enhance personalization in my current business model?"
- » "What creative processes in my field could benefit from ChatGPT-generated inspiration or content?"
- » "In what ways can ChatGPT improve customer engagement and satisfaction in my business?"

For a list of information that you should include in prompts for more refined or edgy business ideas, look at Figure 10-6, which also shows their importance to outcomes.

Use your imagination and explore all you want. Odds are that ChatGPT outputs will spark some great ideas.
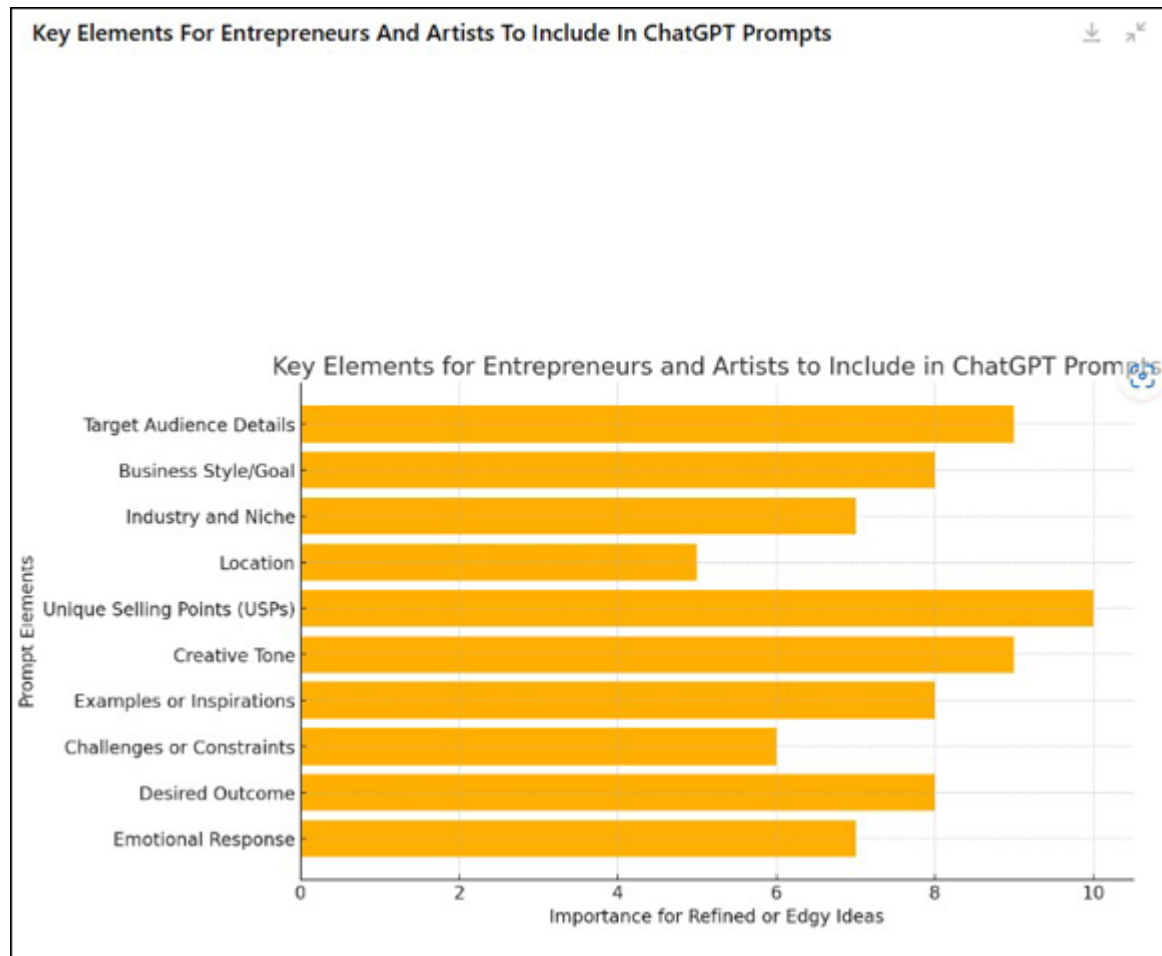
FIGURE 10-6: A list of key elements for artists and entrepreneurs to include in prompts.

Chapter 11

Leveraging ChatGPT in Education

IN THIS CHAPTER

» **Constructing new educator AI aides**

» **Understanding critical thinking strategies**

» **Creating personalized learning opportunities**

» **Exploring ideas for educators**

» **Grasping why banning ChatGPT from schools is a bad idea**

When ChatGPT was introduced, students immediately began using it to do their homework. However, many chose to use it not to *help* with their homework but to do it *for* them. Educators weren't amused. A kerfuffle followed as educators and parents fretted that ChatGPT was an instrument for cheating and would rob students of their ability to hone critical thinking skills. The worriers were only partly right.

Cheaters are going to cheat, and teachers need to catch them if they can. This undertaking isn't always easy. It can be an especially vexing task when cheaters use ChatGPT because the app generates text that's difficult to distinguish from human writing. However, educators are adept at catching cheaters despite their ever-changing methods. For decades educators and teaching assistants have confiscated crib notes, barred calculator use in classes and tests, busted test ringers, checked dutifully for plagiarism, and generally outed the ne'er-do-wells and the ethically impaired. So, really, ChatGPT brings nothing new to the ongoing need to check for cheaters.

On the contrary, the harm is more likely to come from the use of AI detection tools in the chase rather than from cheaters slipping a machine-generated assignment past the gatekeepers. To date I've never seen an AI detection tool that's accurate or even consistent in labeling works as either AI or human made. Yet far too many educators and employers treat these tools as infallible and wield the results as the final word. Unfortunately, those falsely accused by these tools typically have no recourse and can never prove their innocence. These unfortunate souls find their careers and school records irrevocably stained. The harm done by a false positive result is almost incalculable. This practice needs to come to an immediate halt.

To be clear, yes, ChatGPT does repeat phrases, words, and sentence structures. But so do people. This is why AI detectors don't work. There are no set writing patterns, word choices, sentence structures, or anything else that's uniquely and undeniably associated with ChatGPT outputs (or any other generative AI tool outputs). That's why AI detection tools don't work. There's no sure "tell" to find.

Spotting AI in use by students is a worthless exercise anyway. It's now part of today's existence, for better or worse. Using AI effectively is now a core mission for educators to teach students, and the fundamental tool all students must master if they're to navigate their daily lives or be employed.

Make no mistake, both educators and students will outlive any current generative AI tool — ChatGPT included. These early manifestations continue to morph into something more than the sum of their new features or are replaced by competing tools, such is the nature of all living and invented things. Even so, AI is reshaping the world and is firmly entrenched as an integral part of it. Whether AI's presence today is more insidious or illuminating depends entirely on how you see it and use it. For a balance to be struck or the scales to be tipped in favor of all that is good, educators must step up and teach that. You can't teach that if you keep attacking AI use in schools like it's evil incarnate.

AI will be a permanent fixture in life going forward. Of course, it may fade into the background and become the backbone of all the tools rather than function as a standalone as ChatGPT largely does now. But AI will never go away. As the Borg on *Star Trek* would say, "Resistance is futile." Better to embrace it and make rules assuming that AI will be used than waste your time and your students' academic lives trying to forbid it and root it out.

REMEMBER ChatGPT use requires skill in to get skill out. Yes, that's my way of saying that "garbage in, garbage out" still applies. The quality of the work speaks directly to the skill level of the person who made it, regardless of the type of tool they used. If the quality of work, the originality of thought, the uniqueness in its creativity, or a flawless execution of the task is present, then the person who made it — with or without ChatGPT's help — earned a grade to match.

I urge educators and employers to focus on grading or evaluating work based on accuracy, originality, execution, and quality instead of trying to figure out whether an AI tool was used in the process.

Therefore, in this chapter, I don't spend time covering how to cheat because that will be sorted in due time. Instead, this chapter is about how educators can use ChatGPT to better serve their students by offering more personalized support and instruction. It's also about how ChatGPT and similar tools can reinvent education. That's probably why (without assuming, of course) you are reading this book, to get the most out of emerging technology. The prompting techniques covered in Chapters 4, 5, 6, and 7 will help you use ChatGPT in both how and what you teach in the age of AI. You might also want to read Chapter 9 to see how different disciplines use ChatGPT to further help you understand how your students may need to use tools like ChatGPT after graduation.

Changing the Structure of Education

Speaking of upcoming changes in educational institutions and processes, some major disruptions are easy to foresee. But these changes won't be the last. Ripple effects will spread across decades as both AI and educators evolve to meet the challenges and opportunities of the day.

ChatGPT's integration into education is poised to transform both institutional structures and teaching methods significantly. At the core of this transformation is the shift toward personalized learning. Traditionally, students progress through a standardized curriculum at the same pace, but AI allows learning to be tailored to individual needs, pacing, and level of understanding. ChatGPT can act as a personalized tutor, responding to each student's questions, identifying areas for improvement, and adapting content dynamically. Over time, this can lead to a shift away from age- or grade-based progression toward competency-based advancement, in which students move forward upon mastering the material, which isn't based on time spent in a classroom or memorization skills.

Using AI in tutoring and testing models

Tutoring and support are also likely to change drastically. Many students currently rely on scheduled, often costly tutoring sessions, which may not always be accessible. ChatGPT is constantly available as long as limits in tokens or chats aren't exceeded. (See Chapter 6 to learn more about tokens.) Provided schools make ChatGPT accessible to all, even students with little to no private resources can receive instant support, explanations, and feedback. This shift might lead institutions to reconsider how they allocate resources, potentially allowing teachers to focus more on specialized lessons and support while ChatGPT handles

foundational content review and reinforcement outside the classroom.

Traditional assessment tools might undergo an even more dramatic change. Today's reliance on standardized tests means that knowledge is evaluated periodically, which may not always reflect how much information students understand, retain, and can successfully apply now or going forward. ChatGPT, however, can offer immediate and ongoing feedback on a student's performance. It can also present the same information in different ways to match individual learning styles to help students grasp difficult concepts and overcome learning obstacles.

If you're an educator, instead of using high-stakes testing, you can move toward continuous assessment, where students receive ongoing evaluations that may better capture their learning progress. This type of assessment can significantly reduce test-related stress and focus more on actual comprehension and critical thinking development.

The traditional curriculum, which often lags the latest knowledge and trends in the real world, also stands to benefit from AI. ChatGPT's access to a vast amount of information allows you to easily update lesson plans and incorporate the latest research. AI can help ensure that students learn content relevant to their futures, making curriculums more dynamic. This potential for fluid content creation allows you and other teachers to focus on more interactive and practical applications rather than spending time updating static content. Such an approach is better and more efficient in helping students stay aligned with current developments.

Preparing for shifts in educator roles

Your role as an educator will likely shift as well. You'll act less as a content deliverer and more as a mentor and learning facilitator. As AI tools take over foundational teaching tasks, you'll have more time to focus on guiding critical thinking, honing intuitive intelligence, sharpening research and fact-checking skills, promoting socio-emotional learning, and cultivating creativity. This

role evolution may lead to changes in hiring and training practices, with a growing emphasis on interpersonal skills and adaptability, as well as mastery in integrating AI into classroom management and lesson plans.

Administrative tasks, which currently consume significant resources in education, will also likely see gains in efficiency with AI. To be clear, ChatGPT can't automate anything beyond the text and images it generates. ChatGPT at its core is a text generator, but it can manage some image work behind the scenes with the aid of other GenAI tools, such as sister application DALL-E. I point that out only to make you aware that you'll need to use ChatGPT outputs in other software to fully leverage its capabilities.

For example, ChatGPT can help you with grading student work and tests, tracking student progress, and managing communications with students and parents. It can't complete the tasks for you, but by using ChatGPT alongside other automation apps, or embedded in specialized automation apps, or as the UI and orchestrator of autonomous AI agent systems, you can automate these processes. Never fear: ChatGPT or a competitive AI tool is already embedded in most work and education software, so you have plenty of options available to you. More will appear on the market soon.

Any way you choose to use ChatGPT to lighten the administrative load will be instrumental in reallocating resources toward enriching educational experiences or reducing operational costs. This, coupled with AI-enabled flexibility, may give rise to more hybrid learning models, allowing students to participate in a blend of digital and physical classrooms with digital and physical instructors present in either or both environments.

By making quality education more accessible to geographically isolated or underserved students, AI can contribute to a truly globalized education system. ChatGPT can act as an equalizer, providing access to quality resources and instruction regardless of location, which can lead to an expansion of international, online educational platforms and credentialing systems. Today, when

several countries are experiencing aging populations and too few young people to fill jobs and drive each country's progress further, global education may go far in tapping into highly skilled and educated labor forces in countries with younger populations. Conversely, it can help older people teach and store skills and information that may otherwise be lost to time.

As AI like ChatGPT becomes more integrated into education, institutions may transform into adaptable, personalized, and globally accessible models. Instead of rigid structures, schools may become more fluid environments that equip students with skills for an increasingly dynamic world, reshaping both the experience and the objectives of education.

Flipping the Teaching Model

As previously mentioned, some educators, parents, and employers are concerned that students who use AI will miss out on developing critical thinking skills. This problem will likely self-correct to a degree, but it can also be prevented by flipping the teaching model.

Currently, students are taught information and then quizzed. With ChatGPT, the student must first ask the right question to unlock the information, an approach that reverses how critical thinking is traditionally taught and tested.

ChatGPT's outputs are only as good as the inputs a teacher or a student gives it. To prompt the AI to deliver the answers they seek, students need to think carefully and critically about how to word their query or command. Teaching them how to think about and write prompts is an effective albeit different way to help them develop critical thinking skills.

Consider and compare the following two examples:

1. Basic Prompt: "prompt: "Generate an image of a cat."
   This prompt is straightforward, but it lacks details. The outcome could be any cat — small, large, fluffy, hairless,

sitting, jumping, indoors, or outdoors. The result may not be specific to what you want.

2. Better, Strategic Prompt: "strategic prompt: "Generate an image of a fluffy, orange tabby cat with green eyes sitting on a windowsill. The cat should be looking out at a rainy cityscape in the background, with drops of rain visible on the glass. The setting is cozy, and the cat is surrounded by indoor plants and books.""

Version 2 is much more detailed and specific. By specifying the cat's appearance, the setting, and even the mood (cozy), you increase your chances of getting an image that matches your vision. This prompt demonstrates critical thinking by considering factors like context, environment, and cat's characteristics.

The strategic prompt in the second example illustrates why it is important to think critically: The more detail and clarity you provide, the more likely you are to receive output that meets your expectations. It's about guiding the outcome and ensuring the final product aligns with your vision.

This comparison illustrates why critical thinking helps you get the most out of ChatGPT. You really can't get far by being vague or lazy about prompting. That's why I advocate grading the quality of a student's work over whether they used tools like Word or ChatGPT. The outcome is invariably the result of their own effort with or without AI tools.

Critical thinking can thus be taught, at least in part, by teaching prompting skills. That's a win-win for students because both critical thinking and prompting skills are in high demand by employers. These skills can also improve the quality of life by elevating students' performance in daily life problem-solving.

Another big plus is that prompting and critical thinking will remain necessary and in high demand for the lifetime of students and likely for generations afterward. Although writing prompts will soon be automated by AI too, critical thinking will remain as important in commanding and overseeing AI agents as it is now in writing

prompts in tools like ChatGPT. For example, AI like AutoGPT can write prompts that are useful down the chain of AI agent systems wherein one AI orchestrates several specialized AI bots to work together to complete a bigger task. But even in that scenario, a user must initiate the action and approve AI decisions along the way. In other words, you would have to write a prompt to get the party started, and then that AI could automate prompts to invite, orchestrate, and manage other AI agents to join in. Even so, you will have to approve or correct AI agents' actions along the way.

The evolution of AI agent systems will go a long way toward making AI benefits accessible to everyone, but autonomous AI agents won't eliminate the need for creative and critical thinking. In this age of AI, those who can wield these tools well will prosper, which makes critical thinking skills and prompt engineering excellent job skills for educators to teach — and for educators and students to learn.

Leveraging ChatGPT to Aid Overworked Educators

If you're an educator, you're notoriously overworked and underappreciated, often juggling a multitude of responsibilities that extend far beyond the classroom and the workday. The advent of AI tools like ChatGPT offers a promising solution to alleviate some of this strain.

ChatGPT can assist in grading assignments with a level of depth and analysis that you may not have the time to provide. Further, AI can deliver test scores and evaluations of other forms of student work along with detailed feedback for you and students to act on.

But this process isn't nearly as arduous as you're probably imagining. Indeed, teachers have been quietly using ChatGPT to grade tests and papers ever since it came out. But it's only recently that schools are beginning to encourage its use. Here's

one way you can see for yourself how this process might work for you in grading papers if you were to use ChatGPT Plus to do it. You can't grade multiple papers in a single prompt, so taking these manual steps may be too slow if you have a large class and many papers to grade.

1. Depending on whether student "papers" (that is, homework or thesis papers or whatever it is that you're grading) are in digital form or written on an actual sheet of paper, take a screenshot or a picture, or upload the document. Label and save the image or the document.

2. Attach the saved image to the prompt bar. Type instruction such as "Grade this paper" or "List correct and incorrect responses on the attached image." If you prompt for a list of right and wrong answers, you can calculate the grade yourself.

3. Review and fact-check the response, which means essentially making sure you agree with the score.

4. Repeat the process on the next student paper, and so on.

Of course, more tools are appearing on the market every day offering efficient ways to use ChatGPT for grading tasks. One example is Writable, which can assist you with grading any assignment in Word or Google Doc formats. It comes with more than a thousand prompts, assignments, and Houghton Mifflin Harcourt curriculum built in for your use. You can edit them too, if you want. Essaygrader.ai is another ChatGPT tool specializing in, you guessed it, grading essays.

I'm not endorsing any particular ChatGPT tool. I'm just trying to give you a sense of what's available. Keep an eye out because more options will hit the market over time.

ChatGPT can readily access and identify areas where each student is struggling and offer personalized suggestions for improvement. This enables you to develop and execute tailored teaching or mentoring plans for each student, enhancing the

overall learning experience, and hopefully doing so without adding anything to your already full workload.

Moreover, ChatGPT can perform these tasks in a matter of minutes. It can compute homework, tests, and project scores quickly. This efficiency means that you and your assistants can use AI to score assignments before the end of the workday, freeing up valuable time for other important tasks or for personal pursuits in off-duty hours.

ChatGPT is also a valuable tool for developing or adapting lesson plans. You can generate comprehensive and detailed lesson plans on-demand and fit them to your own requirements as the instructor or to the needs of an individual student. Further, you can customize lesson plans to fit specific classroom needs or a change in learning environments. For example, if you're teaching a unit on the American Revolution, ChatGPT-4o can provide a structured lesson plan complete with objectives, activities, video or audio avatar reenactment scripts, and assessment methods. If you prefer a more concise version, ChatGPT can condense the information accordingly.

For example, I can take a picture of a page from my book *Generative AI for Dummies* and prompt ChatGPT to build a lesson plan from the image. Figure 11-1 shows the image of the page that I'll attach to the prompt.

Of course, there are other ways to aggregate AI, too, such as Claude or ChatGPT to generate content and another elements, such as a GenAI embedded in a content management system. possible combinations in AI aggregation are nearly endless (and can types other than GenAI if you want), but figuring out which to use when should be, a central part of your creative process no matter what type of content you are generating.

Output stitching

You can also give two or more GenAI tools the same prompt and compare their outputs, ultimately choosing one over the other, or taking bits from one output and combining it with bits of another GenAI's output to create something more to your intent and liking. The term for this is *output stitching or model output stitching*.

For example, I can put the same prompt in both Claude and ChatGPT and take whatever I want from one or both outputs to create a better piece of content than either model generated on their own.

Output stitching is particularly useful for long-form content generation tasks in which different models may excel at different characteristics like factual knowledge, storytelling, descriptive language, and so on. It can also help mitigate issues like repetitiveness or incoherence that Large Language Models sometimes suffer from.

Be sure you're using two different models. For example, ChatGPT is based on OpenAI GPT models, whereas Claude runs on a GenAI model created by Anthropic. If you prompt two or more chatbots using the same underlying GenAI model, you haven't completely leveraged this tactic.

The key steps in output stitching are as follows:

1. Run multiple AI models in parallel on the same input prompt or task.

2. Identify the highest quality or most relevant segments from each model's output.

3. Stitch or combine those selected segments into a new, unified output in a logical order and flow.

4. Optionally, do some additional filtering, editing, or refinement on the stitched output to improve coherence and quality.

The goal is to get the final output that you need by utilizing the strengths of different models and tools and avoiding weaknesses that any single model may have. By stitching the best components together, the final output can be higher quality than what could be produced by any one model alone.

Mastering Creative Content with Generative AI

FIGURE 11-1: A screenshot from *Generative AI for Dummies* to create a lesson plan with ChatGPT.

Figure 11-2 shows the full prompt: text with image attachment.

FIGURE 11-2: The ChatGPT prompt to create a lesson plan based on the attached image.

And here's ChatGPT output from that prompt: a 10-minute lesson plan introducing the concept of output stitching to a class of fifth graders.

The full ChatGPT response follows:

Here's a brief 10-minute introductory lesson plan for fifth graders based on the concept described in the image: "Output Stitching."

Topic: Creative AI Collaboration — Output Stitching

Objective: Students will understand the basic concept of output stitching by using multiple AI tools to generate creative content, combining the strengths of each.

Materials:

Computer or tablets with access to two different AI tools (optional)

Whiteboard and markers

Printed short story prompts

Time: 10 Minutes

Lesson Outline

1. Introduction (2 minutes)

   Start with a simple question: "Have you ever used a computer to help you write a story?"

   Explain that today they will learn a cool technique called "Output Stitching," which means combining different pieces from different AI helpers to create the best story possible.

2. Explain the Concept (3 minutes)

   Define Output Stitching in kid-friendly terms:

   Say, "Sometimes we can ask two different AIs to write a story for us. Each one might be good at something different, like being funny or describing things really well. We take the best parts from both and put them together to make the most amazing story!"

   Draw a simple diagram on the board with two circles (representing two different AIs) merging into one better final result.

3. Activity — Team Writing (4 minutes)

   Divide the class into small groups, and each group will represent an "AI assistant."

   Give each group a prompt, like: "Write a story about a dragon who loves to cook."

   Have each group quickly come up with a short idea or a few lines of the story.

   Ask the groups to share their parts, and as a class, decide which parts they like the best from each group.

   Combine these favorite parts to create one awesome story together.

4. Wrap-Up (1 minute)

Recap: Explain that combining different ideas (output stitching) helps create better stories.

Encourage them to think about how working together can make any creative project even better, just like the AI tools do.

Extension Idea: Ask students to come up with their own prompts and practice "output stitching" with their classmates in future sessions.

This introduction should be engaging and simple enough for fifth graders to grasp the idea of combining strengths to create something even better!

-end ChatGPT output--

Beyond classroom instruction, ChatGPT can assist you with various administrative tasks. From making a list of classroom supplies needed for specific lessons to completing paperwork required by school administrators, ChatGPT streamlines these processes, allowing you to focus more on teaching and less on bureaucratic tasks.

As an educator, you can get your private time back without compromising the quality of education you deliver.

Changing How Subjects Are Taught

ChatGPT, along with other AI language models, is significantly transforming education now and for the future. This transformation is visible in several key areas.

One of the most notable changes is the move toward personalized learning. ChatGPT can adapt educational content to meet the needs of individual students, providing tailored explanations, exercises, and feedback based on each student's level of understanding. For example, a student struggling with algebra might receive step-by-step explanations and additional

practice problems specifically designed to address their weak points.

Further, you can adapt the presentation of the material to the student's learning style and according to educational standards set forth in VAK (Visual, Auditory, Kinesthetic) and VARK (which adds Reading/Writing) styles. Because ChatGPT is available 24/7, students can access help at any time, extending learning opportunities beyond traditional classroom hours.

In terms of student engagement, ChatGPT enhances the learning experience by creating interactive content as well as a variety of gamification plans. Imagine a history lesson where students can engage in a simulated conversation with a historical figure, asking questions and receiving detailed, context-rich responses. This kind of interaction makes learning more dynamic and engaging. Additionally, students benefit from instant feedback on their work, helping them quickly understand and correct mistakes and accelerating the learning process.

ChatGPT can assist in creating worksheets and other educational materials, which saves time and money and typically improves the quality of resources available. For instance, if you're preparing a unit on environmental science, you might use ChatGPT to generate quizzes and discussion prompts tailored to the specific topics covered in the unit or your field trip.

Providing safer spaces for learning

Language learning is another area where ChatGPT is making a substantial impact. Students can practice conversational skills in a new language by engaging in dialogues with the AI, which provides a safe and supportive environment for practice. For example, a student learning Spanish can converse with ChatGPT, practicing their speaking and listening skills without the fear of judgment. The AI can also explain complex grammar rules and translate phrases, making it easier for students to grasp new languages.

The potential of ChatGPT and similar AI technologies is even more expansive. The development of highly sophisticated AI tutors capable of understanding and adapting to a student's unique learning style, pace, and preferences is a certainty on the near horizon. For example, an AI tutor might recognize that a student learns best through visual aids and adjust its teaching methods accordingly, using more diagrams and visual explanations.

Immersive learning environments can also become commonplace, with ChatGPT integrated into virtual reality (VR) and augmented reality (AR) experiences. Imagine a biology class where students can virtually explore the human body in 3D or a history lesson where they can walk through ancient Rome. These immersive experiences make learning more engaging and memorable. Additionally, AI-driven gamified learning platforms can incorporate elements of game design into the curriculum, motivating students through challenges and rewards.

Inclusive education stands to benefit greatly from AI advancements too. ChatGPT can provide support for students with disabilities or whose learning journey was interrupted for one reason or another, causing them to fall behind. By offering alternative ways to interact with educational content, these and other obstacles can be overcome. For example, a student with a visual impairment might use text-to-speech features, whereas a student with a hearing impairment might benefit from speech-to-text capabilities.

Further, ChatGPT can bridge language barriers in diverse classrooms by providing the same lessons in multiple languages as needed, ensuring all students have access to the same quality of education.

Learning collaboratively

Collaborative learning is another area where AI can make a significant impact. Global classrooms, where students from different parts of the world collaborate on projects, share perspectives, and learn from each other in real time., might

become a reality. Imagine a science project where students from different countries work together to solve a global environmental issue, facilitated by ChatGPT. GenAI platforms like ChatGPT can also support peer-to-peer learning by mediating discussions, providing prompts, and ensuring conversations remain productive and on-topic.

In terms of curriculum improvement, AI can analyze vast amounts of educational data to identify gaps and suggest enhancements. This means that curricula can be continually updated based on new discoveries, societal changes, and technological advancements, keeping education current and forward-looking. For example, if data shows that students are consistently struggling with a particular concept in physics, educators can be alerted to this issue, and ChatGPT can provide suggestions, strategies, and lesson plans to address it.

REMEMBER As AI becomes more integrated into education, it's crucial to address ethical considerations such as data privacy, algorithmic bias, and the digital divide. Ensuring that AI tools are used responsibly and equitably is key to maximizing their positive impact on education.

In short, you can leverage ChatGPT and similar AI technologies to provide a more effective, enjoyable, and accessible experience for all learners. But that requires that you take a proactive role now in plotting the path forward. as an educator. Remember, ChatGPT and other AI do nothing until prompted to do so, and then only as prompted. It's up to education leaders and futurists to decide where education is going with AI.

Supporting Special Education Needs

ChatGPT presents immense potential in special education by helping to tailor support for students with diverse learning needs. Specialized ChatGPTs or GPTs are better for these tasks than the generalized version. It's not as if you can hand any kid a tablet with ChatGPT on it and expect everything to work out somehow. As an educator, you need to design ChatGPT to specifically do this type of work. You might be able to do that on your own, but you'll probably be more comfortable and successful working with AI scientists or an AI-skilled technologist to make it happen. Look for vendors to produce ChatGPT tools aimed at delivering services that uniquely assist with this student group.

In any case, one of the most significant advantages of ChatGPT is its ability to create customizable learning aids. For instance, students with dyslexia can benefit from personalized reading exercises that adapt to their pace and learning or coping style. ChatGPT can generate texts with adjustable complexity, ensuring that students are neither overwhelmed nor under-challenged. Additionally, it can offer real-time assistance, such as breaking down complex sentences or providing synonyms for difficult words, thereby enhancing the student's reading experience and boosting their confidence.

Behavioral and emotional support is another critical area where ChatGPT can make a significant impact. Students with emotional and behavioral disorders often require consistent support to manage their challenges effectively. ChatGPT can offer a form of virtual counseling or encouragement. Assigning ChatGPT such a role can provide students with strategies to cope with anxiety, stress, or frustration. For example, it can guide a student through deep-breathing exercises or help them develop a step-by-step plan to address a particular issue they're facing. However, ChatGPT isn't a substitute for counselors or mental health professionals.

ChatGPT can also serve as a nonjudgmental listener, allowing students to express their thoughts and feelings freely, which can be particularly therapeutic for those who might find it difficult to

open up to others. Just be aware of the serious privacy concerns in sharing private and vulnerable information with any AI tool.

Furthermore, specialized ChatGPT tools can assist you in supporting students' progress. They can identify patterns indicating that a student is struggling so you can intervene promptly. This proactive approach ensures that students receive the support they need before their challenges become upsetting or more severe.

ChatGPT's ability to provide customizable learning aids and offer behavioral and emotional support makes it a useful tool in special education. By integrating ChatGPT into your teaching strategies, you can create a more inclusive and supportive learning environment that caters to the unique needs of each student to help them achieve their full potential.

Delivering Data-Driven Insights for Educators

Data-driven insights have become a cornerstone of enhancing and evaluating teaching effectiveness and student outcomes. ChatGPT offers one approach to compiling and analyzing data. Indeed, its greatest strength is in data discovery.

However, it's generally a mistake to replace all other analytics and data tools with ChatGPT. The smarter plan is to add ChatGPT to your school's toolchest rather than ditch the tools you already use. I say that because there's substantial value in using analytical tools that you're familiar with over one that introduces a rather long learning curve and sometimes questionable responses. Additionally, the performance, accuracy, and reliability of modern analytics tend to vastly outperform ChatGPT and similar AI tools at the moment. There's really no compelling advantage to stopping their use.

The role of ChatGPT tools in education is growing, although their impact on student performance analysis is still under examination.

These tools offer several potential benefits. For instance, they can enhance efficiency in task completion. Additionally, ChatGPT can aid students in gathering information and brainstorming ideas more effectively.

However, there are notable limitations and concerns. Research, such as a 2024 study titled "Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students" published in the *International Journal of Educational Technology in Higher Education,* has linked increased use of ChatGPT to declining academic performance, as evidenced by lower grade point averages.

Furthermore, the same study found that ChatGPT usage is associated with increased procrastination and self-reported memory loss. Another significant issue is the need for human oversight. Although ChatGPT can efficiently analyze text, human judgment remains crucial in interpreting results, particularly in contexts such as course evaluations.

Regarding the current state of ChatGPT in classrooms, the concept of a specialized ChatGPT tool for comprehensive student progress tracking isn't yet widespread or well established. Although such systems might be in development or undergoing limited testing, they're not commonly used in educational settings yet. Most research to date focuses on ChatGPT's impact when used as a general tool rather than as a specialized tracking system. ChatGPT's ability to accurately track and analyze complex student interactions in real time hasn't been proven or widely implemented. Additionally, concerns about data privacy, accuracy, and the potential for AI bias in educational settings present significant challenges.

The integration of ChatGPT and similar AI tools in education is an evolving field that requires careful consideration of both its benefits and its potential drawbacks.

Banning ChatGPT Stifles Education

Despite some drawbacks, banning ChatGPT from schools and education programs is a dire mistake. AI is here to stay, and it's reshaping the nature of work and, indeed, the human experience.

If you're an educator who doesn't guide students through this transition, you're doing them an injustice. Navigating and functioning in the world without AI skills will soon be as difficult as getting by without computer skills, smartphones, and internet access.

Adopting a nuanced approach to AI

The better course is to acknowledge that change really is the only constant and that it's your duty as an educator to help students master each new turn. Educators are the ones who move a society forward and enable it to adapt. Teach accordingly.

The decision to ban ChatGPT in educational settings can have far-reaching consequences, stifling innovation, exacerbating educational inequities, and leaving students unprepared for a future where artificial intelligence (AI) plays an increasingly pivotal role.

One of the most significant drawbacks of banning ChatGPT is the missed opportunities for innovation in education. ChatGPT has the potential to revolutionize the way students learn by providing personalized and adaptive learning experiences. For instance, through natural language processing, ChatGPT can offer tailored feedback on student assignments, helping students understand their mistakes and guiding them toward improvement. This immediate and personalized feedback loop can accelerate learning and comprehension, which traditional methods may not achieve as efficiently.

Additionally, ChatGPT can assist in creating interactive and engaging educational content, such as virtual simulations and

problem-solving scenarios, which can make learning more dynamic and appealing. By banning ChatGPT, educational institutions may forego these innovative approaches, potentially hindering the evolution of teaching methodologies that better cater to diverse student needs.

Equity and accessibility are also at risk when ChatGPT is banned. In many educational systems, there's a significant disparity in resources available to students. ChatGPT can bridge this gap by providing consistent and high-quality educational support to all students, regardless of their socio-economic background. For example, students in underfunded schools may not have access to specialized tutoring or advanced coursework. ChatGPT can fill this void by offering supplementary educational materials and personalized tutoring sessions, ensuring that all students have the opportunity to succeed. Banning ChatGPT can widen the educational gap, further entrenching existing inequalities.

Preparing students for the future

Moreover, preparing students for the future workforce necessitates familiarity with AI technologies. As AI becomes increasingly integrated into various industries, the demand for workers who understand and can skillfully interact with AI systems is growing. By incorporating ChatGPT into the educational curriculum, students gain hands-on experience with AI, developing critical skills that will be valuable in their future careers.

For instance, students can learn how to leverage AI for research, data analysis, and problem-solving, skills that are highly sought after in fields such as technology, healthcare, and finance. Without exposure to AI technologies like ChatGPT, students may find themselves at a disadvantage in the job market, lacking the necessary skills to thrive in an AI-driven world.

Bottom line: Banning ChatGPT in education can have detrimental effects, including missed opportunities for innovation, increased educational inequities, and inadequate preparation for the future workforce. Embracing AI technologies like ChatGPT can enhance

educational experiences, promote equity, and equip students with the skills they need to succeed in a rapidly evolving world. But ChatGPT doesn't equal or replace professional human educators. You need both educators and AI to move students to the front line of a fast-evolving and uniquely challenging future.

Chapter 12

Creating Images and Art with ChatGPT

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IN THIS CHAPTER

» **Locating GPTs**

» **Building infographics in apps versus GPTs**

» **Inserting your style and talent in a prompt**

» **Understanding your options for creating different types of images**

....

Think of creating images and art with ChatGPT as working with a canvas that takes your words and turns them into visual works of art. But the details of how you and ChatGPT handle your respective parts in this transaction may be a little surprising to you.

In this chapter, you discover ways you can use ChatGPT to morph your words into images. Whether you want to generate content illustrations, infographics, design concept art, conference booth designs, product designs, or surreal imagery, there's a GenAI tool for that, and ChatGPT will help you make images on all of them, as well as create some images itself.

You'll dive into the different prompts, techniques, and approaches that can help you refine ChatGPT's creative output. By the end, you'll have a clear sense of how to use ChatGPT as an empowering extension of your own creative voice.

Finding ChatGPT's Sweet Spots in Image Creation

ChatGPT's capabilities in creating images and art vary among versions and are still evolving. Depending on the model you're using, ChatGPT can create some images well because it's integrated with its sister app, a text-to-image generator called DALL-E. It can also produce some types of data visualizations via ChatGPT 1o's access to various libraries containing computer code for charting.

Sometimes ChatGPT creates image descriptions instead of actual images. You can use these descriptions as all or part of your prompts in a separate image generators like Craiyon, Midjourney, Adobe Firefly, or Google ImageFX. Or you can prompt ChatGPT to create image descriptions if you already know that you'd rather use a different image generator. Image quality and options will likely change over time so avoid always using the same image tools without checking out competing tools occasionally.

REMEMBER ChatGPT is first and foremost a text generator. That means that generating images isn't its primary function. It's often well worth your time to copy and paste ChatGPT responses into a prompt in an image generator, or to simply use an image generator from the start like Midjourney instead. Image generators tend to provide many more options and additional capabilities over multimodal models like ChatGPT 40.

In any case, you'll want to know what type of image and what creative process and experience you prefer before choosing a model in ChatGPT to do the work. Coming up is a comparison of ChatGPT-4o, the ChatGPT- GPT Logo Creator, and ChatGPT with Canvas. Canvas is a new interface for writing and coding projects that go beyond simple chat. It's inside of ChatGPT and

will open automatically when ChatGPT detects a scenario in your prompt where Canvas can be useful.

As to selecting from among the general models that power ChatGPT, you might recall from Chapter 1 that you can choose which model you want to use from the dropdown menu found to the right of the sidebar, at the top left of the UI.

Be sure to compare these and future models often because features and capabilities change rapidly. That said, consider how ChatGPT-4o, ChatGPT mini GPTs, and ChatGPT 1o with Canvas compare in image generation. You'll get to see these options in more detail a little later in this chapter. For now, you're just considering a broadbrush comparison. Please note that this is not a direct comparison of the same images in each model because the models aren't equally capable of producing the same type of images.

First, look at some examples of the kinds of images that ChatGPT-4o can produce itself.

Example 1: ChatGPT-4o

First prompt: Create an image of a woman gathering nuts under a tree in the fall sunshine. The air is a little windy and chilled but not yet winter cold. The leaves on and from the tree are a variety of fall colors.

The ChatGPT-4o response is in Figure 12-1.
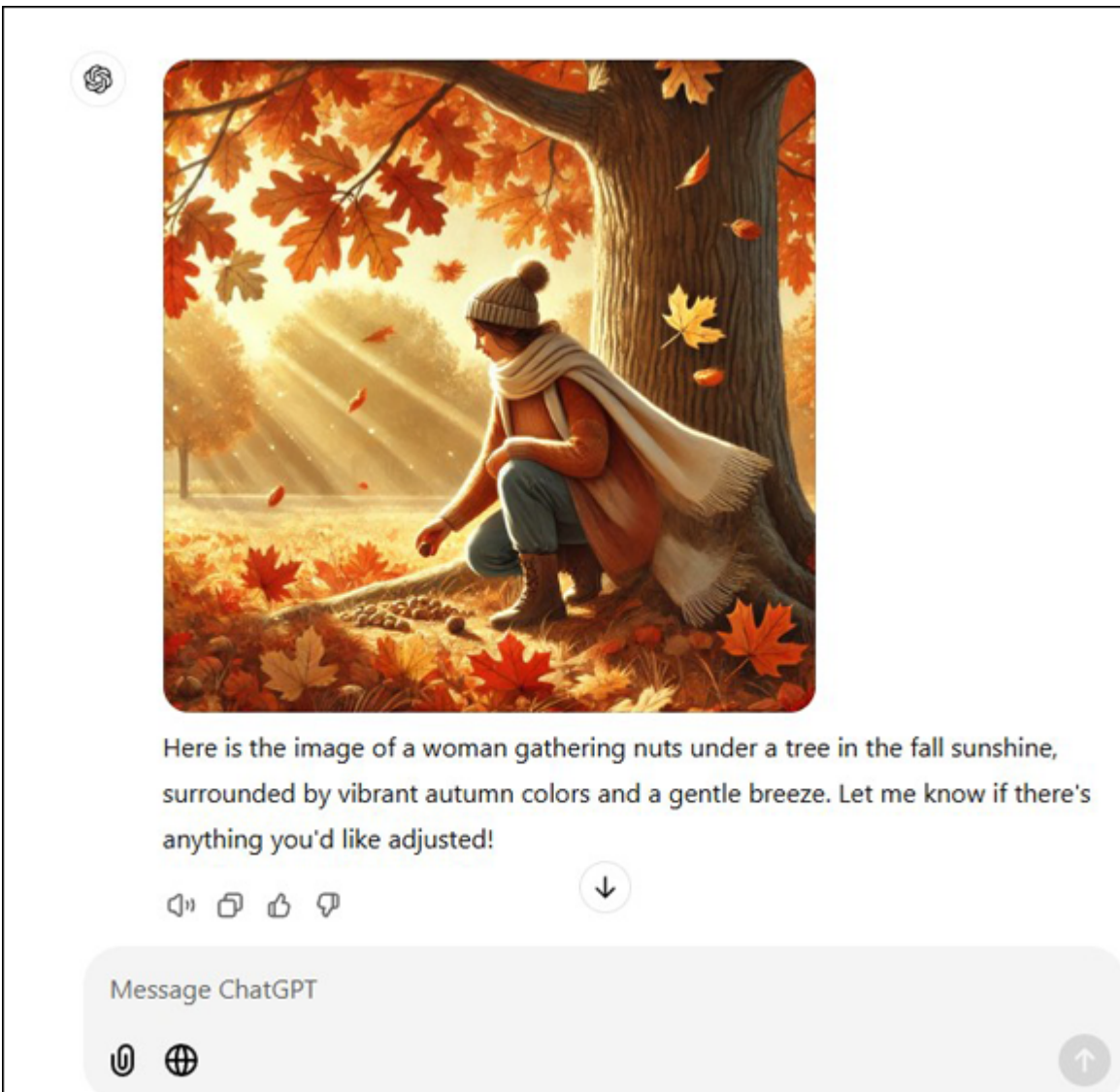
Generated with AI in ChatGPT

FIGURE 12-1: ChatGPT 4o creates an image based on the provided prompt.

Second prompt: Add two puppies jumping in the leaves

The ChatGPT-4o response is in Figure 12-2.

You can see from these two prompts and responses how easy it is to continue shaping the image to your liking just by prompting. I want to point out one more thing to you, and that's the pencil icon to the left of your prompt. It only appears if you scroll over the prompt. Click on that to edit your prompt even after you've submitted that prompt. Figure 12-3 shows what the screen looks like after you click the Edit icon. Here you can either edit your

prompt and click on "send" to execute it, or click on "cancel" to return to ChatGPT without editing the prompt.
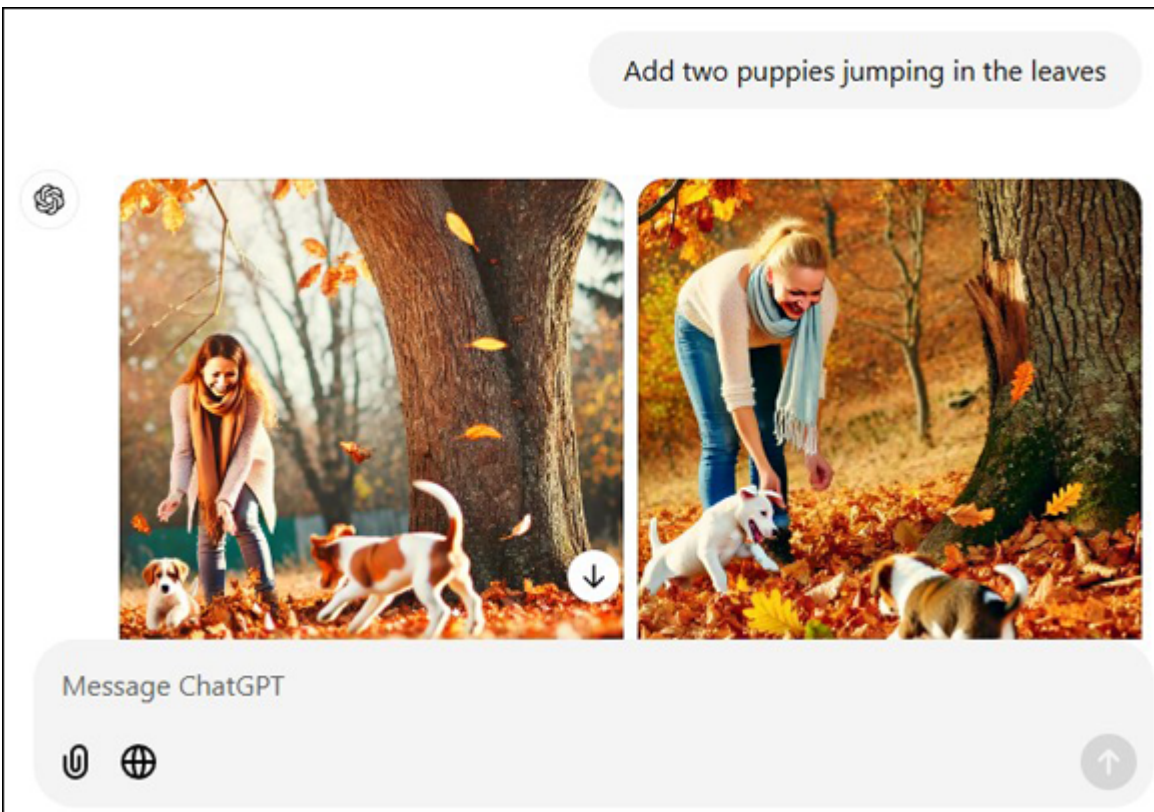
Generated with AI in ChatGPT

FIGURE 12-2: ChatGPT 4o can add elements to an existing image by updating the prompt.
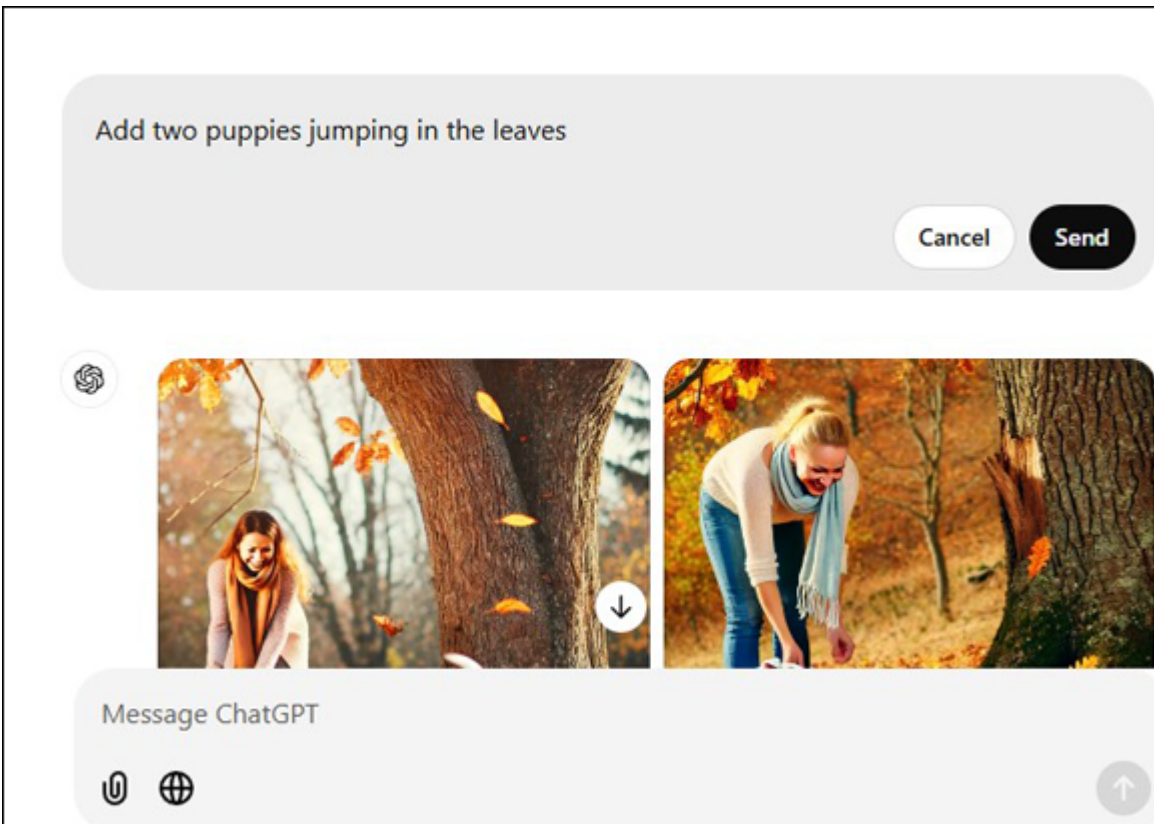
Generated with AI in ChatGPT

FIGURE 12-3: ChatGPT 4o allows you to edit a prompt after you used it to revise ChatGPT's response.

Revised second prompt: Add two puppies and one kitten jumping in the leaves

The ChatGPT-40 revised response is in Figure 12-4.

Notice that ChatGPT added an extra puppy and kitten to the image. This could be for any number of reasons, but I can't discern the cause simply by looking at that extra puppy and kitten. Neither can AI scientists find or explain the cause. This lack of understanding as to "why" AI does what it did vexes everyone who builds or works with generative AI models like ChatGPT.
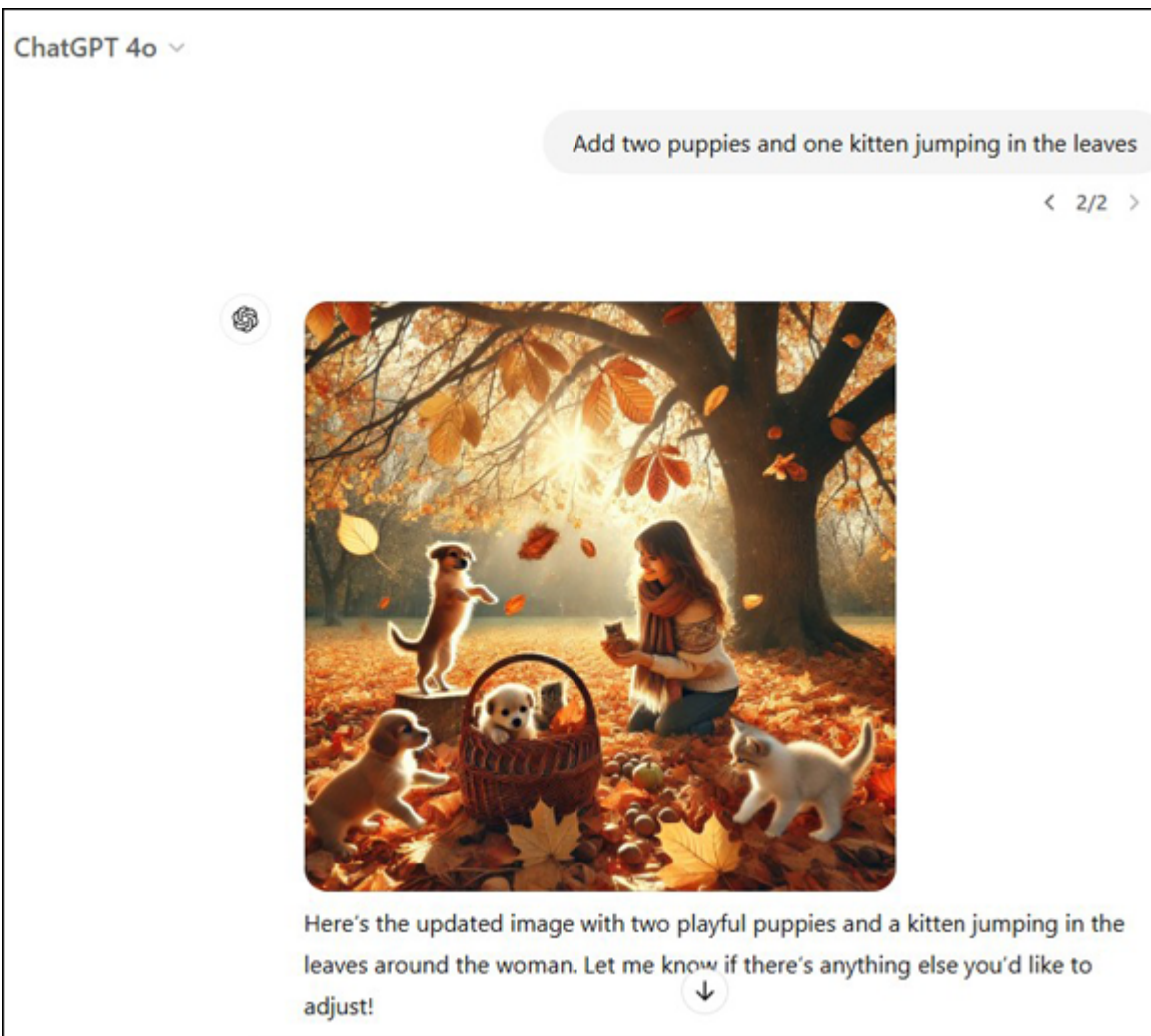
Generated with AI in ChatGPT

FIGURE 12-4: Adding additional elements to the image prompt.

There's a lot of work going on in the AI industry now to find a way to identify the cause of errors like the one that rendered an extra puppy and kitten. Specifically, scientists are working on two approaches to resolve this issue: The first centers on interpretability (which means understanding how AI works before it makes errors) and the other focuses on explainability (which means the AI provides an explanation of its decision-making processes after it makes said decision).

Until a solution is found, you're stuck with correcting output errors like extra puppies by writing more prompts. To that end, here's the next prompt I gave it.

Third prompt: Why did you add a third puppy to the image?

The ChatGPT-4o response: "It looks like the AI added an extra puppy even though you only requested two! Sometimes, when interpreting scene descriptions, minor variations like this can happen. If you'd like, I can make another attempt with exactly two puppies and one kitten to get closer to your vision."

ChatGPT appears to be blaming DALL-E for this error in this part of its response: "It looks like the AI added an extra puppy…" But it could be blaming its underlying model — GPT 4o — instead. It's hard to tell what it means by that statement which brings us full circle back to the bigger AI explainability issue.

Example 2: GPT Logo Creator

Now consider and compare similar work in a GPT from the GPT Store inside of ChatGPT. By clicking on the Explore GPTs button near the top of the sidebar on the ChatGPT, your GPT options are revealed. GPTs are smaller, typically customized versions of ChatGPT tailored for specific tasks. Image Generator, Canva, Image Generator Pro, and Logo Creator are trending in this list. Image Generator and Image Generator Pro specialize in creating art and photorealistic images, whereas Logo Creator and Canva are customized to produce graphic design works.

I chose the GPT called Logo Creator, shown in Figure 12-5, by clicking on it. It appears on the ChatGPT UI once selected.
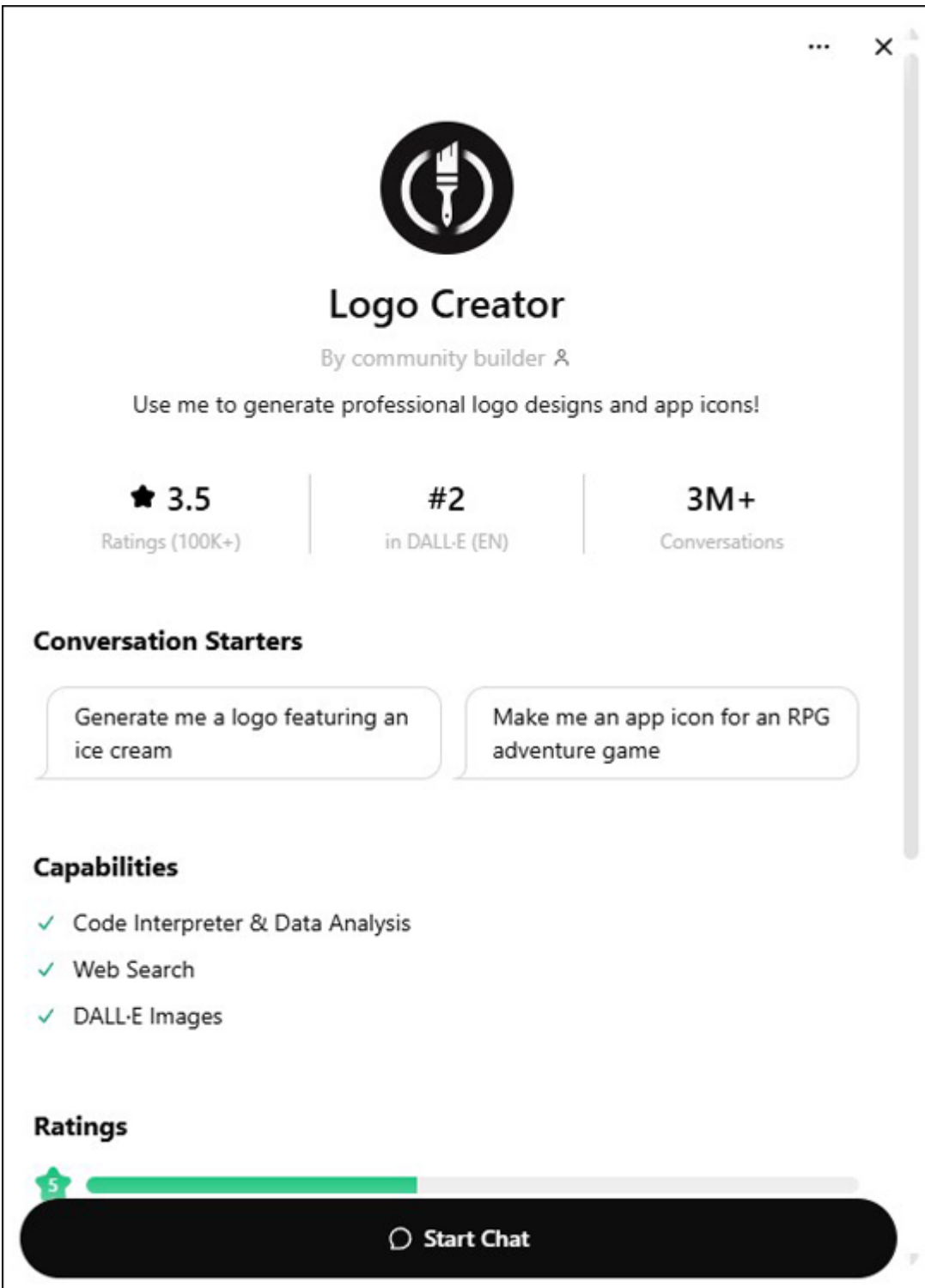
Generated with AI in ChatGPT

FIGURE 12-5: Logo Creator is one of many GPTs in the ChatGPT GPT store. It works within ChatGPT.

First Prompt: Make a logo for a content producer who specializes in using AI to create content of all types.

GPT Logo Creator response: "To create a suitable logo for a content producer specializing in AI-powered content creation, I'd like to know a few more details to align the design with your preferences:

How complex should the logo be on a scale of 1 to 10? (Default = 3)

1 = extremely clean and simple

10 = extremely detailed and complex

What color palette do you prefer for the logo? Here are a few suggestions based on your AI-focused theme:

A. Tech-inspired palette: Deep blues, silver, and accents of electric blue or neon green

B. Futuristic monochrome: Grayscale with subtle accents of turquoise or royal purple

C. Vibrant and modern: Gradient mix of coral, turquoise, and purple tones

Let me know your preferences, and I'll start designing!

Second prompt: "1B"

The GPT Logo Creator response is shown in Figure 12-6.

Third prompt: Change the name to "Pam Baker" and the title to "AI Content Producer."

The Logo Creator GPT response is shown in Figure 12-7. Note that the AI misspelled "producer."

This misspelling is yet another example of why you need to always check the work from ChatGPT or any other AI model. It's also a good example of why you need to use other software to polish ChatGPT responses. Take a look at the prompt and response below to see what happened when I prompted the GPT Logo Creator to correct the spelling error.

Third prompt: "The word "producer" is misspelled in that image. Correct that please."
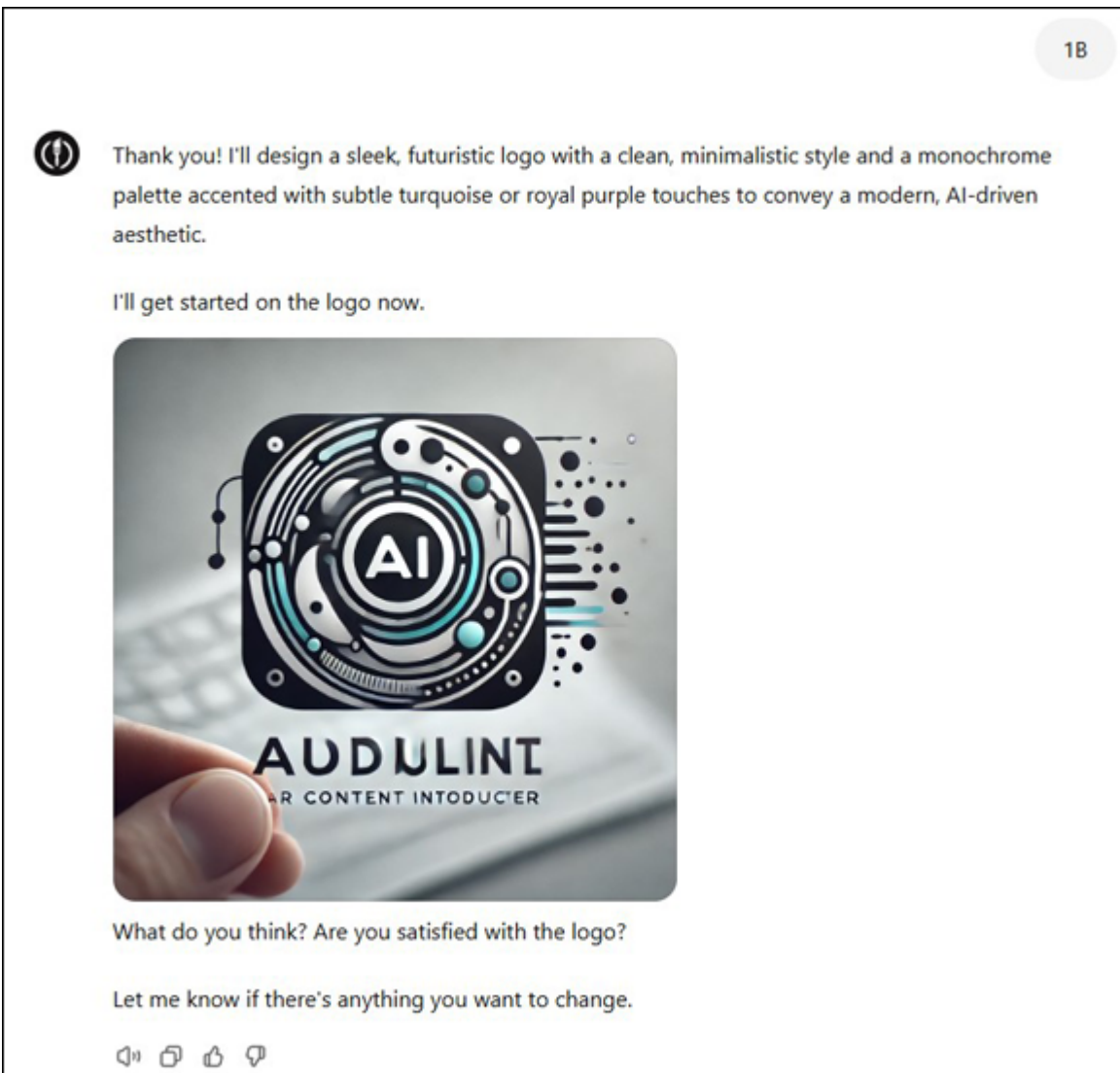
Generated with AI in ChatGPT

FIGURE 12-6: A logo created using Logo Creator based on the prompt.
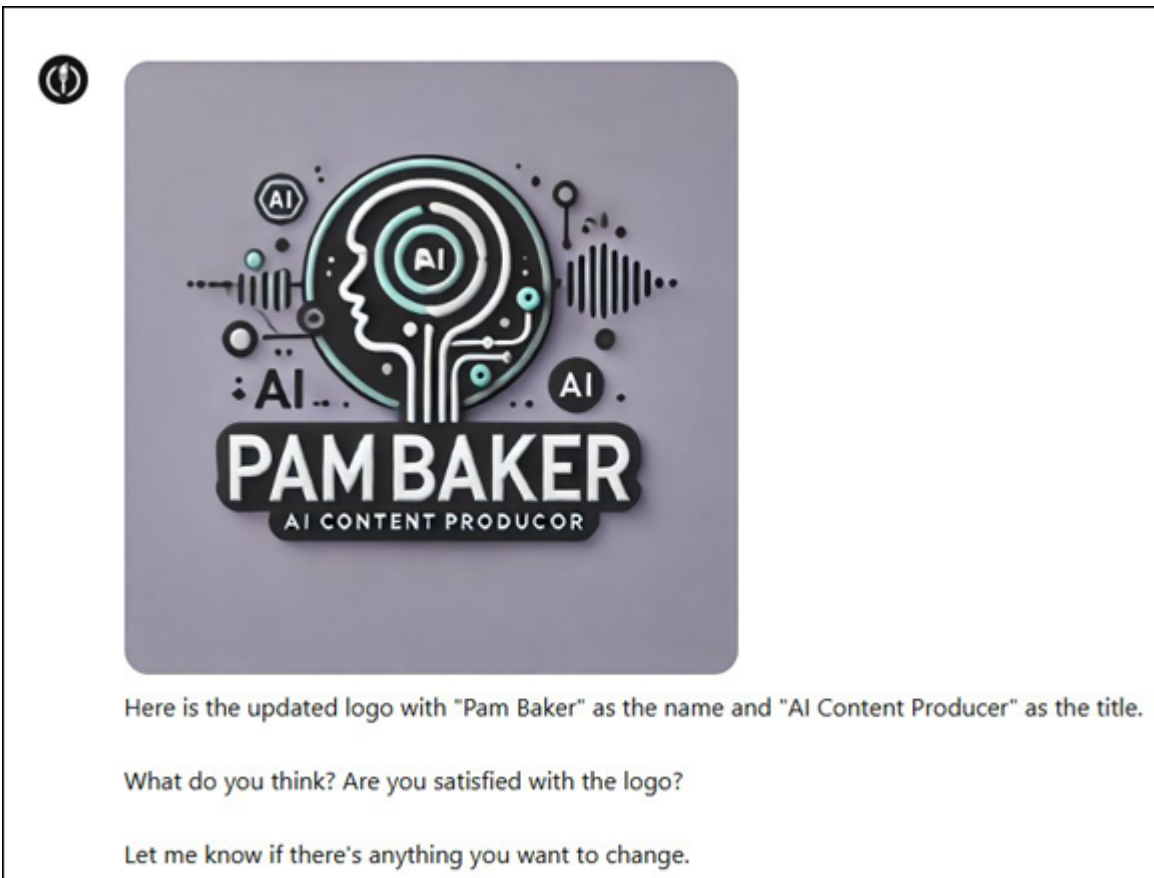
Generated with AI in ChatGPT

FIGURE 12-7: The author's name and title are added to the logo in response to the prompt.

Logo Creator GPT response: "It seems I'm unable to make the correction at the moment due to technical limitations with my image generation tool. I recommend downloading the current logo and manually editing the text in a graphic design tool like Adobe Illustrator, Canva, or Figma. If you'd like, I can provide further suggestions on how to do so or assist in another way. Let me know!"

Sometimes when you get a response from the AI saying it can't do something you can prompt it to retry and the AI will then complete the task. But not this time. Here's what happened next.

Fourth prompt: "Try again."

Logo Creator GPT response: "Let me attempt to regenerate the logo with the corrected spelling. One moment, please.

Unfortunately, I'm unable to correct the spelling on the logo image at this time due to technical limitations. However, you can easily make this adjustment using graphic design software. If you'd like, I can guide you through editing the image with tools like Canva, Figma, or Adobe Illustrator, or I can help brainstorm another approach. Let me know how you'd like to proceed!"

◀)) If you prefer to hear rather than read a GPT response, click on the speaker icon below the response, the icon you see in the margin.

Example 3: ChatGPT with Canvas

Finally, consider and compare similar work in ChatGPT with Canvas. One note of caution: Don't confuse the GPT in the GPT Store called Canva with the with the Canvas interface embedded in ChatGPT. Canva is a mini GPT that is specialized for certain design-related tasks; Canvas is an interface inside of ChatGPT that enables enhanced computer coding and data visualization capabilities.

First prompt: Give me a couple examples of data visualizations that you can make.

ChatGPT with Canvas response: "Here are a couple of examples of data visualizations I can create:

Bar Chart: To show the comparison between different categories, like sales performance across different regions, monthly expenses, or survey responses.

Line Graph: Perfect for visualizing trends over time, such as tracking stock prices, temperature changes, or monthly growth rates.

If you'd like more specific examples or want to see one in action, just let me know!"

Second prompt: Let me see both please.

The ChatGPT with Canvas response is shown in Figure 12-8.

Sales Performance Across Different Regions

Monthly Growth Rates Over A Year

Monthly Growth Rates Over a Year

Here are both examples:

1. A **bar chart** showing sales performance across different regions.

2. A **line graph** visualizing monthly growth rates over a year.

If you need any other types of charts or want to explore these data further, feel free to ask! [>_]
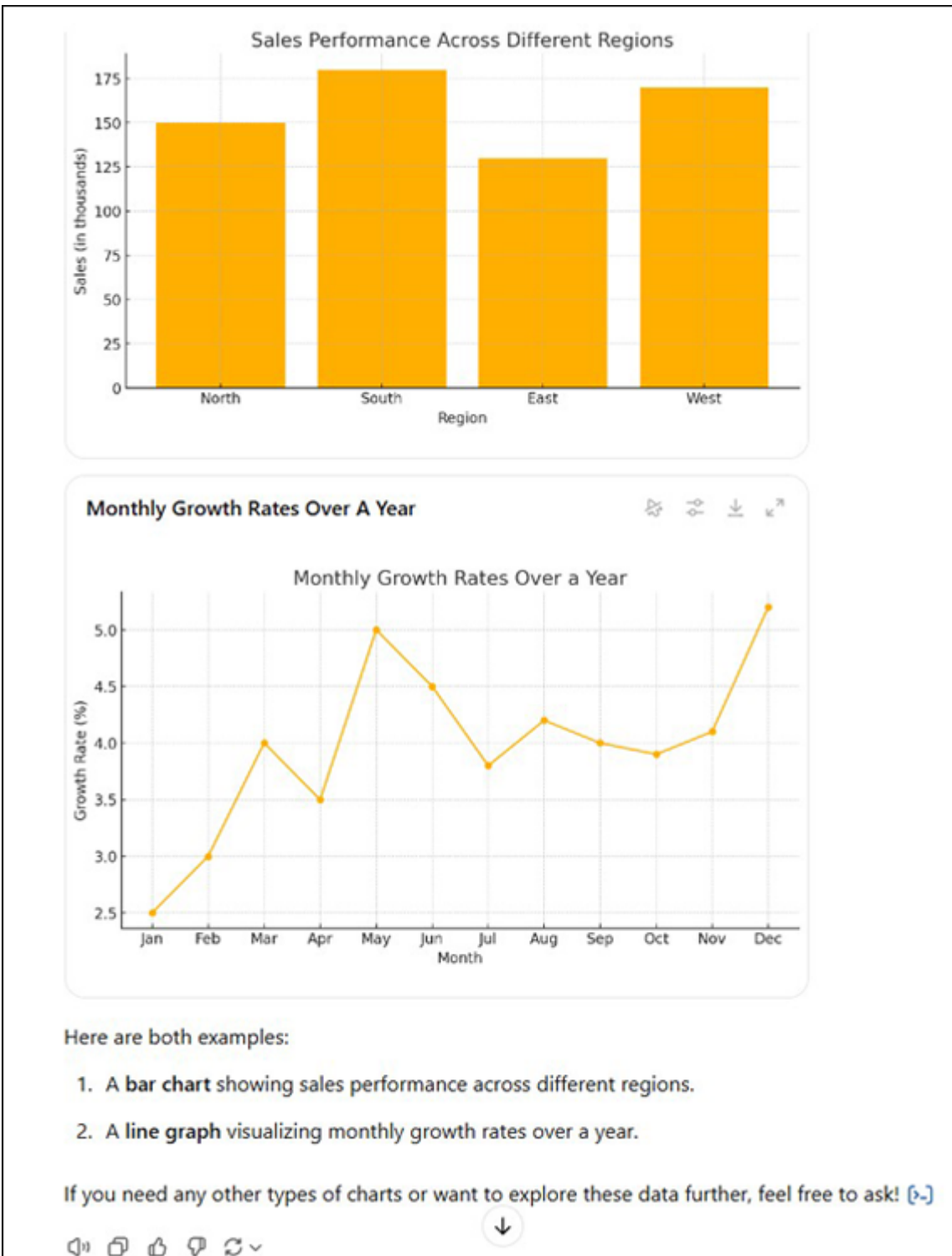
Generated with AI in ChatGPT

FIGURE 12-8: ChatGPT with Canvas can produce design-related tasks with options like charts and graphs.

Hopefully this overview comparison makes it easier to understand the basic differences in image capabilities and specialties between the models and options in ChatGPT. Finding the sweet spot means identifying the best option in terms of meeting your project's requirements and your creative ability. Yes, anyone can use these models, but make no mistake: The quality and aesthetic appeal are determined by the user's own talent and creative vision.

Transferring Your Talent to Prompts

Creating prompts to reflect your unique creative vision accurately to ChatGPT requires that you're able to put that vision into clear and vivid words. For most people, that's easier said than done. And yes, it's a particularly challenging exercise when it comes to creating artistic images when words are all you have to work with.

I suggest you begin by sitting quietly and focusing on finding as many details in your creative vision as you can identify in your mind's eye. One by one, map out the details on paper or in an electronic document. It doesn't matter where or how you record the details, only that you do. Now study the broader concept and the details you've identified so far. Make any adjustments, refinements, or additions and deletions you want to.

If this process reminds you of making an art study — a practice piece — like you see in Figure 12-9, you have the right idea. There are more ways to create a study now. Two obvious choices are to sketch it in the traditional manner or create it in ChatGPT before you attempt to create a finished piece.
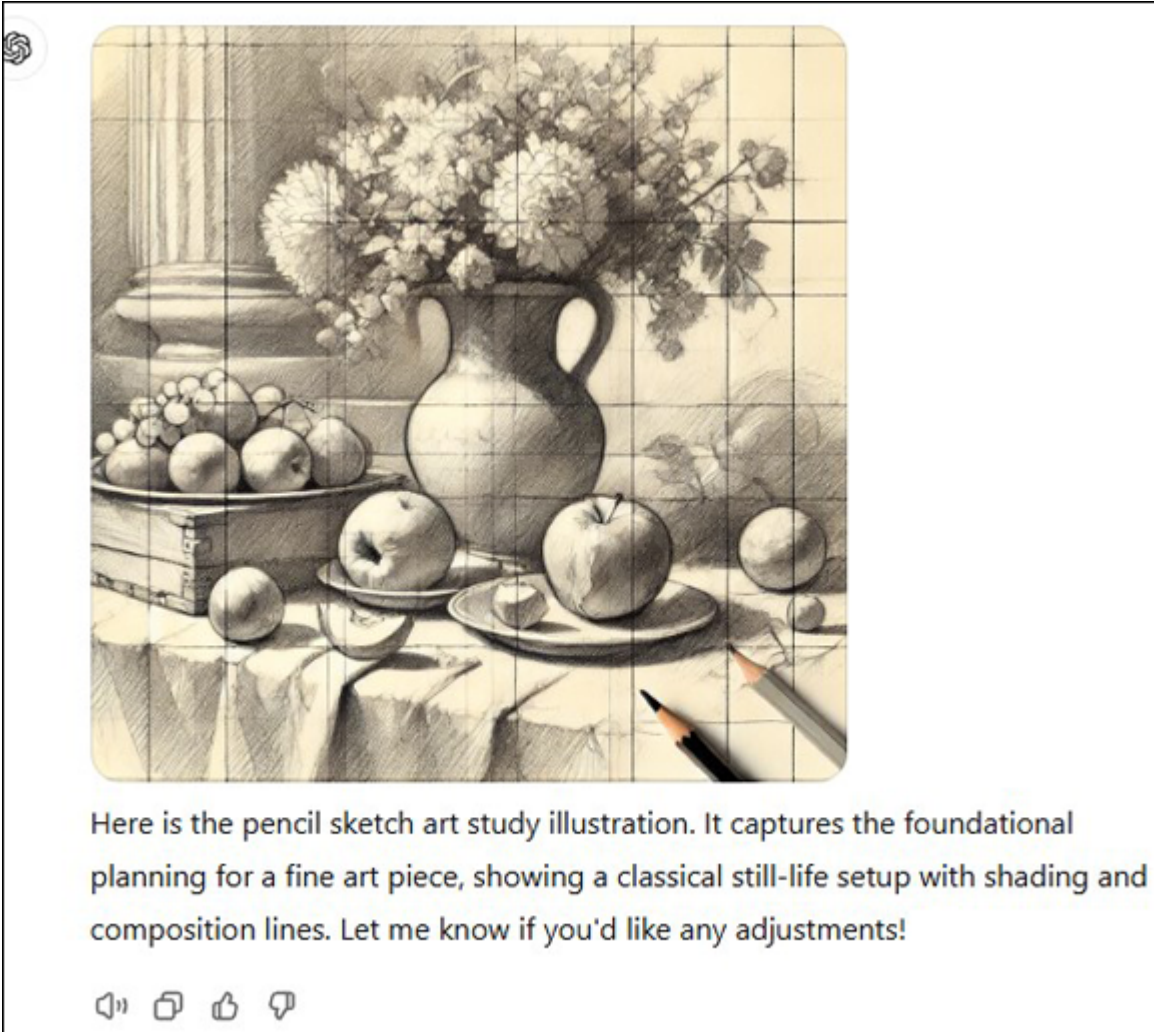
Here is the pencil sketch art study illustration. It captures the foundational planning for a fine art piece, showing a classical still-life setup with shading and composition lines. Let me know if you'd like any adjustments!

Generated with AI in ChatGPT

FIGURE 12-9: An art study created by ChatGPT 4o.

TIP If you manually sketch a study, you can take a picture of it with your phone camera and attach the picture to the prompt with the file paper clip icon on the prompt bar. ChatGPT can work with information in pictures, so your typed prompt need not repeat that information. You can do the same with screenshots if you make your study in a computer program.

However you choose to make your art study —, by hand, in an art program, or by prompting ChatGPT — you'll have to eventually use words to create the finished piece.

You can, of course, opt to create your art on a whim in ChatGPT without creating a plan or study first and refining the image as you go in a series of prompts. There's nothing wrong with taking that approach. In fact, it may be a preferred approach by some artists. That's a decision for you only. Either way, you'll have to translate your concept or vision of the image into words for a prompt. Now you're back at square one.

Following is a guide to help you infuse your talent and translate your creative vision into prompts. This guide is meant to introduce you to a process; it's not the gospel. Feel free to adapt it to fit your own creative process, be that for fine art, graphic novels, storyboarding, gaming scenes, political cartoons, or any other creative imagery. For now, step in and test the water. Then make changes as you see fit.

1. **Paint the picture with your words.** Think about the essence of what you want to convey. Make a study if you want. Imagine the scene, the characters, the emotions, and the atmosphere. Be sure to include sensory details and emotions in your written description of your image. If you want to double-check your work, ignore your vision long enough to create a quick sketch from your verbal description of it. Does the image you drew manually or in ChatGPT match what you intended the image to be?

2. **Color in the lines of a basic prompt.** You could prompt "Describe a forest." Although that's a straightforward prompt, it lacks the depth needed to capture your unique vision. Instead, try something like: "Imagine a tranquil forest at dawn, where the first rays of sunlight filter through the dense canopy, casting a golden glow on the dew-kissed leaves. The air is filled with the soft rustle of leaves and the distant melody of a brook, creating a symphony of nature's serenity." Here, you've set a specific time of day, described the light, included sensory details, and evoked a mood, all of which guide ChatGPT to generate a more vivid and tailored response.

If you are dismayed because you can't imagine yourself writing a prompt like a poet to get the image you seek, don't worry. You can list the aspects like mood, lighting, emotion, and so forth instead.

3. **Add dialogue for storyboard and graphic novel images.** Adding dialogue to a prompt either as background information or to be included in the image can help steer ChatGPT outputs toward the images you seek. By setting the scene and the emotional undertones, you guide ChatGPT to create a more nuanced and meaningful image for your storyboard or graphic novel.

4. **Include specific stylistic elements.** If you have a particular art style in mind, mention it explicitly. For example, if you're inspired by the whimsical tone of a fairy tale, you might prompt: "Create an image in the style of a classic fairy tale, where a brave young girl ventures into an enchanted forest to rescue her village from a mischievous sprite. The image should be filled with magical creatures, unexpected twists, and a heartwarming atmosphere." This not only sets the visual framework but also aligns the tone and style with your artistic vision.

5. **Pay attention to character development.** If you're creating a character, think about their background, personality, and motivations. Instead of a generic prompt like, "Create the image of a hero," you could say: "Create an image of a hero who is a reluctant warrior, haunted by past battles, yet driven by an unyielding sense of justice. He carries a weathered sword and wears a cloak that hides his scarred face, his eyes reflecting both sorrow and determination." This level of detail helps generate a better and more appropriate character image than a generic rendering.

The key to infusing your talent into prompts is to be as descriptive and specific as possible, while also leaving room for ChatGPT to fill in the blanks.

Learning Your Options in Charts, Infographics, and Other Data Visualizations

ChatGPT can help with generating charts, infographics, and other data visualizations either in writing a prompt for you to use for image generation in third-party software, within third-party software where ChatGPT is embedded or integrated, or by generating images itself. It's important to understand that ChatGPT has limitations in this regard, although those are likely to improve over time.

The first thing you need to consider are your options in generating these types of images in ChatGPT. Essentially there are two options. The first option is to prompt ChatGPT for charts or other data visualizations which will automatically trigger Canvas to open. The second option is to use ChatGPT-4o and then select a GPT like Canva and prompt it for infographics, posters, and other types of visuals. Remember from Chapter 1 that a GPT is a customized version of ChatGPT tailored for a specific task. A ChatGPT plugin isn't the same thing as a GPT because a plugin integrates third-party tools directly into ChatGPT so you can use them without leaving the ChatGPT interface. You trigger plugin connections when a GPT automatically asks you for permission to connect to its full version to complete certain tasks required by your prompt. First consider what charts and related images can be generated in the ChatGPT Plus subscription version or above.

This is the prompt I used in this demonstration: "Create a chart comparing population growth in the 5 biggest cities of the world."

ChatGPT-4o automatically switched to ChatGPT-1o with Canvas. The response is shown in Figure 12-10.

Generated with AI in ChatGPT

FIGURE 12-10: ChatGPT 4o switched to ChatGPT with Canvas to fulfill the prompt request.

If you roll over the tiny chart at the top right of ChatGPT's response, you can click on Visual Search, which reveals ChatGPT's sources on the web for this response, as seen in Figure 12-11.

I've found ChatGPT with Canvas to be useful in most charting and data visualization tasks. It will likely continue to improve over time.
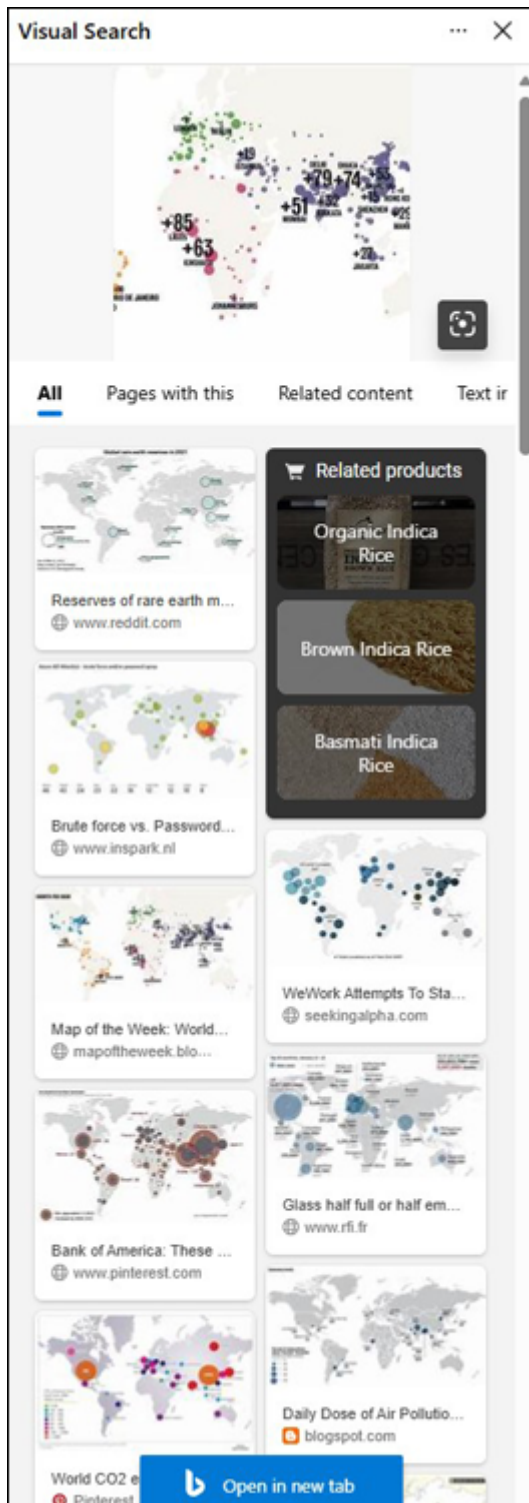
Generated with AI in ChatGPT

FIGURE 12-11: After rolling over the tiny chart at the top of the ChatGPT response, visual search is revealed showing its sources.

There's another way to use ChatGPT to make charts and other data visualizations. Attach a spreadsheet or document containing data you want analyzed by clicking on the paper clip icon on the bottom left of the prompt bar. You can even attach a photo of some data source, such as pages from a book, a paper spreadsheet, or pages from a corporate annual report, for example. Then prompt ChatGPT to analyze or represent the data in a narrative, data visualizations, or both.

Using a GPT, which you recall is just another form of ChatGPT that's been specialized to perform a specific task, is another option. To get access to a GPT, click on the Explore GPTs button near the top of the sidebar on the right side of the ChatGPT UI. Scroll down to view available GPTs and their descriptions, and click on one to select it. For demonstration purposes here, I selected the Canva GPT. Figure 12-12 shows the Canva UI within the ChatGPT UI and the first prompt I used to generate a poster advertising a sale on kids' coats at a fictional store.

The Canva GPT immediately asked for permission to connect with the Canva plugin for ChatGPT. The information it disclosed will be shared with the plugin, as seen in Figure 12-13.

FIGURE 12-12: The prompt used to create an advertising poster using Canva.

FIGURE 12-13: Canva GPT automatically requests permission to connect with the full version of Canva via a plugin in ChatGPT. GPTs ask for permissions like this when your prompt calls for more than the smaller version can deliver.

I chose the Allow option. The response contained four other poster design options, which aren't shown. Edits to colors, text, and other elements in any or all these posters can be done in follow-up or iterative prompts.

In another example using Canva, I prompted the GPT to make an infographic for me. Because I only gave it permission to access and use the Canva plugin for ChatGPT once, it asked for permission again. If you use Canva GPT often, you might consider setting the permission to Always. However, first investigate security issues that are common to using plugins.

In any case, Figure 12-14 shows part of the off-point response I got from my prompt: "Make an infographic about what the 5 most populated cities in the world are best known for."
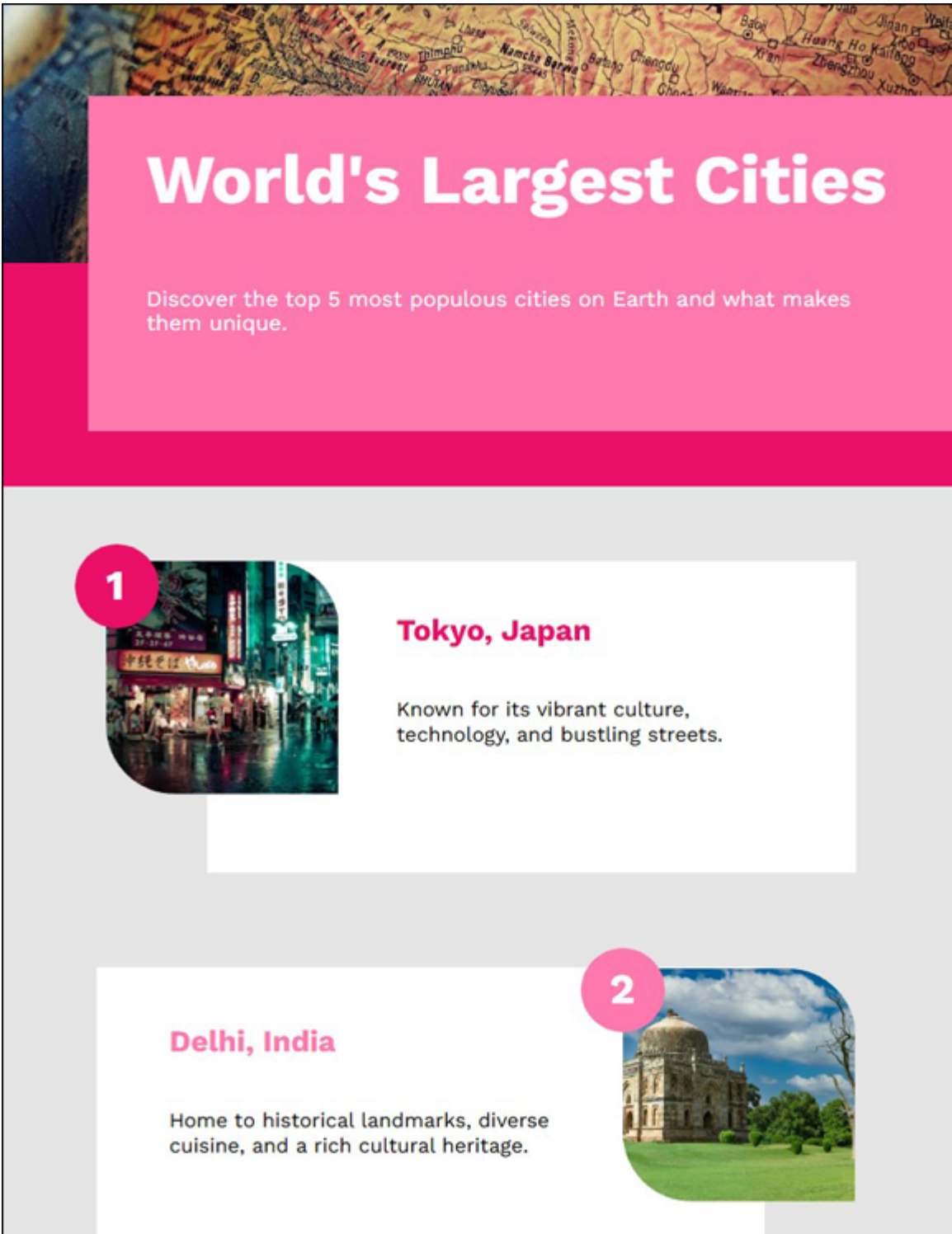
FIGURE 12-14: Canva doesn't always understand what type of infographic to make. This example is clearly off the mark from the prompt's directions.

The response contained five templates and ended with this message "Feel free to personalize each section with the cities'

unique highlights!" Next, I went back to the general ChatGPT UI (in other words, I left the Canva GPT) to get it to write a better prompt for the GPT so I could have a completed infographic rather than just a selection of templates.

Here's my prompt to the general ChatGPT: "Write a prompt that I can use to instruct Canva to generate a completed infographic about what the 5 most populated cities in the world are best known for. Include the data points for the 5 cities."

And here is ChatGPT's response, which I copied and used as the prompt in the Canva GPT:

Here's a prompt you can use for Canva:

_____

Create an infographic titled "Top 5 Most Populated Cities and What They're Famous For."

Include the following data points:

1. **Tokyo, Japan** — Population: ~37.4 million
   - Known for: Technology, Cherry Blossoms, Sushi, and Bustling Nightlife.

2. **Delhi, India** — Population: ~32.9 million
   - Known for: Historical Monuments (e.g., Red Fort), Rich Culture, Street Food, and Diverse Markets.

3. **Shanghai, China** — Population: ~29.2 million
   - Known for: The Bund Waterfront, Skyscrapers, Traditional Gardens, and Financial Hub.

4. **São Paulo, Brazil** — Population: ~22.6 million
   - Known for: Vibrant Art Scene, Carnival, Coffee Culture, and Business Districts.

5. **Mexico City, Mexico** — Population: ~22.3 million
   - Known for: Aztec Ruins, Museums (e.g., Frida Kahlo Museum), Culinary Scene, and Colorful Markets.

Make the infographic visually engaging with a distinct icon or image that represents what each city is best known for, and use vibrant colors to highlight each city's uniqueness. Ensure the layout is easy to follow, with each city having its own section and clearly labeled data points.

This prompt gives Canva all the essential details it needs to generate an effective infographic. Would you like any adjustments to focus on particular visual styles or themes?

Canva then rendered two responses, as you see in Figure 12-15. Unfortunately, it rendered only templates again.
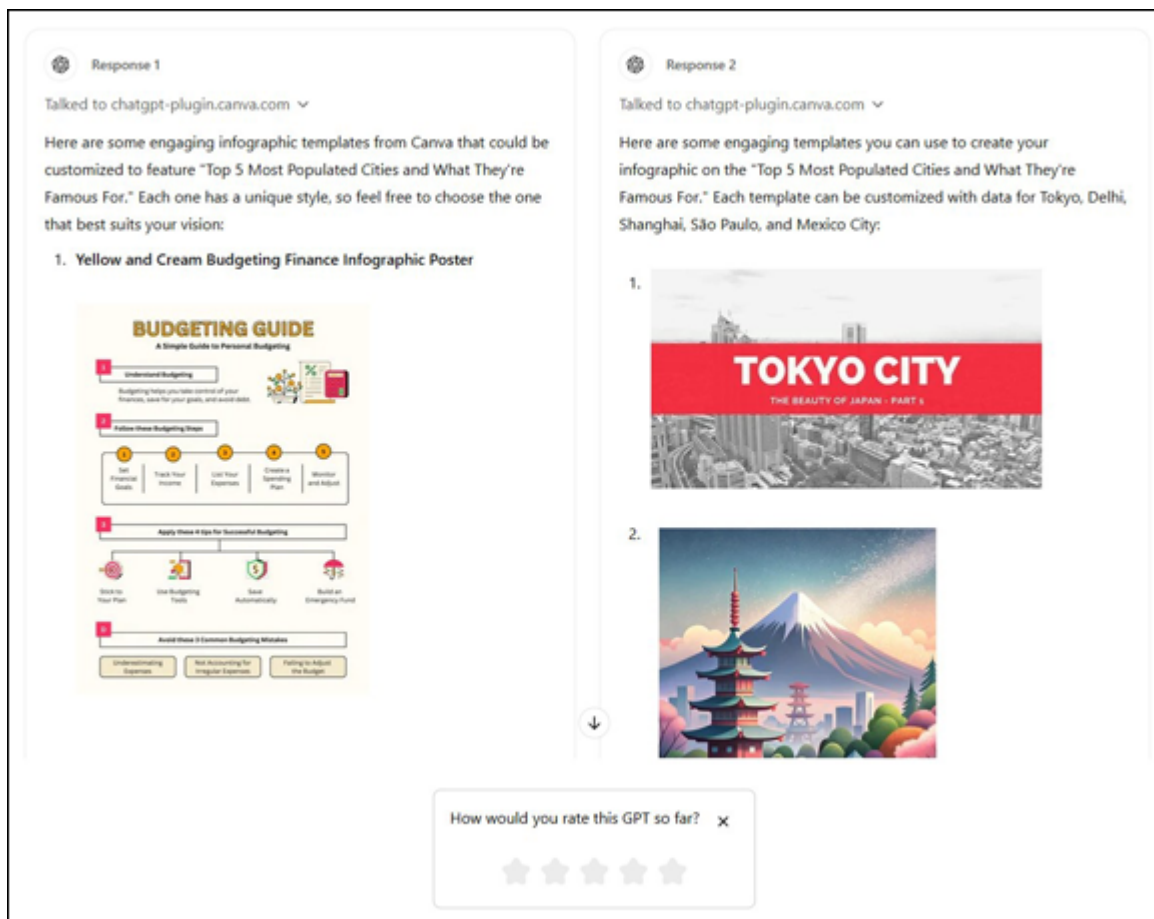
Generated with AI in ChatGPT

FIGURE 12-15: The first two responses to the ChatGPT written prompt for Canva rendered two blank infographic templates instead of a completed infographic.

Feel free to try GPTs for yourself. Meanwhile, for comparison's sake, Figure 12-16 is part of an infographic I generated with

Piktochart's AI using only this as the prompt: "Create an infographic titled "Top 5 Most Populated Cities and What They're Famous For.""

Further, consider that you also have the option in Piktochart to create the same infographic by editing one of its many infographic templates without using its AI feature. Essentially, Canva in ChatGPT produced only templates for me to edit instead of composing an infographic as prompted. But I could have achieved that in the Piktochart app without bothering to write prompts and use the AI within it. My point here is that sometimes a traditional app built for the specific purpose you require works better than using ChatGPT or one of its AI competitors. Also, embedded AI features, like Picktochart's AI, can sometimes vastly outperform general GenAI tools like ChatGPT because they've been trained to perform the same purpose as the app. In other words, they're a better fit for the task. Experiment with different apps and AI tools to find which you prefer for the tasks you have.

Generated with AI in Piktochart

FIGURE 12-16: Piktochart's AI Visual Generator did a better job creating a complete infographic than Canva in ChatGPT did. This is part of the infographic made by Picktograph.

Chapter 13

Writing and Editing with ChatGPT

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IN THIS CHAPTER

» **Learning how to write long-form versus short-form content**

» **Mastering fact-checking**

» **Prompting with purpose**

» **Creating long-form content with chunk writing**

» **Chatting in threads**

....

This chapter explores the ins and outs of using ChatGPT for writing and editing. It covers key tactics and techniques on things to include in prompts, how to write long-form content versus short-form content, how to get ChatGPT to divulge its sources, and how to fact-check and edit.

Understanding Why ChatGPT-only–Generated Works Usually Don't Sell

Before you dive into the important concepts, key features, and techniques in producing great content, it's imperative to understand why works generated solely by ChatGPT, or a similar AI tool, usually don't sell well — if at all. By first understanding what the problem is, you can avoid making similar mistakes with your work.

In short, ChatGPT-generated works without any creative and refining input from at least one person tend to look, sound, and feel contrived. On the occasion that they do resonate broadly with people, the outputs often are, or are bordering upon, copying the same or similar work done earlier by someone else.

People can intuitively and instantly detect the absence or presence of human touch in almost anything. That ability is why, upon exploring an undiscovered cave or taking in the view of a pristine snow-covered forest, you feel wonder or dread. The absence of other people strikes a chord deep in your being. It's that same ability that immediately detects the "it" factor that's responsible for a resounding success — be that a superstar actor, a deeply moving painting or piece of music, or a message in an ad that elicits wide and positive responses in each demographic. The "it" factor springs eternal from the human well of experiences, ideas, and emotions. ChatGPT and similar tools don't have the "it" factor, they don't understand it, and they don't copy it well.

GenAI tools like ChatGPT will get better at rendering increasingly astonishing outputs. And some people will be fooled by them. Indeed, some people are fooled now. Take the success of deepfake political videos and audio that surround elections worldwide. But I'll remind you that those deepfake threats are prompted, shaped, and weaponized by people who mean to do harm. And I'd argue that it's their human touch — malignant in this case, but still human — that ultimately makes these deepfakes ring true to other people.

But that's not to say that ChatGPT and its kind are incapable of producing content that can fool people on their own. These tools can certainly do that, and they do it often. Such events tend to be more basic in terms of content and form than the more elaborate deepfakes that people make. And AI hallucinations are easily preventable, unlike deepfakes. Hallucinations get through to the public when there's no human oversight over the content before it's released.

Take, for example, the fake Halloween parade that was recently imagined and promoted by an AI used to generate copy — without human supervision — for the `MySpiritHalloween.com` website. The AI provided all the details and enticed a crowd to form in Dublin. Nazir Ali, the owner of the website, admitted AI use on the website in an interview with The *New York Times* and gave assurances the incident wasn't a scam but an error. His efforts to harness AI efficiency led him to publicly state, "We were very embarrassed" that it happened. But the website owners were embarrassed not only in front of their customers and all of Dublin, but worldwide too as media headlines everywhere spread their shame. Figure 13-1 is a headline on a story in *People* magazine about the incident. Media around the world had similar headlines.
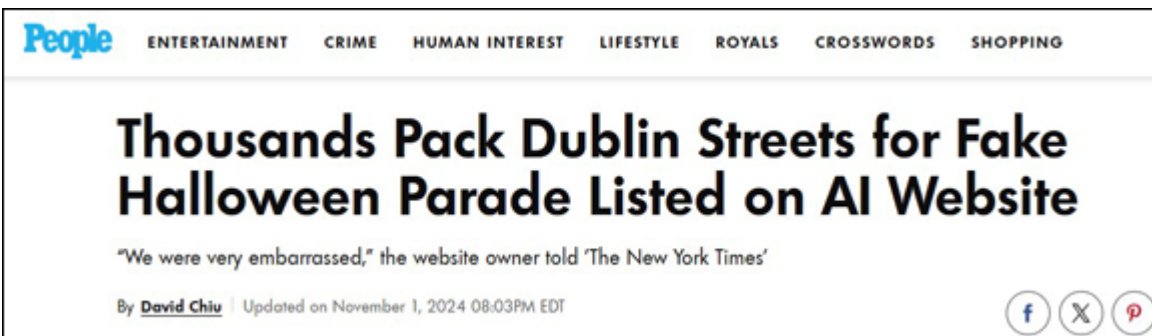
FIGURE 13-1: A headline from *People* magazine about an AI-manufactured blunder.

The moral of this section is that, in general, content generated by ChatGPT and perfected by human oversight or interaction performs better than content generated and used "as is" straight from the machine's mouth, so to speak. And that's true whether you mean good or harm with the content you're creating in ChatGPT.

Learning How to Write Great Content with ChatGPT

This section covers the things you need to consider and do to create great content with ChatGPT. Although it does touch on

prompting, this section doesn't repeat the detailed information on how to prompt that's covered in <u>Chapters 4</u>, <u>5</u>, and <u>6</u>. Instead, you learn here how to apply prompts within the greater scope of creating your project.

Remember that having the right mindset about ChatGPT and similar AI tools is essential to getting the quality of work you seek. So I'll start this section with an analogy that I often used in my speeches on GenAI and in my LinkedIn Learning courses:

> *"AI is a tool, like a hammer. Some people love to use a hammer, some hate to, and some fear using it, while others can't imagine why anyone needs to hit anything and declare the hammer is useless."*

The point is that how you feel about ChatGPT affects your level of success in using it. If you think it's smarter than you, you're going to become overly — perhaps dangerously — dependent on it. If you think you're talking to a machine, you can't see that you're actually summoning a data remix.

If you're afraid of AI and avoid it, the consequence will be the very thing you feared. You can't get work, and you can't function in a world built around AI. If you don't fear it, you're a fool because AI can hurt you in ways both known and unknown.

But it's only a tool, so approach it as such. Take safety measures, learn to use it skillfully, and then go create things in the world with gusto.

Using ChatGPT Search extension for Chrome

Search engines and browsers are undergoing serious remakes these days in the rush to add or build upon AI capabilities. For example (as of this writing, and subject to change over time), Microsoft Edge's AI has Copilot, whereas Perplexity AI relies on several AI models, including GPT-4 Omni, Claude 3.5 Sonnet and Haiku, Sonar Large, Grok-2, and Perplexity's own custom models.

Google's search engine is powered by several AI technologies, but the lineup includes Gemini, which is Google's most powerful GenAI model.

Browser extensions are popping up too, to pull various GenAI tools forward so you can work with them without having to go to a dedicated website first. ChatGPT Search extension for the Chrome browser is a prime example.

The extension gives you access to the model's assistance without leaving the web page you're currently on. This is useful for quick answers to questions you have while working or shopping on a website or in producing briefs or summaries, looking up information while reading articles, doing research, or even during online learning courses. Think of it as a convenient tool you can use to write a quick email, make notes, draft content, or extract data for your report online as you go from one source website to another.

While the ChatGPT Search extension is primarily designed for Chrome, similar extensions may be available for other Chromium-based browsers like Microsoft Edge, Brave, and Opera because these browsers support Chrome extensions. However, for browsers like Firefox and Safari, this extension won't work directly, although there may be third-party alternatives that offer similar functionality.

ChatGPT Search Chrome extension is best on Chrome or Chromium-based browsers, but users of other browsers may find equivalent options or workarounds.

The extension integrates ChatGPT's chatbot capabilities, but it may not always include live web links in responses unless you specifically enable web access. Alternately, you can set ChatGPT as a custom search engine in Chrome. Go to your settings in Chrome and navigate to the search engines. Then follow the prompts to add ChatGPT as a custom search engine. If you need more detailed instructions, you can prompt ChatGPT at its own website (chatgpt.com) for a quick guide. I direct you to prompt ChatGPT directly instead of giving you all the steps here because

this setup doesn't give ChatGPT direct search integration, and you may need to upgrade your subscription plan in ChatGPT to make it work. You'll need to be subscribed to a plan with browsing capabilities and enable web browsing to pull live information from the internet.

If you choose to add the extension or ChatGPT as a custom search engine, always remember to fact-check those responses thoroughly and outside of ChatGPT and GPT models. In my opinion, if you use ChatGPT exclusively as a search engine, you're making a grave mistake. But that doesn't mean you should avoid it entirely. Using ChatGPT wisely as an extension or custom search engine, you can do some types of work a bit faster and more seamlessly.

Weighing short-form versus long-form differences

ChatGPT handles most short-form content well. By short form, I mean content that is no more than 1,500 words long. ChatGPT's a great tool for quickly writing emails, social media posts, advertising copy, blog posts, product fact sheets, short ebooks, outlines, and other tasks where neither the prompt nor the response is overly long.

Long-form content, however, requires a different approach. You may have heard about or read my recent book, *Generative AI For Dummies,* which I think is the first (or at least one of the first) books to be professionally produced with the assistance of generative AI by a best-selling author in collaboration with a premier publishing house. You might want to check it out, if you haven't already, to see what you think of the results. In any case, what I share with you here regarding producing long content with ChatGPT comes from direct, hands-on experience and not from a lofty, academic take on the matter.

Be forewarned that you can't just prompt ChatGPT to produce an entire book and call it done. The response that such a prompt pulls from ChatGPT is a truly awful spectacle to behold. It's

breathtakingly horrible in terms of readability, understandability, and storytelling standards. And yet, several editors at leading publishing houses tell me they're swamped with these literary abominations on a regular basis by people who think they can become rich and famous at the push of a button or a click of a mouse. Keep in mind that it doesn't work like that. ChatGPT won't and can't write a book of any quality for you. But you can write a high-quality book using ChatGPT if you pour your own talent and effort into it. To do so requires you to create the work and use ChatGPT only in a junior-level support position.

Once you understand that, from the moment you jump in, you're going to have to swim hard to the other shore or drown in the attempt, you're ready to write a book — with or without using ChatGPT. It's a marathon swim either way, but it's faster and a bit easier with ChatGPT than without it.

To overcome long-form content issues and get ChatGPT to perform at its finest, you'll want to use several techniques and tactics discussed in the sections that follow, along with more than one prompting strategy from Chapters 4, 5, and 6. Pay special attention to the section "Creating content with chunk writing" because that's the most productive way to produce higher quality long-form writing in ChatGPT.

For now, consider Figure 13-2 on the primary differences in writing long-form content and short-form content so that you can see how your prompts and strategies must be aligned from the start to get the responses you seek at the end. The differences primarily lie in the goals, audience expectations, structure, and depth each type demands.

Long Vs Short Comparison

Comparison of Long-form vs. Short-form Content with ChatGPT

Aspect	Long-form Content	Short-form Content
Depth and Detail	Requires in-depth exploration of topics with elaboration and multiple supporting points.	Needs to be concise while conveying core ideas effectively.
Structure and Flow	Needs a clear structure (introduction, body, conclusion) with smooth transitions.	Focuses on impactful, standalone statements. Minimal structure.
Audience Engagement	Uses anecdotes, examples, and arguments to maintain engagement.	Relies on hooks or emotional triggers to grab attention quickly.
Editing and Iteration	Iterative drafting to refine arguments, coherence, and flow.	Fast iteration focused on tone, word choice, and clarity.
Tone Consistency	Consistent tone throughout to maintain reader comfort.	Tone must be instantly clear and consistent, often with little room for nuance.
Challenges	Keeping the content focused and avoiding redundancy; maintaining reader interest.	Achieving impact with brevity; ensuring clarity and emotional connection in a few words.

Generated with AI in ChatGPT

FIGURE 13-2: A comparison of short-form and long-form content composed in ChatGPT.

TIP   Keep prompts as short and concise as possible to keep the AI on track, costs down, and/or to avoid bumping into usage limits. Aim for the shortest prompt that still captures all essential details — often in the range of 150–300 words (roughly 100–200 tokens) for moderately complex tasks.

Considering style, audience, and formatting

If you've already determined the goal for your content, the first things you'll need to consider in your content design and prompting strategy are three other elements: style, audience, and formatting. Those three things are important considerations in prompting to guide ChatGPT to deliver responses that are aligned and appropriate for their intended purpose.

Consider how these three elements apply to writing both long-form and short-form content in ChatGPT.

Style refers to the way in which something is written, as opposed to the content or the information within the writing. It includes elements like tone, voice, and language complexity. You may also need content written in adherence to a specific style guide like AP, MLA, Chicago, or one of many others.

Good formatting makes content easier to read and understand. It helps to organize information logically and highlights key points. For short content, such as brief messages or social media posts, bullet points, bold text, and concise sentences may be all the formatting you need to convey the message quickly. An example might be a product announcement that highlights the launch date, availability, and special discounts for early buyers.

For long-form content, such as articles, reports, and essays, using headings, subheadings, paragraphs, and lists can break up the text and make it more navigable. An example might be a structured report that includes sections like Introduction, Background, Methodology, Results, and Conclusion.

Along with formatting, you may need to consider images, video, and audio in the overall content layout and design. If that's the case, you'll likely need to use ChatGPT to write prompts that include size, resolution, and other characteristics so that other tools can produce those elements to fit alongside your text in the finished content piece.

You'll also need to consider the audience in prompting for text or other outputs like images. Different audiences have different needs, preferences, and levels of understanding. For example, industry-specific jargon and detailed explanations are generally acceptable when writing for a technical audience, but not when writing for a general audience.

When writing content, it's important to consider how style, audience, and formatting interact and how to include the right instructions to get ChatGPT to align its responses to these elements.

Directing prompts and outputs with your own talent

To get ChatGPT to generate content in your personal style and voice, start by sharing some of your writing. Providing examples like emails, blog posts, or social media updates helps the model pick up on your tone, word choice, and overall vibe. You can do that by attaching files to the prompt. Click on the paperclip icon on the left at the bottom of the prompt bar, and choose from the dropdown menu which files you want to add. Alternatively, you can add a sample of a paragraph or so as text inside of your prompt. Just be sure to specify that it's a sample of your style in the prompt too.

Alongside the samples, it's helpful to describe what makes your style unique. Whether it's friendly, professional, humorous, or somewhere in between, being explicit about these details helps guide the tone of the ChatGPT response. Mention any preferences for vocabulary or structure as well — whether you like simple, conversational language or something more elaborate and formal. For instance, you might want your emails to be respectful and concise, yet still conversational. Or maybe you like adding a bit of humor, but in a subtle way.

Iteration is also key. Once you get an initial draft from ChatGPT, provide feedback in a later prompt. If the tone is too formal or the humor feels off, mention it. ChatGPT can adjust based on your

notes. Specific phrases or expressions you often use are also worth pointing out. Including things like your preferred sign-off or a common way you introduce topics helps keep the generated content more consistent with your voice.

TIP   Break your usual creative work process or routine into steps and make a prompt of each step. This will help guide ChatGPT to produce more outputs attuned to your style and preferences.

Over time, by interacting and providing corrections, you can refine the output to better align with your personal style. Each tweak brings it closer to capturing the essence of your voice.

But keep in mind that ChatGPT will remember none of this when you start a new thread. If you want ChatGPT to remember your style preferences, add them to Custom Instructions or Customize ChatGPT, both of which are explained in Chapter 7 under the subheading "Manipulating memory in ChatGPT."

Creating content with chunk writing

Chunk writing is a technique for writing long-form content in ChatGPT. It's exactly what it sounds like. You write in short chunks that you then stitch together to form a longer piece. For example, you can use ChatGPT to write a few paragraphs at a time and combine them to make an entire chapter in a novel. Another example is to write one part or one chapter and then move to a new thread to write another part. This keeps the model clear on what you're trying to produce and makes your work with ChatGPT faster and better. You'll still have to fact-check, edit, and polish the results, but they're far more likely to be closer to your target.

REMEMBER Keep in mind that you're generating drafts or the skeleton of a story in ChatGPT. You're not writing the finished content in ChatGPT. At least you aren't if your aim is to create high quality content that resonates with the audience and qualifies for copyright protection.

I don't want to throttle your thinking on how you want to break down your own writing into chunks. That decision can vary significantly between writers and between writing projects by the same writer. The best way to do it depends on your personal writing style and process, the natural breaks in the story flow, the topic and type of content, the time you have available to write that day, and other factors.

But to clarify how chunk writing works, I offer you the guide that follows. Please take it in the spirit that it's offered: as a helpful example and not "the way" cast forever in stone.

REMEMBER Chunk writing is an effective strategy for creating longer works using ChatGPT. This method involves breaking down a large writing task into smaller, manageable pieces, or chunks.

TIP If you want to supercharge how you do chunk writing, mix some advanced techniques like output stitching, AI chaining, and AI aggregation from Chapter 6 into your chunk writing strategy.

Read on for why chunk writing is beneficial and how to implement it when using ChatGPT.

Why use chunk writing?

Chunk writing has several benefits. The four most notable follow:

» **Improved output focus and quality:** ChatGPT tends to produce higher quality content when focused on smaller sections. Chunk writing helps maintain coherence and detail without overwhelming the model.

» **Easier revisions:** Smaller chunks allow for easier review and editing. You can refine each section before moving on, which can help you shape your content spontaneously or maintain consistency and accuracy over the entire piece or story arc.

» **Enhanced creativity:** Working in chunks can stimulate creativity by allowing you to explore different ideas and directions for each section without losing the overall thread of the narrative.

» **Better handling of AI context:** ChatGPT has a limited context window, meaning it can only consider a certain amount of text at a time. Chunk writing ensures that the context remains relevant and manageable.

How to implement chunk writing

Implementing chunk writing involves a few steps:

1. Outline your work.

   Before you start writing, create an outline of your entire piece to serve as a roadmap and help you break down the work into logical sections. For example, if you're writing a book, your outline might include chapters, subchapters, and key points for each section.

2. Define each chunk.

   Divide your outline into smaller chunks. Each chunk should be a self-contained section that you can develop independently. For instance, a chapter might be divided into several scenes or key points.

3. Prompt ChatGPT for each chunk.

   For each chunk, craft a specific prompt to guide ChatGPT. Provide clear instructions and context to help the model

generate focused and relevant content. Here's an example of how you might prompt ChatGPT for a scene in a novel:

Example prompt: "Write a scene where the protagonist, Jane, discovers a hidden room in her grandmother's old house. Describe her emotions and the atmosphere of the room."

You may want to add other information to the prompt to keep ChatGPT on course. For example, you may want to add a character summary or a backstory description for Jane so that ChatGPT stays true to the character.

4. Review and edit.

After generating content for each chunk, review and edit the text. Ensure that it aligns with your overall narrative, fits story arcs and character traits, and meets your quality standards. Make any necessary adjustments to maintain consistency in tone, style, and plot.

5. Combine and refine.

Once all chunks are written and reviewed, combine them into a cohesive document. Check for smooth transitions between sections, and ensure the overall flow of the narrative. Refine the combined work to enhance coherence and polish the final product.

6. Iterate as needed.

Writing is an iterative process. So is prompting. Don't hesitate to revisit and revise chunks as your work evolves. Use ChatGPT feedback and your own ideas to improve each section and the overall piece. Remember that this is your creation, not ChatGPT's and shape the work accordingly.

Following is an example of how these steps might fit into a workflow of creating a novel. Note that only one chapter is broken down here, whereas in fiction or nonfiction, you would have many chapters broken down like this. I offer this shortened version only to help you imagine or transition your own creative process from a broad structured guide like the one above, to a more fitted, real-world workflow as below.

Example Workflow

1. **Outline Creation:**
   - Title: "The Hidden Legacy"
   - [Chapter 1](): The Old House
     - Scene 1: Arrival at the house
     - Scene 2: Discovering the hidden room
     - Scene 3: Uncovering the family secret

2. **Chunk Definition:**
   - Chunk 1, Scene 1: Arrival at the house
   - Chunk 2, Scene 2: Discovering the hidden room
   - Chunk 3: Scene 3: Uncovering the family secret

3. **Prompting ChatGPT:**
   - Prompt for Chunk 1: "Describe Jane's arrival at her grandmother's old house. Focus on the setting and her initial feelings of nostalgia and unease."
   - Prompt for Chunk 2: "Write a scene where Jane discovers a hidden room in the house. Describe her emotions and the atmosphere of the room."
   - Prompt for Chunk 3: "Describe the moment Jane uncovers a family secret hidden in the room. Focus on her reactions and the implications of the discovery.

4. **Review and Edit:**
   - Review the generated text for each chunk.
   - Edit for clarity, coherence, tone, style, and consistency.

5. **Combine and Refine:**
   - Merge the reviewed chunks into a single chapter.
   - Ensure smooth transitions and a cohesive narrative flow.

6. **Iterate:**

Make further revisions based on ChatGPT feedback and your own ideas.

ChatGPT models are improving quickly, and it may come to be that ChatGPT can manage a long-form work in a single prompt and output. But even if it can, you might not want to do it. It's too easy for a model to get lost during the mission and wander in a direction that you don't want the work to go. Chunk writing gives you far more control over the content and ultimately saves you a ton of time in both writing and editing.

Prompting for sources

People commonly turn to an AI search tool like Perplexity AI because it automatically provides a list and links to sources it used to construct the output. And while I love that the feature is automatic in Perplexity, automated source listing alone isn't cause to select any one AI tool over another. The reason is simple. Any GenAI tool — ChatGPT included — will provide sources if you request them in your prompts or put the command in Customize ChatGPT instructions.

To prompt ChatGPT to provide its sources, you can directly ask for references or request more information on where the information comes from. Here are a few example prompts:

» "(Rest of your prompt info here) Include references or sources for the information you provide."

» "List where you found this data and also list any sources that dispute or challenge this data."

» "Name the source of the statistics you mentioned."

If the version of ChatGPT that you're using can access its browsing tool, it can provide specific links or refer to up-to-date websites. Otherwise, it may give general references based on its training data, which may or may not be current information.

When validating the sources that ChatGPT provides, consider the following:

» **Cross-checking information:** Look up the key points provided by ChatGPT in other reliable sources. Meaning don't try to cross-check information that ChatGPT provided inside of ChatGPT or in any application built around ChatGPT or its underlying models. Typically, a traditional search engine sans AI is your best bet. Check whether ChatGPT's response details match with well-established publications or academic references.

» **Assessing credibility:** When ChatGPT names sources, verify them independently. Check if these sources are from reputable journals, news organizations, or recognized industry experts. And even if the sources are stellar, check to make sure the report, study, book, article or whatever ChatGPT cited as a source isn't imaginary, but was actually done by the source ChatGPT said did it. Yes, you have to go that far. Hallucinations can show up in the oddest places in ChatGPT responses.

» **Evaluating critically:** If ChatGPT mentions generic sources like "according to experts" or claims something vague like "industry consensus," be cautious and look for more precise references to validate the claim.

Take no shortcuts on validating sources and verifying information in your research.

Choosing among fact-checking options

You already learned in the preceding section how to get ChatGPT to reveal its sources and how you can double-check them to make sure the AI didn't just make them up. Bottom line: It's vital to compare the information the chatbot provides with reputable sources online. But you may not want to stop there.

In a prompt, you can specifically direct ChatGPT to provide external resources to verify information. You can also prompt it to provide data validation in other ways. For example, if ChatGPT

responds with something you find intriguing or questionable, you can prompt it to provide more of the details, sources, or reasoning behind it. For example, if ChatGPT responded that "the Eiffel Tower is painted every seven years," you could ask for more specifics, like why that is, who does it, or what paint they use, to pull deeper insights into the process. Further, you can then direct ChatGPT to provide those sources. And so on.

Another method of fact-checking ChatGPT responses is to use a specialized fact-checking platform like NewsGuard, Google Fact Check Explorer, ClaimBuster, Full Fact, Snopes, `FactCheck.org`, or PolitiFact. For example, if ChatGPT mentions a recent event or newsworthy topic, odds are that the platforms just mentioned cover this information. Compare their analysis with ChatGPT's response. The goal is to use a mix of trusted external resources to ensure accuracy in ChatGPT responses.

Why editing in ChatGPT might not be your best choice

Many a GenAI-based writing tool offers an internal editing capability. I've yet to find editing within a tool such as a ChatGPT wrapper or something like Scribble Studio to be worth the time and effort. This may change over time as models progress, but I really don't think editing is a valuable feature in these tools. Why? Mainly because you must move responses to other software — such as Word, Google Docs, or a content management system (CMS) platform — to produce anything, so you might as well use the better editing tools in the other software.

What follows is a list of specific reasons to avoid editing in ChatGPT or ChatGPT-based programs. Keep in mind that these reasons also apply to ChatGPT competitors.

>> **Limited editing tools:** And I mean very limited. You can edit responses within ChatGPT by prompting. That's an expensive and effort-intensive way to do editing beyond shaping and refining the overall response. Wrappers and tools like Scribble

Studio offer editing features, but they're typically basic compared to dedicated text editing software. Advanced tools like grammar checkers, style suggestions, and formatting options may be limited or absent. However, if ChatGPT is embedded in writing software, you may have the best of both worlds in a single application or program. You'll need to judge those independently to discover which best fits your needs.

» **Lack of version control:** Dedicated editing software often includes robust version control features, allowing you to do some important stuff like track changes and revert to previous versions. By comparison, ChatGPT gives you a chat history and the ability to search your earlier chats. Look for advanced features like these before purchasing any ChatGPT or similar tool that claims to be a writing or editing tool.

» **File management:** Managing and organizing documents is usually more straightforward in dedicated software. Tools like Microsoft Word, Google Docs, and Scrivener offer comprehensive file management systems that can keep your work organized.

» **Collaboration features:** Many editing software platforms offer robust collaboration features, such as real-time co-editing, comments, and suggestions from multiple users. These features are essential for team projects and are often more developed than ChatGPT can provide.

» **Formatting capabilities:** Advanced formatting options, such as headers, footers, page numbers, and styles, are typically more accessible in dedicated word processors. ChatGPT might not handle complex formatting needs as effectively, or at all.

» **Offline access:** Editing software often allows for offline access, enabling you to work on your documents without an internet connection. ChatGPT requires an internet connection, which could be a limitation in some scenarios.

» **Integration with other tools:** Dedicated editing software often integrates seamlessly with other productivity tools, such as

reference managers, citation tools, and project management software. This integration can streamline your workflow, which might not be possible with ChatGPT unless it, too, has been integrated with other productivity tools or editing software.

Bottom line: ChatGPT is excellent for generating ideas, drafting content, and providing quick edits. But real-life human editors and specialized editing software offer more comprehensive and efficient editing capabilities. The smart play is to leverage the strengths of each.

Thinking in threads

To increase your success with ChatGPT, write prompts as part of a thread rather than as standalone queries. Use iteration and prompt chaining, for example. In this way, you'll build one output on another to reach a predetermined end. In other words, you don't have to pile everything into one prompt. You can write a series of prompts to more precisely direct ChatGPT's "thought processes." I won't go into more of that here because you can find that information in Chapters 4, 5, and 6. I only mention it again here to add clarity and a reference point to the rest of the discussion in this subsection.

Essentially, I'm urging you to think in threads when building a prompt strategy. This is a lot like imagining a conversation with someone before you meet up with them to have that talk. Everyone has done that, and here you are ready to do it again but this time to design an entire series of prompts before you enter the first one on ChatGPT's prompt bar.

When you think in threads like this, you're not aiming to craft a series of basic prompts; you're looking to break down what you seek into prompts that give ChatGPT the information it needs not only in an orderly series of steps, but containing information at the right time and in the right text configurations. Think of it like a lawyer trying to lead the witness and head off diversions in court, you're trying to help ChatGPT arrive at an output that may not have otherwise been its first choice.

You're reshaping ChatGPT's probability calculations so that the output you seek rises to the top of the model's probable answers. Like a chess player thinks several steps ahead to cause the opponent to move in specific directions, so too should you think ahead in strategizing your prompts. You need to think what goes in each prompt and how the prompts are likely to lead ChatGPT to a foregone conclusion: your creative vision.

Does this tactic work all the time? No, of course not. ChatGPT can opt for an entirely different response than expected, repeat an earlier response, or simply hallucinate one. But it does work often enough to make it a treasured technique in prompting.

TIP ChatGPT won't ask for clarification of your prompt; it will guess at your meaning instead. You'll typically get better quality responses by clarifying your meaning in the prompt itself at the outset.

Learning more tips and strategies

Here's a handy list of other tips and refinements to get you started in writing with ChatGPT:

» **Plan to spend more time than expected on crafting a prompt.** No matter how many times you write prompts, the next one you write won't necessarily be any easier to do. Don't rush this part.

» **Start by defining the goal.** What exactly do you want ChatGPT to deliver? Craft your prompt to push ChatGPT toward that goal; if you know where you want to end up, you'll be able to craft prompts to get you there.

» **Think like a storyteller, not an inquisitor.** Give ChatGPT a character or a knowledge level from which it should shape its answer. For example, tell ChatGPT that it's a chemist, an oncologist, a consultant, or any other job role. You can also instruct it to answer as if it were a famous person, such as

Churchill, Shakespeare, or Einstein, or a fictional character such as Rocky or Bluey. Give it a sample of your own writing, and instruct ChatGPT to complete the writing task in the same style and voice that you would.

» **Think like a machine.** Yes, I said that already in [Chapter 5](#), but it bears repeating. Your work may be creative, but your prompting strategy must consist of logical steps so that ChatGPT can understand your meaning and follow your lead.

» **Remember that any task or thinking exercise (within reason and the law) is fair game and within ChatGPT's general scope.** For example, instruct ChatGPT to check your homework, your kids' homework, or its own work. Enter something such as computer code or a text passage in quotation marks and instruct ChatGPT to find errors in it or in the logic behind it. Or skip the work checking and ask the app to help you think. Ask it to finish a thought, an exercise, or a mathematical equation that has you stumped. The only limit to what you can ask is your own imagination and whatever few safety rules the AI trainer installed. Spend time thinking about what to ask of it to help you with your writing.

» **Be specific.** More specific and concise prompts lead to more detailed responses, more nuanced responses, and better performance in ChatGPT's responses — and can help you stay well within token limits to lower costs or enable you to do more chats for the same budget dollars or at the same subscription level.

Chapter 14

Using ChatGPT in Video and Audio Production

IN THIS CHAPTER

>> **Learning the value of your role**

>> **Opting for silent audio production techniques**

>> **Immersing ChatGPT in different scenarios**

>> **Reaching for post-production video and film perfection**

>> **Producing beautiful music**

Each ChatGPT model improvement aims to increase features and capabilities as well as stability and overall performance. In this chapter, you learn what ChatGPT can do in terms of audio and video production and some ways that you can use them.

Grasping Why Human Talent Is Still Needed

Before you explore ChatGPT's video and audio capabilities, it's important to understand your role in using any of them. The quality of the creative aspects in ChatGPT's responses rest mostly in your hands, and not in the technology. Don't get me wrong, ChatGPT is an amazing technology that can help in many ways across a vast expanse of use cases. But one thing it's not is a creator. It predicts what follows your prompt based on the pattern you establish within your prompt. To oversimply how it works, think of it as delivering a remix of the data it has access to in a response that is crafted from its best guess at what you seek

based on its own internal calculation of highest probability in possible data pattern matches.

You need to bring a lot to the table for ChatGPT to serve you well. Here's your to-do list:

» **Creativity and originality:** Although ChatGPT can generate text based on patterns in the data it was trained on, it lacks true creativity and originality. Human talent brings unique ideas, perspectives, and creativity that are crucial for producing innovative and engaging content.

» **Contextual understanding:** You have a deep understanding of context, cultural nuances, and the subtleties of language that ChatGPT doesn't have and might miss. Applying your understanding to ChatGPT prompts helps in tailoring the content to specific audiences and ensuring it's relevant and appropriate.

» **Critical thinking and judgment:** Human talent is necessary for critical thinking and making judgment calls about what content is suitable, accurate, and ethical. This includes fact-checking, ensuring the content aligns with desired goals, and avoiding potential biases or inappropriate material.

» **Emotional intelligence:** Humans possess emotional intelligence, which allows them to craft content that resonates on an emotional level with the audience. This skill is crucial for creating compelling narratives, persuasive arguments, and relatable characters.

» **Editing and refinement:** AI-generated content often requires editing and refinement to meet quality standards. Your talent is required to polish the text, improve coherence, enhance readability, and ensure it flows naturally.

» **Strategic vision:** Successful content creation often involves a strategic vision and long-term planning. You must use your skills to set goals, develop content strategies, and ensure that the output aligns with broader objectives and brand identity.

» **Ethical considerations:** You're better equipped than ChatGPT to navigate ethical considerations in content creation, such as ensuring diversity in opinions and perspectives, and inclusive language, avoiding harmful stereotypes, and respecting intellectual property rights.

In short, ChatGPT is great at data discovery and fair at generating content, but you're indispensable in extracting great responses. Specifically, your job is to add creativity, context, critical thinking, emotional depth, and strategic direction to ChatGPT's computations.

Understanding ChatGPT Audio Options

In a nutshell, ChatGPT has speech-to-text and text-to-speech capabilities, and that's about it. That's not to say that it can't help you make beautiful music, from a pop hit to a movie score to a jingle for a 30-second commercial. It just won't be in the way you probably imagined.

The voice feature is available on ChatGPT Plus, Pro, and Enterprise versions and is also available on the ChatGPT app for iOS and Android mobile devices. To activate it on the ChatGPT mobile app in Android, go to Settings, tap Voice, and then tap the voice selection on the next screen (see Figure 14-1) to reveal your options in character voices (Figures 14-2 and 14-3 show two of the voice options). Swipe through the voice options to hear the demos of each and tap "Done" to make your character voice selection. The next time you use the ChatGPT app, you can use the voice option by tapping on the icon under the prompt bar (see margin). Speak to the app and ChatGPT will respond in the character voice you chose earlier. You can change your voice selection at any time by repeating your actions in the mobile app settings, or by simply telling the app you'd like to choose another voice.
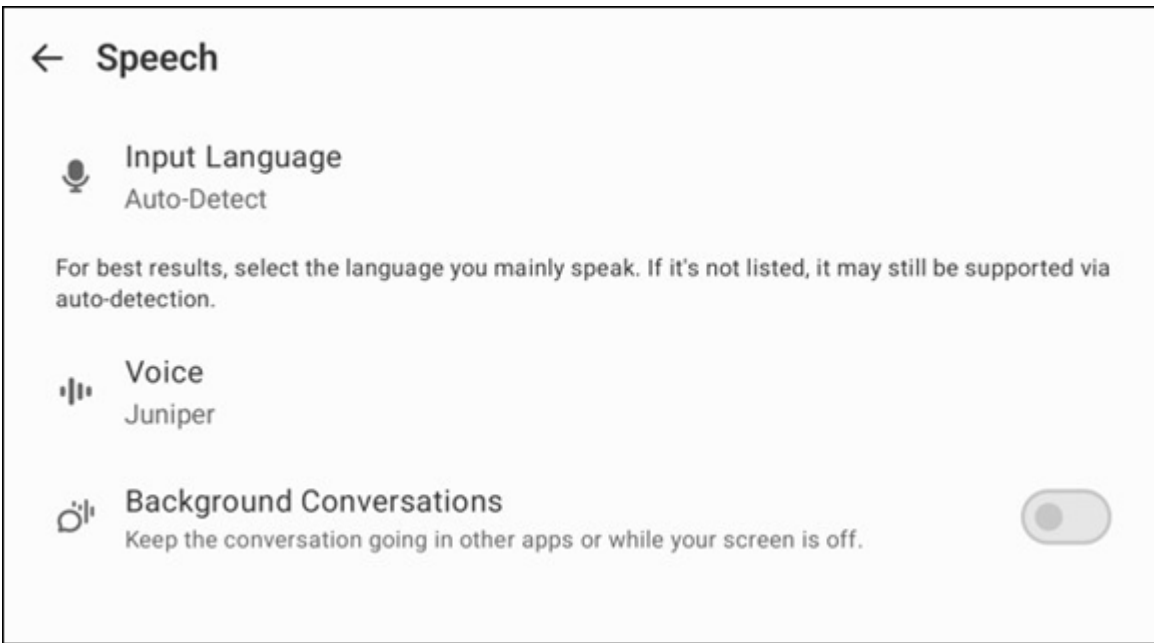
Generated with AI in ChatGPT

FIGURE 14-1: This is the screen that is displayed after Voice is tapped under ChatGPT Settings on ChatGPT Android Mobile App.
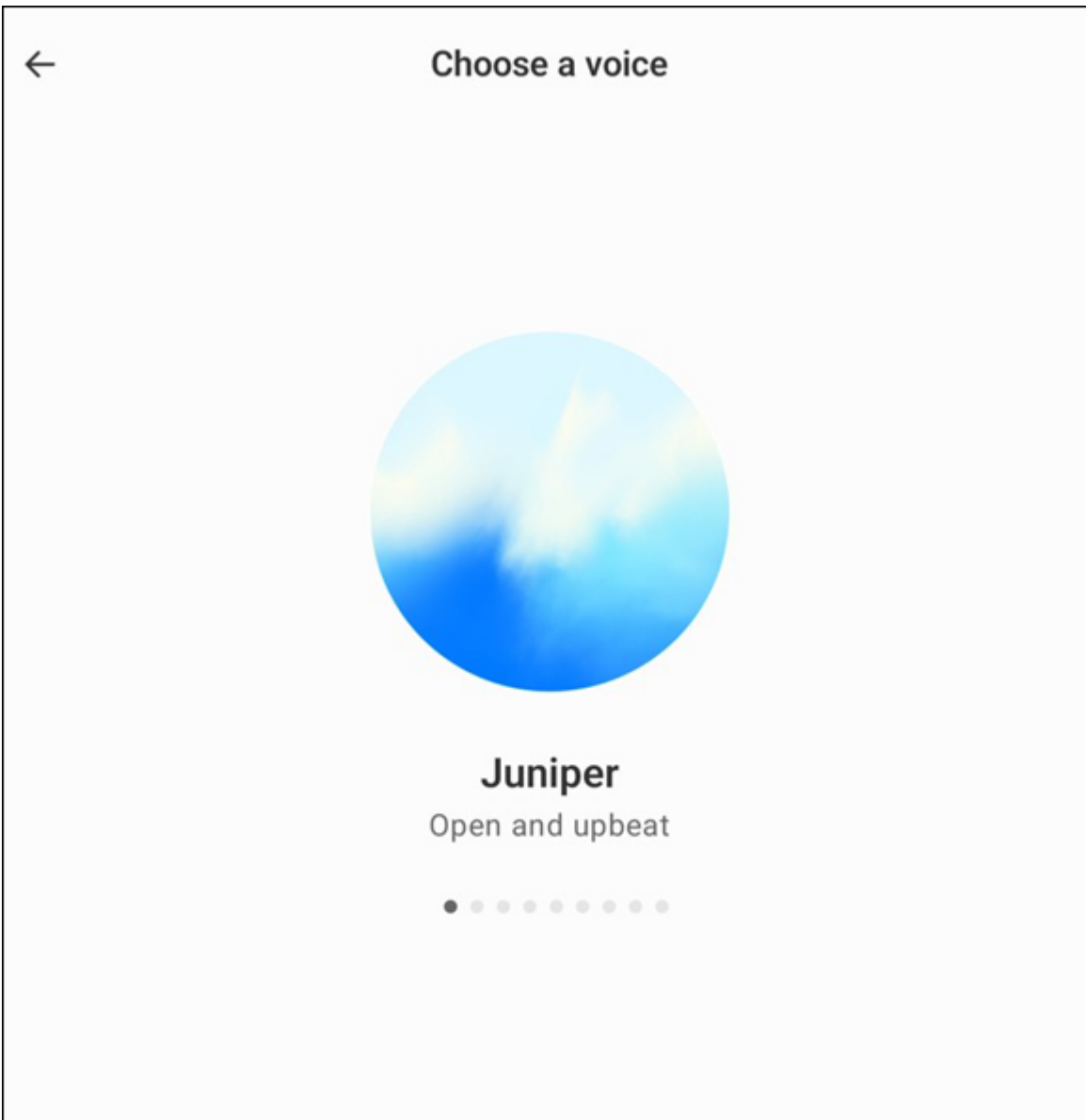
Generated with AI in ChatGPT

FIGURE 14-2: One of the character voice options available on ChatGPT mobile apps.
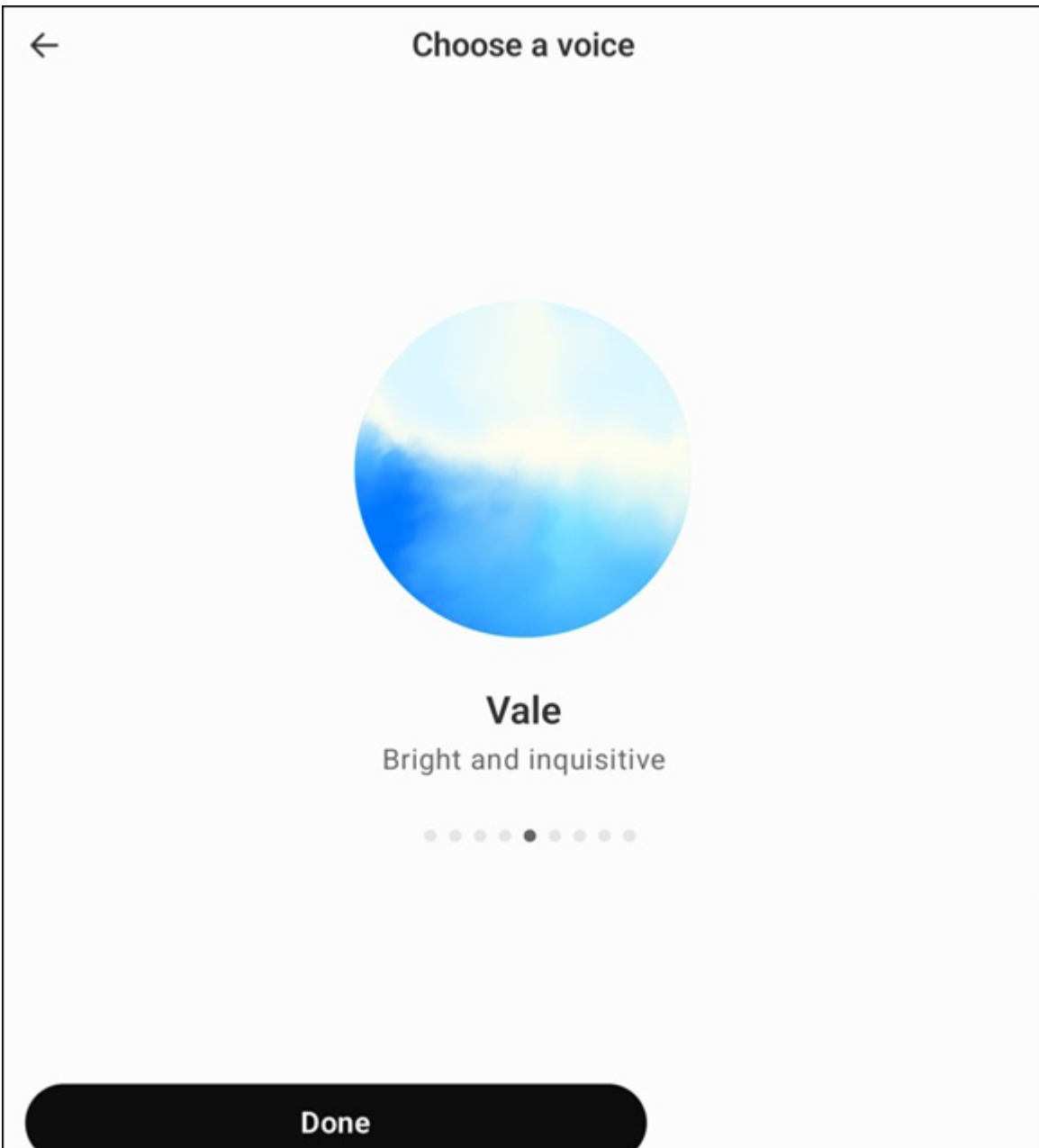
Generated with AI in ChatGPT

FIGURE 14-3: Another of the character voice options available on ChatGPT mobile apps.

You're probably thinking that the ChatGPT voice feature allows you to interact with ChatGPT like you would with Siri or Alexa. And you're right about that. You can speak and be spoken to. Of course, this feature adds to the illusion that you're having a conversation with a machine.

But voice has other uses for creative types. For example, you can use it to play back ChatGPT responses so that you can verify whether a speech or a character's dialogue rings true and authentic to the human ear. Most writers do read their text aloud to do such a check. Actors do something similar in table reads wherein they read their lines from a script in character. ChatGPT does it like actors do. You can ask it to read any script lines, character dialogue, or from any text and it will do so but in the voice you selected for it earlier. In other words, it doesn't change to a different voice while reading text, but it can — at your direction — add emotion and change emphasis on any given words within the text it is reading aloud.

To illustrate how this works, try the following prompt after you have set up a voice for ChatGPT and chosen to interact with ChatGPT by voice instead of by typing in the text bar.

Example prompt: "Read a line or two from any famous play — you choose which one — as an example of what you can do in voice reads."

Second prompt: "Read that same line first as if the character is angry. Then read it again as if the character is a child and you are excited to tell it!"

Prepare to have your mind blown by how well ChatGPT interacts with you and performs the voice reads at your direction.

If you want to see and hear a demo of ChatGPT's voice feature outside of the ChatGPT app, you can go to the web page shown in [Figure 14-4](#), which is a screenshot from https://openai.com/index/chatgpt-can-now-see-hear-and-speak/ showing voice samples. Select text from the first dropdown menu and then select a voice in another dropdown menu below the sample text to hear the voice options and get a feel for how it works and sounds.

But beyond sound-checking ChatGPT responses, you can use this feature to build prompts.

For example, check to see if a character is acting true to its nature and circumstances. Use the ChatGPT voice feature to explain who the character is and that you want ChatGPT to analyze the following attachment to see if the character's actions are believable. Then take a photo or screenshot of a page from a movie script, a novel, or a storyboard and initiate the prompt. Crazy, right?

Listen to voice samples

Select text   Story   ⌄

Once in a tranquil woodland, there was a fluffy mama cat named Lila. One sunny day, she cuddled with her playful kitten, Milo, under the shade of an old oak tree.

"Milo," Lila began, her voice soft and gentle, "you're going to have a new playmate soon."

Milo's ears perked up, curious. "A new playmate?"

Lila purred, "Yes, a baby sister."

Milo's eyes widened with excitement. "A sister? Will she chase tails like I do?"

Lila chuckled. "Oh, she'll have her own quirks. You'll teach her, won't you?"

Milo nodded eagerly, already dreaming of the adventures they'd share.

Select voice   Juniper ⌄

▶ 0:34 / 0:34 ▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬   🔊 ⋮

Generated with AI in ChatGPT

FIGURE 14-4: Choose from several voice samples to hear how ChatGPT sounds reading specified text.

The voice tech in ChatGPT could do a lot more, of course. So, why doesn't it, you ask? ChatGPT's voice feature is capable of crafting realistic synthetic voices from just a few seconds of real

speech, which means it's crazy good at impersonating anyone. Its realistic impersonations create a whole slew of problematic issues. For example, malicious actors could use it to impersonate public figures or commit fraud. As a security measure, OpenAI locked down the feature so that voice can only function in the voice selection offered. Although I appreciate OpenAI's effort and commitment to make GenAI products and services safer, that security measure is but a drop in the ocean. Countless AI applications have no such guardrails.

However, OpenAI is working on expanding the voice feature to perform tasks within well-defined boundaries. For example, OpenAI reports that it's collaborating with Spotify on the pilot of its Voice Translation feature. It's a neat use case because it "helps podcasters expand the reach of their storytelling by translating podcasts into additional languages in the podcasters' own voices." You'll have to keep an eye out for the results of that pilot and any new specialized voice features that undoubtedly will be rolled out within ChatGPT over time.

Meanwhile, consider other ways in how ChatGPT can assist you in working with audio. One place it can help is in refining, summarizing, or repurposing audio transcriptions for uses beyond notetaking and summarizations. For example, maybe you want to pull quotes or stats for a white paper or make an ad promoting the keynote speaker at an upcoming conference.

First you need to use something else to make the text transcription because ChatGPT doesn't do that part — at least not yet. To illustrate this exercise, I selected a generic text transcript from Otter AI, a transcription tool, so you can see what ChatGPT can do with it from that point on.

Here's the snippet of a generic Otter AI transcription that I'll put in a ChatGPT prompt in a moment:

Speakers

Lisa (79%), Charlie (21%)

C

Charlie

0:00

Hey Lisa, I got your email with a meeting summary from Otter and I was curious about how it works. Have you been using it a lot for your meetings?

L

Lisa

0:08

Yeah, I started using Otter a few months ago. And it saved me a lot of time from taking manual notes. It also helps me find answers from previous meetings and even write follow up emails.

C

Charlie

0:21

Wow, really? Can you show me how it works?

L

Lisa

0:24

Sure. So this is Otter AI Chat. I can ask questions across all the conversations I've recorded with Otter, including meetings and voice memos. I can also use Otter AI Chat within a specific meeting to ask questions about just that meeting, like grouping ideas into themes from a brainstorm call.

FYI, you can edit transcriptions in OtterAI and other transcription tools too, but ChatGPT does much more than that without your having to manually scroll through the transcription to find what you want to pull out or edit.

Here's the prompt I put into ChatGPT for this demonstration:

"Make a pithy quote from this transcript and attribute it to the most likely speaker: {here I copy and pasted in the Otter AI transcript

shown above}

ChatGPT's response: "Otter's been a game-changer — it's like having a personal assistant for all my meetings and notes." —Lisa

I can now copy and paste this same response in ChatGPT and click on the speaker button to hear ChatGPT say it aloud. Oh, look, a sound bite! I created it with ChatGPT and listened to it in voice to make sure it sounded authentic and right for my purposes. Now I can paste that sound bite in another program like HeyGen, where an avatar will speak the sound bite in a marketing video that I make there. Voila!

Similarly, you can search a transcript to pull specific information for a marketing video, a radio ad, or another prompt, like this:

Second Prompt: Search the transcript for mention of Otter AI Chat and tell me who spoke about it and what they said

ChatGPT response: Lisa spoke about Otter AI Chat in the following part of the transcript:

"Sure. So this is Otter AI Chat. I can ask questions across all the conversations I've recorded with Otter, including meetings and voice memos. I can also use Otter AI Chat within a specific meeting to ask questions about just that meeting, like grouping ideas into themes from a brainstorm call."

Third prompt: Use what Lisa said about Otter AI Chat to make a product description that can be used at the top of a fact sheet about Otter AI

ChatGPT response: Otter AI Chat

Otter AI Chat is your personal assistant for managing conversations and meeting notes. With the ability to ask questions across all recorded conversations, including meetings and voice memos, Otter AI Chat provides instant access to key insights from past discussions. Whether you need a quick answer or want to organize ideas from a brainstorming session, Otter AI Chat helps you stay organized and informed, streamlining follow-up tasks and saving valuable time.

Fourth prompt: Shorten that product description to a blurb

ChatGPT response: Otter AI Chat

Otter AI Chat streamlines your meetings by letting you ask questions across recorded conversations and quickly find insights. It's like having a personal assistant to organize notes, group ideas, and keep you on top of follow-up tasks.

In this way you can repurpose a meeting transcript in a gazillion ways in a matter of minutes. You can do the same with any audio transcript from any source, such as YouTube videos, audio recordings of speeches and interviews, music lyrics, and more.

That brings this discussion to creating music with ChatGPT. By now, you've likely heard music that AI wrote and produced. Perhaps you've even created some music in an AI app like Suno, Soundraw, or Loudly.

ChatGPT doesn't create music in the sense that you can hear it played. But it can help you create music that you can either play on an instrument yourself or paste into one of the music generator apps to render it in sound. Following is an example of how ChatGPT "creates" music.

Prompt: Create a folk song about first love

ChatGPT response: Here's a folk-style song about first love, capturing a bit of nostalgia, simplicity, and sweetness that folk music often embodies. Imagine this with a gentle guitar melody or a warm harmonica accompaniment.

"First Bloom"

Verse 1
I met you by the riverside, when summer wore its green,
The sun was low, the light was gold, the air was warm and clean.
You laughed and skipped a stone or two across the gentle tide,
And in that little moment, I felt something bloom inside.

Chorus
Oh, first love, you're soft and true,
Like morning mist and skies so blue.
You came and went, a sweet perfume,
A gentle heart's first bloom.

Verse 2
We walked the fields, we climbed the hills, we watched the stars appear,
Your hand in mine, a quiet thrill, like music soft and clear.
You told me tales of where you'd go and things you'd one day see,
And I just smiled and dreamed along, of you and you with me.

Chorus
Oh, first love, so pure and free,
A precious gift, a memory.
You linger still, like morning dew,
In the heart's first bloom of you.

Bridge
Seasons change, and people do,
But some things never fade.
That summer light, that tender touch,
In my heart, it's safely laid.

Verse 3
Now years have passed, the river flows, and we both moved along,
But in my mind, that golden day still sings its simple song.
A love so bright, a gentle flame that flickered in the breeze,
I close my eyes, and feel it still, as soft as falling leaves.

Chorus
Oh, first love, so soft and true,
Like morning mist and skies so blue.
You came and went, a sweet perfume,
A gentle heart's first bloom.

Outro
Yes, you came and went, a sweet perfume,
In the heart's first, gentle bloom.

If you'd like, I can help with specific chords or melody ideas too.

Next prompt: Yes please help with specific chords or melody ideas too!

ChatGPT response: Here's a chord progression and some melody ideas to get you started. Imagine this played slowly on an acoustic guitar or piano for that cozy folk feel.

Key: C Major

(You can transpose if another key suits your voice better)

Verse

Chords:

| C | G | Am | F |
| C | G | F | C |

Melody Idea:

>> For each line, start with a soft, ascending melody that reflects the sweetness of the lyrics.
>> Try to land on the chord notes (C, E, G, etc., for C major) to create a smooth, consonant sound.

Example:

>> **"I met you by the riverside…"** — Start on a C note, move to an E, and end on a G for each chord.

Chorus

Chords:

| F | G | C | Am |
| F | G | C | G |

Melody Idea:

» Aim for a more open, lilting melody, with a slight lift on the words "first love" and "heart's bloom" to give it an emotional punch.

» Hold the last note of each line a little longer for emphasis.

Example:

» **"Oh, first love, you're soft and true…"** Climb from G up to C, then resolve on an E.

Bridge

Chords:

| Am | G | F | C |

| Am | G | F | G |

Melody Idea:

» Here, try a reflective, descending melody to mirror the shift in lyrics to "seasons change" and "never fade."

Example:

» **"Seasons change, and people do…"** Start on an A, descend to E, and land on C.

Outro

Chords:

| C | G | Am | F |

| C | G | C | C |

Melody Idea:

» Return to a gentle, nostalgic tone as you close, repeating a variation of the first verse melody.

For a starting rhythm, try a simple 4/4 time signature with a gentle strumming pattern like *down, down-up, up-down-up* to keep the sound flowing softly. For fingerpicking, you can use a pattern like *thumb, index, middle, ring* on each chord.

Let me know if you'd like further help fine-tuning any section!

You can see how ChatGPT can be useful to music composers and songwriters, but also to movie score writers, marketers, and advertising professionals — whether or not it's ultimately used in another AI music generator app or played on physical instruments.

Prompting Tips for Audio Work

The rule of thumb to "be clear and specific" in your prompts holds true when creating music and other audio work. For example, if you're looking to generate lyrics for a song, you might start by specifying the genre, mood, and theme. Instead of simply asking for "song lyrics," you could say, "Write a verse for a pop song about overcoming challenges with a hopeful and uplifting tone." This gives ChatGPT a clear direction and context. You can, of course, continue to refine the response in additional prompting, but it helps to be clear from the start.

If you're working on composing a melody, you can describe the desired tempo, key, and instruments. For example, "Compose a cheerful melody in C major with a moderate tempo, suitable for a piano and violin duet." This helps ChatGPT understand the structure and feel that you're aiming for.

When it comes to sound design or creating audio effects, providing detailed descriptions will yield better results. Instead of saying, "Create a sound effect for a sci-fi scene," you could be more descriptive and write a prompt something like this: "Generate a futuristic sound effect that resembles a spaceship door opening, with a smooth, mechanical whir and a slight echo."

For producing a podcast or an audio story, outline the narrative style, characters, and tone. For instance, "Write an introduction for

a true crime podcast with a suspenseful and engaging tone, introducing the main story and hinting at the twists to come."

REMEMBER Specific and detailed prompts guide ChatGPT to produce more tailored and creative outputs.

TIPS FOR WRITING MUSIC PROMPTS WITH CHATGPT

1. **Specify the genre:** Clearly state the genre to set the right context. Example: "Write a jazz song about a rainy evening."

2. **Define the mood and tone:** Describe the emotional atmosphere you want to convey. Example: "Create a melancholic melody for a piano ballad."

3. **Mention the theme or subject:** Identify the central topic or story of the music. Example: "Compose lyrics about finding inner peace."

4. **Detail the musical elements:** Include specifics like tempo, key, and instrumentation. Example: "Generate a fast-paced rock riff in E minor for electric guitar."

5. **Provide structure guidance:** Outline the song's structure if needed (verse, chorus, bridge). Example: "Write a catchy chorus for a pop song about summer love."

6. **Use descriptive language:** Make your descriptions vivid so that the AI can match your vision. Example: "Create an ambient soundscape that feels like drifting through space."

7. **Include references or inspirations:** Mention any artists or songs that inspire the style you're aiming for. Example: "Write a folk song inspired by Bob Dylan's storytelling style."

8. **Be open to iteration:** You may need to refine your prompts based on initial outputs. Example: "Adjust the lyrics to be more upbeat and positive."

By keeping these tips in mind, you can craft more effective and nuanced prompts that help ChatGPT generate music and audio work that aligns with your creative goals.

Understanding ChatGPT's Role in Basic and Advanced Video Production

Regarding basic video production, ChatGPT can be helpful in several ways. For example, when you're working on scriptwriting and storyboarding, ChatGPT can generate creative ideas and structure your content. Imagine that you're stuck on how to start a vlog about travel tips. You might prompt ChatGPT with, "Can you help me write an engaging introduction for a travel vlog about budget-friendly destinations?" ChatGPT can then provide an opening line or even a full paragraph to get you started. Further, it can help you create a theme song for your vlog or music tailored to just one post.

When it comes to research and information gathering, ChatGPT can summarize complex topics into digestible content, making it easier to organize key information in a short amount of time. For example, if you're creating an educational video about climate change, you can ask, "What are the key points to cover in a video explaining climate change to middle school students?" ChatGPT will then provide a concise list of important topics, making your research and planning processes quicker and more efficient.

You can also streamline your content calendar with ChatGPT. If you're brainstorming topics, you might say, "Give me some video ideas for a tech review channel over the next month." ChatGPT can suggest relevant and timely topics, helping you maintain a consistent posting schedule.

For editing assistance, although ChatGPT can't physically edit videos, it can offer valuable tips. You can ask, "What are some best practices for editing a YouTube tutorial video?" ChatGPT can then provide advice on pacing, transitions, and maintaining viewer engagement. For that matter, you can prompt it to give you a guide on how to produce YouTube videos in general.

Moving on to more advanced video production, ChatGPT can support more complex tasks like script and character development. For a feature film or documentary, you might need detailed scripts and character arcs. A useful prompt might be, "Help me develop a character arc for a protagonist in a sci-fi thriller." ChatGPT can then outline a compelling character journey, adding depth and consistency to your narrative.

As to the technical aspects in video production, ChatGPT can offer guidance on camera settings, lighting, and sound. For example, you might ask, "What are the best lighting techniques for shooting a night scene?" ChatGPT can provide detailed instructions, helping you achieve the desired visual effect.

Marketing and distribution strategies are also crucial for reaching your audience. You might prompt ChatGPT with, "What are some effective social media strategies for promoting a new web series?" The AI can suggest various tactics, from optimizing content for search engines to engaging with viewers on different platforms. ChatGPT can also write social media posts for you and suggest specific content for video shorts for TikTok and Instagram.

In addition, ChatGPT can facilitate better communication among production team members. For example, you can use it to generate project schedules or task lists by asking, "Can you help me create a production schedule for a short film?" ChatGPT can then outline a timeline to help everyone stay on track.

Further, ChatGPT can push the boundaries of traditional video production. If you're looking for unique concepts, you might ask, "What are some innovative storytelling techniques for a horror short film?" ChatGPT can suggest unconventional ideas, helping you create original and captivating content.

TIP Use ChatGPT to help you with everything from crafting an elevator pitch to helping your animators make storyboards. It will be a lot easier for you to keep track of the big picture when ChatGPT is helping you and your production team with the small but crucial details.

WARNING Be careful about putting too much information about your film or videos in any AI tool. Your ideas could end up being released to the wild or used as training data for a future AI model.

In short, ChatGPT can be a versatile tool throughout the video production process. From generating ideas and providing information to offering technical guidance and marketing strategies, it can assist both basic and advanced video production tasks. By using specific prompts and leveraging ChatGPT's capabilities, you can enhance your creative workflow and produce engaging, high-quality videos.

Considering Video Post-Production Options

Beyond the example use cases in video production covered in previous sections of this chapter, you can use ChatGPT to do more than the grunt work and the surface stuff. In this section, you'll see specific examples in post-production options. Hopefully, this will give you a feel for how versatile ChatGPT can be and where you might want to push its boundaries on your projects.

For example, in the editing phase, enhancing your video involves fine-tuning the pacing, transitions, and effects to create a polished final product. Seeking advice from ChatGPT can be incredibly

useful here. For example, if you're working on a travel vlog and want to improve its pacing, you might ask, "How can I improve the pacing of my travel vlog during the editing process?" ChatGPT can suggest techniques like trimming unnecessary footage, using jump cuts to maintain viewer interest, and ensuring that each segment flows naturally into the next. If you don't know how to do these things or even what the terms mean, ChatGPT can help you understand that too.

To dive deeper, you can ask for specific advice on transitions: "What are some effective transitions for a travel vlog to keep it engaging?" ChatGPT might recommend using cross-dissolves for smooth scene changes or incorporating creative transitions like whip pans or match cuts to add a dynamic feel. Additionally, you can seek guidance on effects by asking, "How can I use effects to enhance the storytelling in my travel vlog?" ChatGPT might suggest using slow-motion for dramatic moments or adding text overlays to highlight key information.

Sound design is another critical component of video production that can significantly affect the viewer's experience. To get ChatGPT to make meaningful suggestions for sound effects and background music, it's important to describe the mood or theme of your video. For example, if you're creating a motivational workout video, you can prompt ChatGPT with, "What type of background music would suit a motivational workout video?" ChatGPT might suggest upbeat, energetic tracks with a strong, driving beat to keep viewers motivated and engaged.

For a more nuanced approach, you can ask, "How can I use sound effects to enhance the intensity of my workout video?" ChatGPT might recommend incorporating sounds like heartbeats, whooshes, or claps to emphasize key moments and transitions. Additionally, you can inquire about balancing music and dialogue by asking, "What are some tips for balancing background music with voiceovers in my workout video?" ChatGPT might provide advice on adjusting volume levels and using equalization to ensure that both elements are clear and complementary.

Achieving a specific look through color grading can dramatically affect the visual style and mood of your video. To get tips on color grading, it's helpful to describe the desired mood or visual style in the prompt. For instance, if you're aiming for a cinematic look in your short film, you might ask, "How can I achieve a cinematic look with color grading for my short film?" ChatGPT might suggest techniques like using a warm color palette for a nostalgic feel or a cool palette for a more dramatic, moody atmosphere.

To get more detailed advice, you can ask, "What are some color grading techniques to enhance the emotional impact of a scene?" ChatGPT might recommend using color contrast to highlight emotional tension or desaturating colors in somber scenes to convey a sense of melancholy. Additionally, you can seek guidance on specific tools and software by asking, "What are the best practices for using color grading software like DaVinci Resolve to achieve a cinematic look?" ChatGPT might provide step-by-step instructions on using LUTs (lookup tables), adjusting color curves, and fine-tuning highlights and shadows to create the desired effect.

As you can see, you can use ChatGPT to significantly enhance your video or film throughout the process from pre-production to post. It's up to you as to where, when, and how you want to use it in the process. No two producers or production teams are likely to use ChatGPT the same way. That's why I'm pointing to examples and not handing you step-by-step instructions. Ideally, ChatGPT will become part of your creative process organically. It should be your talent and not an automation tool that directs this picture.

Prompting Tips for Video Script Outputs

ChatGPT can be an invaluable tool for writing video, film, and TV scripts in numerous ways. It can assist writers in creating compelling narratives, developing characters, structuring scenes, and even refining dialogue.

For example, if a scriptwriter has a rough concept in mind, they can prompt ChatGPT to expand on it. An example prompt might be, "I'm thinking of a sci-fi adventure set on a distant planet where humans discover an ancient alien civilization. Can you help me flesh out this idea?" ChatGPT can then provide detailed suggestions on plot points, potential conflicts, and unique settings that can enrich the narrative. You can also prompt ChatGPT to give you several different ideas to choose from or to stimulate your own creative ideas.

In terms of character development, ChatGPT can assist in creating multidimensional characters with distinct personalities, backstories, and motivations. A writer might use a prompt like, "Create a detailed backstory for the protagonist, a 35-year-old archaeologist who is driven by the mysterious disappearance of their mentor." ChatGPT can generate a comprehensive history that includes personal struggles, key life events, and relationships that shape the protagonist's journey. You can edit these details as you prompt until you see a character emerge that fits the role.

Structuring scenes

When it comes to structuring scenes, ChatGPT can help outline the progression of the story. For example, you can ask, "Outline the first three scenes of a thriller where the main character discovers they are being watched." ChatGPT can then provide a detailed breakdown of each scene, setting the stage for the unfolding drama and ensuring that the narrative flows smoothly.

Add specific scenarios to prompt ChatGPT to generate authentic and engaging conversations between characters. For example, "Write a tense dialogue between two detectives who have conflicting theories about a murder case." ChatGPT can create a realistic exchange that captures the tension and differing perspectives of the characters. Or prompt it to refine or improve on the dialogue you wrote. This is helpful if your instincts tell you that the exchange isn't quite right, but you can't put your finger on what's exactly off.

ChatGPT can also aid in refining and editing scripts. You might ask in a prompt, "Can you review this scene and suggest improvements for pacing and dialogue?" ChatGPT can then provide constructive feedback, highlighting areas that might benefit from tighter pacing or more natural dialogue.

Beyond these core functions, ChatGPT can help with specific genres and styles. For instance, if you're a scriptwriter working on a comedy, you might prompt, "Write a humorous scene where a clumsy waiter tries to serve a high-profile guest." ChatGPT can then aim to generate a scene filled with comedic timing and situational humor.

PROMPTING TIPS FOR VIDEO SCRIPT OUTPUTS

Specific prompts: The more detailed your prompt, the better the output. Instead of asking for a general scene, specify the setting, characters, and desired tone. Example: "Write a dramatic confrontation in a dimly lit alley between the protagonist and their estranged sibling."

Iterative refinement: Use iterative prompts to refine your script. Start with broad strokes and then narrow down to specific details in subsequent prompts. Example: "Outline the main plot points of a romantic comedy set in Paris." Follow up with, "Expand on the scene where the two main characters first meet."

Character profiles: Provide detailed character profiles to ensure consistent and believable dialogue. Example: "Describe the personality and background of a 40-year-old detective who is always grouchy yet deeply compassionate and loves light humor."

Genre and style guidance: Indicate the genre and style you're aiming for to guide the tone and structure of the output. Example: "Write a suspenseful scene in the style of a Hitchcock thriller where the main character realizes they are being followed."

Feedback loop: Use ChatGPT's outputs to generate feedback and further questions. This iterative process helps refine the script to better match your creative vision. Example: "Review this dialogue for a romantic scene and suggest how it can be more nuanced and emotionally impactful."

By following these tips, writers can effectively harness the power of ChatGPT to create polished and engaging scripts for video, film, and TV projects.

Using ChatGPT in AR, VR, and Metaverse

It didn't take long for creatives of all stripes to turn to ChatGPT to help formulate new ideas. Virtual reality (VR), augmented reality (AR), and metaverse designers were among them.

AR applications infuse text, images, and audio on top of a view of the real world. The merged presentation of real and virtual is typically viewed on a smartphone screen, tablet screen, or via smart glasses. Developers are using ChatGPT to rapidly and cheaply create informational text, games, and animated cartoon characters, among other things that they want to overlay on real scenes. You may have encountered this on a retail app that allows you to see, via your phone or a virtual informational overlay, how a piece of new furniture would fit in your living room.

VR is an entirely simulated environment that presents a three-dimensional (3D) space that can mimic or differ significantly from the real world. Typically, you wear special goggles or glasses and sometimes other gear like specialized gloves to immerse yourself and interact with a virtual reality.

A metaverse is an interconnected network of virtual worlds. The term "Metaverse" with a capital M usually refers to the overall concept as opposed to one specific metaverse. Sometimes the capitalized term is associated with a specific brand as well. Virtual worlds can be a mirror of your own world, be different in some way, or even present an alien world. Virtual worlds or virtual settings are part of a much larger and interconnected metaverse. Human imagination is the limit of any metaverse design, but the data used within any virtual world or metaverse is contained in a controlled and siloed database, meaning the database is self-contained and separate from any other data base.

Using ChatGPT in an AR, VR, and the Metaverse enhances immersion and interactivity. In case you're interested, here are a few ways you can use ChatGPT to create experiences in these environments:

» Interactive NPCs and characters

- **VR and the Metaverse:** You can use ChatGPT to develop non-playable characters (NPCs) or avatars that users can interact with conversationally. These characters can provide information, guidance, or casual conversations, adding depth to VR games or Metaverse experiences.

- **AR:** In AR settings, ChatGPT can power characters or assistants that appear in real-world environments. These assistants can explain objects or products, provide contextual information, or guide users through AR activities.

» Storytelling and world building

- **VR and the Metaverse:** ChatGPT can craft interactive narratives where users make choices, and ChatGPT adapts the storyline in real time. You can also use it for designing dialogue trees or drafting plotlines, enhancing the storytelling experience.

- **AR:** With AR, you can overlay storytelling elements onto physical spaces. ChatGPT can provide dynamic and evolving narratives depending on what users are looking at, creating a personalized mixed-reality story experience.

» AI-powered assistance and onboarding

- **VR and the Metaverse:** ChatGPT can serve as a virtual assistant or onboarding guide to help new users navigate complex VR or Metaverse environments. It can answer questions, provide tutorials, and help users become comfortable with the controls, environment, and social norms of virtual spaces.

- **AR:** It can offer step-by-step guidance in AR-based applications, such as setting up new devices or explaining how to use certain features by interacting with objects within the user's view.

» Dynamic content creation

- **VR and the Metaverse:** ChatGPT can generate real-time content for VR environments. For example, it can generate dialogue, item descriptions, or even design challenges and quests easily based on user preferences. This keeps experiences fresh and personalized.

- **AR:** ChatGPT can assist in the creative process of designing AR experiences, like suggesting how to use different 3D models or creating descriptions and interactive elements that users see when interacting with AR content.

» Social spaces and events

- **VR and the Metaverse:** ChatGPT can be used to host virtual events such as trivia games, guided tours, or discussions on various topics. In social environments within the Metaverse, ChatGPT can facilitate conversation prompts, moderate discussions, or provide entertainment like jokes and storytelling.

- **AR:** ChatGPT can enhance real-world events by providing interactive AR layers. For example, at a museum, AR glasses could show additional content while ChatGPT provides conversational insights or trivia about exhibits.

» Virtual shopping and product exploration

- **Metaverse and AR:** ChatGPT can act as a virtual shopping assistant, answering questions about products, comparing features, or giving styling recommendations. In AR, it can help users visualize how products might look in their home or on their

person, offering conversational guidance on options and features.

» **Educational experiences**

- **VR and the Metaverse:** ChatGPT can help create immersive educational environments. For example, in a VR classroom, ChatGPT can act as a tutor or a fellow student, answering questions, discussing topics, and even simulating historical events.

- **AR:** In AR, ChatGPT can provide information overlays for educational tours or help students interact with virtual objects in their physical space, making learning more engaging and context enriched.

By combining ChatGPT's language capabilities with the immersive nature of AR, VR, and the Metaverse, you can create rich, interactive, and personalized user experiences that blend virtual and real worlds seamlessly.

TOOLS AND IMPLEMENTATION FOR VR AND AR

Unity and Unreal Engine integration: You can integrate ChatGPT into popular game engines like Unity or Unreal Engine to control interactive dialogues and events within VR/AR apps.

APIs for real-time responses: You can use OpenAI's API to integrate GPT-4o or similar models into AR/VR applications for real-time conversation capabilities.

Voice and gesture input: You can combine ChatGPT with voice recognition or gesture control technologies to make conversations feel more natural, and better fitting with the immersive qualities of VR and AR.

Chapter 15

Using ChatGPT in the Real World

As glitzy and even glamorous as ChatGPT and its outputs can be, it's the usefulness of this tool in managing everyday life that tends to prove its value. Or not. It's the changes to the routine and the mundane — the things you tend to view as constants in your personal and work life — that will be the most disrupted by ChatGPT and the most challenging to navigate. Life as you know it will change in a multitude of ways. Some will be profound, some will be barely noticeable, and others will be harmful.

In this chapter, you'll gain some insight into what some of these changes are likely to be. There will be more. Many more. But for now, consider these few earth-shaking impacts.

Dying Keywords

ChatGPT and its competitors, such as Microsoft Copilot, Google Gemini, and Meta AI, are already reshaping how people interact with search engines and use search engine optimization (SEO) to make content and websites searchable.

Because ChatGPT and the others can provide direct, summarized, and unified answers, many will accept those outputs as answers to their search query and look no further. In other words, they'll frequently bypass traditional search engines entirely. And when they do visit a search engine, they'll often be disinclined to click on traditional search results to investigate the matter further — or to fact-check the AI's response.

This hard shift in user behavior challenges the business model of search engines, which have long relied on users clicking on links. If too few people regularly click on links in search engine results, website traffic could diminish, which would also negatively affect ad-based revenue models.

For example, Google may suffer a drop in traditional search ad revenue if people don't click on ads in the search results or click on ads posted on partner websites. I reported on Google's dilemma in *InformationWeek*. To summarize, Google may be impacted negatively either way. Google Search can't compete with the likes of Bing Copilot and Perplexity AI search if Google doesn't provide an AI alternative. So, of course, it does provide AI summaries at the top of some search results. But in doing so, it could be hurting its own revenue streams.

ChatGPT and competitor summaries at the head of search results bring no joy to any person or organization seeking to attract online traffic to their content or website. Web traffic may slow or even dry up in the future. The SEO keywords that these people long relied upon to bring traffic will lose their appeal to searchers because generative AI chatbots don't need keywords to understand and answer your question.

The one saving grace is that AI will continue to use keywords to find and pull information off the internet and out of private databases. ChatGPT and its competitors will use other techniques too, but the point is that search capabilities are still necessary at least for the moment.

Meanwhile, SEO tactics will evolve as ranking in traditional search results becomes less critical, but machines will still use them.

Content creators will need to focus on ensuring their material is easily accessible to AI applications and systems. Organized, machine-readable data (structured data), information enriched with clear context and meaning (semantic content), and indicators of credibility and trustworthiness (authoritative signals) will become increasingly important as AI tools like ChatGPT aggregate insights from a variety of sources.

This shift in user behavior on traditional search engines is likely to change how content is presented online as well. For example, consider a marketing content funnel which is a common marketing strategy that uses targeted content to guide potential buyers from general awareness of a subject to the purchase of a specific product. This tunnel has three parts: top, middle and bottom. The top of the funnel consists of general interest content designed to attract potential customers early in the buying cycle and links to content further down the funnel. The middle of the funnel offers content that contains more in-depth information and nurtures sales leads, and the bottom of the funnel is filled with content focused on completing the sale of a specific product or service. Top-of-the-funnel content will likely disappear as ChatGPT's narrative summaries can easily and quickly answer any requests for information on almost any topic. This has the potential of diminishing the draw of the tunnel strategy since search narratives will not point to or link to marketing content in any company's funnel.

ChatGPT and other AI chatbots' ability to curate information also may reduce the time that you and others spend browsing individual websites. This might severely disrupt content consumption patterns and challenge businesses reliant on search-driven traffic.

Unfortunately, overreliance on search summaries will likely add to the rise of misinformation too. When people blindly accept AI summaries and outputs as factual, they're easily fooled. It's important to fact-check and verify generative AI outputs — ChatGPT results or otherwise — but that's not likely to happen on

an appreciable scale because people tend to opt for convenience over substance.

As generative AI tools like ChatGPT continue to disrupt search results and content delivery, traditional SEO and monetization strategies will need to adapt. Bottom line: This fundamental shift in search behavior can mean that not only are keywords dying in the public's eye, but so may various types of online businesses and industries.

Moving from Information Search to Knowledge Assistants

As you just saw in the previous section, ChatGPT and similar AI models are driving a shift from traditional information search to the use of AI summaries as a unified search result. In so doing, these AI chatbots are also driving a swifter evolution in knowledge assistants. You're most likely familiar with earlier forms of knowledge assistants, such as Siri, Alexa, and Google Assistant. Instead of searching through links, you can ask questions and receive direct and unified answers, and that effectively transforms search into a conversation.

Now ChatGPT and similar AI chatbots are being embedded in these same knowledge assistants to supercharge their evolution. Thus, each can then provide more personalized, interactive, and contextualized responses.

But knowledge assistants are also expanding into new areas with new purposes. They can be built to help customers and employees or even serve the elite, from celebrities and CEOs, to specialists in medicine and science and space explorers. Each of these knowledge assistants has access to specialized and personalized data.

In general, knowledge assistants designed for highly specialized and customized service share a main purpose: delivering instant answers from a company's internal data sources through a conversational interface. They can comprehend queries and sift through knowledge bases, databases, and other internal repositories to provide precise answers and detailed processes. In doing so, both the work quality and the speed are greatly enhanced, which assists you in making informed decisions without having to constantly stop to do a manual search for information or reach out to colleagues.

WARNING Be careful not to confuse terms while you're sorting the various generative AI tools and functions. For example, agent assist tools suggest specific actions to facilitate work done by human helpdesk and customer service agents, but knowledge assistants are AI applications that focus on supplying information — either to the human agent working at the helpdesk or in IT support, or directly to the customer. Knowledge assistants facilitate access to data while agent assist tools manage the workflow. Another difference: Knowledge assistants allow for follow-up questions, suggest related queries, offer analytics on trends and effectiveness, and identify knowledge gaps. AI agent assist tools just focus on performing specific tasks.

The pros of the shift to knowledge assistants include faster access to information, convenience, and the ability to get detailed, contextual responses without sifting through multiple sources. Knowledge assistants can also handle more complex queries than traditional AI assistants by combining information from different sources and from a specialized perspective.

However, cons come into this shift too. People may become overly reliant on or even addicted to AI systems and tools like ChatGPT-enabled knowledge assistants. That could severely reduce critical thinking and independent research skills and

activities. Transparency, accuracy, and bias are ongoing concerns with AI systems and tools; they may not always provide the most reliable or diverse sources of information. Additionally, the lack of direct interaction with websites may overly limit users' exposure to diverse perspectives and in-depth knowledge. In short, users may be dumbed down.

Living with Misinformation and Manipulation

Speaking of dumbing-down effects, ChatGPT and its competitors have an evil side. I keep mentioning ChatGPT's competitors because I want to emphasize that these issues don't belong to ChatGPT alone; rather, they apply to various degrees across the board.

Society has entered a new era of widespread false and misleading information. You need only look at the multitude of conspiracy theories zipping across the web on any given day to see that. But with ChatGPT and its competitors, information dissemination jumps to an entirely new level, with significant implications in the spread of disinformation.

These generative AI chatbots can be maliciously exploited to create convincing but entirely fabricated news articles, social media posts, and fake testimonials that are indistinguishable from legitimate content online. For example, anyone can prompt ChatGPT to fabricate a news story about a political figure involved in a scandal that never occurred. The story, replete with fabricated quotes and false evidence, can spread rapidly across social media platforms, sowing confusion and manipulating public perception. It could even tilt an election, especially if many such falsely generated stories are spewed by these chatbots in every language and in every internet nook and cranny where targeted audiences can be reached.

Further, the underlying generative AI models can be fine-tuned to mimic the writing style of specific individuals or reputable news outlets, making the distinction between authentic and fake content increasingly difficult for the average person. Malicious actors can, for example, manipulate stock prices, influence election outcomes, and incite social unrest through a series of tweets and other social media posts and comments that appear to be from a trusted journalist, a respected business leader, or a political figure. The speed and scale at which ChatGPT and its competitors can produce AI-generated disinformation poses significant challenges for platforms and individuals to overcome in the effort to maintain integrity in public discourse.

Manipulation tactics go beyond spreading false narratives to include strategies that create and maintain emotional and psychological impact. GenAI tools like ChatGPT can analyze vast amounts of data to instantly identify the most effective ways to attract, engage, and manipulate specific individuals or groups. For example, GenAI tools like ChatGPT can create polarizing or provocative material that's more likely to be shared and believed, even if it's entirely baseless. This capability can amplify existing divisions and create new ones within any given community. It can also undermine trust in news media, respectable sources, and the larger information ecosystem.

The line between reality and lies becomes increasingly blurred as GenAI tools continue to progress. The potential for misuse of these technologies requires the development and use of strong and continued countermeasures. Such can include digital literacy education, the development of sophisticated detection tools, and the implementation of strict ethical guidelines governing the use of AI in the generation and dissemination of content.

Narrowing Options

If you're relying solely on ChatGPT or similar AI tools, be aware that it can limit your exposure to diverse perspectives, narrow your understanding of an issue or topic, and limit your awareness

of differing evidence, opinions, and broader sources of information. Always remember that and make a point to look for other sources of information outside of AI, or even through interactions with other AI tools that use a different underlying model than the first AI tool you used.

There are lots of dangers for you and society in overreliance on ChatGPT and other AI tools. Not all of them are obvious. For example, algorithmic bias is often invisible to your eye and your mind; nonetheless, it might cause you to unknowingly receive a skewed or incomplete picture of any issue or situation.

Further, when AI condenses complex topics into easily digestible AI summaries, you're losing out on the depth and nuance that may deliver an entirely different meaning than you gleaned from the AI's summary. It's as if you're trying to understand quantum physics but listening only to sound bites. For example, if you want to understand geopolitical conflicts, you may think you've got a good handle on the issues when you only have a simplified AI overview that excludes the historical context or conflicting ideologies involved. Over time, continued shallow exposures to information lead to a more surface-level or childlike understanding of important and complex subjects.

Confirmation bias, the tendency to interpret new evidence as confirmation of your own beliefs or theories, can also be a big problem. ChatGPT and similar generative AI tools generate responses based on patterns in your interactions with them. This can result in them delivering responses that inadvertently confirm and strengthen any preexisting viewpoints you may have.

If you consistently ask for information that aligns with your own biases, ChatGPT will continuously oblige. You can even write prompts that inadvertently expose your belief or opinion in some way, which can cause ChatGPT to respond in the same vein, creating an echo chamber that seemingly confirms your stance. For example, if you aren't careful in your prompting while seeking political information, you may receive responses from ChatGPT that mirror your views and ignore opposing arguments.

ChatGPT also doesn't routinely provide links to the original sources it uses to generate a response. You must prompt it to provide that information for you — and even then, the list may be incorrect or even fabricated. But knowing its sources is helpful in verifying facts or exploring more details in the material. Otherwise, you're effectively blinded to primary sources, academic papers, or niche viewpoints.

Finally, using AI as the sole source of information limits discovery of new information. You're more likely to find yourself covering familiar information repeatedly than you are to stumble upon new, unexpected ideas through exploring different sources. Traditional search often leads users to diverse content they weren't initially looking for, which can aid critical thinking and spur new ideas. By contrast, ChatGPT-generated responses tend to be more targeted and specific, which often eliminates any opportunity to find something new. You can overcome this somewhat by prompting ChatGPT to deliver related or associated information. That's still typically not as useful as free-thinking your way through search results, although those can limit your thinking too. Every technological choice results in a trade-off of some sort. The more you allow technology to think for you or to assist you by hand-feeding you information, the more you limit your ability to expand your own knowledge.

REMEMBER ChatGPT and similar AI tools offer speed and convenience, but they do so at the cost of limiting your understanding of complex issues and your ability to connect the dots in information that can lead to new breakthroughs.

Your Brain on ChatGPT

For better or worse, every technology affects the human brain in some way. For example, a study by McGill University in 2020 found that frequently using GPS causes a corresponding decline

in hippocampal-dependent spatial memory. In essence, you don't remember the way to places, so you rely on GPS to guide you again to the same place, and then you're stuck on repeat, each time becoming more reliant on GPS to get anywhere. Similarly, reliance on autocorrect diminishes your spelling skills, overuse of calculators softens math skills, and relying on your smartphone's contact database makes it hard for you to recite anyone's phone number.

Some technologies affect the human body as well, such as the effect too much screen viewing has on eyes and the effect that always hunching over a smartphone or other device has on posture and neck pain.

It should come as no surprise then that ChatGPT and other generative AI tools also affect you and society. For example, a research paper published in *Nature* titled "Impact of Artificial Intelligence on Human Loss in Decision Making, Laziness and Safety in Education" found that AI tools rob people of decision-making skills and leads to laziness. I would add that ChatGPT and other GenAI tools reduce intellectual curiosity and critical thinking skills. What's there to be curious about or to contemplate when you know that anything you might want to know at any time is there for the asking? In other words, what is the purpose of extended knowledge exploration or pursuit if ChatGPT already has all the answers for you?

One of the more alarming aspects is that ChatGPT is supposed to free more of your time so you can spend it on higher purposes — presumably inventing, innovating, and creating stuff. But can you, though, if using these tools also reduces your cognitive ability?

In any case, it's good to be aware of what can happen so you can temper your use of this tech or take steps to offset the impact.

Cognitive atrophy is the elephant in the worry-room. Overreliance on GenAI tools like ChatGPT to perform tasks such as writing, problem-solving, and even engaging in conversation might squash your ability to perform these tasks without assistance. That's similar to, but more dire I think, than the "Google effect,"

aka "digital amnesia," that the Columbia University researchers detailed in the study "Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips." Essentially, they found that the ease of finding information online impairs your ability to remember it. In the case of ChatGPT and its competitors, you could soon find yourself struggling to carry on a conversation or write an email.

Other researchers have found that overuse of conversational AI tools can affect social behavior and interpersonal skills. Essentially, you become more comfortable chatting with the AI tool than with another human. Sherry Turkle's research at MIT went even further by suggesting that people become isolated and lose their sense of empathy when they overuse technology.

But it's also important to realize that this discussion is about a tool and not a drug or a demon. You can control how and when you use it and balance your life so that you have plenty of interactions that don't involve AI or a device. And, as I mentioned before, ChatGPT and similar AI tools bring many benefits. I've detailed many of them in other chapters of this book.

The key is to avoid thinking of ChatGPT as smarter than you. It isn't. It's just outstandingly good at data retrieval and data repackaging. Your brain, my friend, does way more than that.

Don't rely excessively on this tech, but do use it like you would any other data repository, be that a dictionary, encyclopedias, the internet, your car's operating manual, whatever. Keep ChatGPT in its place and yourself in your place, and venture boldly forth to make your own mark on the world. And when you do, take full credit. Generative AI tools are no more the creator of your work than a hammer is of building an architect's design.

If, however, you let ChatGPT take the lead — to make your decisions and do your work — then it and not you gets the credit, although you'll still get the blame. Don't believe me? Just wait until you copy ChatGPT's homework only to discover it was completely wrong or an outright plagiarism. Trust me, the court will summon you, not ChatGPT — to account and pay for the deed.

Part 4

The Part of Tens

IN THIS PART …

Getting practical work done with ChatGPT

Surprising ways to get more from ChatGPT

Focusing on the future of a world with AI everywhere

Chapter 16

Ten Useful Things You Can Do with ChatGPT

ChatGPT can perform many tasks, some better than others. But the real value of this tool lies in how helpful it is to you in your personal or work life. This chapter contains a list of ten useful things you can do with ChatGPT. Some of these may be surprising to you, but all of them are aimed at providing value over glamour.

Simplify a Lease Agreement before You Sign It

Do you find all the legalese in lease agreements for anything from cars and various types of equipment to apartments to be confusing and maybe a bit intimidating? You can use ChatGPT to

simplify and summarize or explain each section of any lease agreement so you can understand it better.

Keep in mind that ChatGPT isn't an attorney and that it can make mistakes. Even so, using it to take a first pass at reviewing lease agreements is helpful in revealing what you might need to ask questions about, whether you ask an attorney, a merchant, or a landlord.

TIP   Don't put the entire lease in the prompt. Instead, prompt one section at a time, or a couple of sections of the lease if one section references the other. This tactic will usually render a more thorough analysis or explanation of the lease. But if the lease is short, it may work well using the entirety of the lease language in the prompt. If the lease is long, group ChatGPT's summaries of each section into one prompt and ask ChatGPT to explain it in total. This will likely surface potential concerns that lurk beyond the language in each section to new meanings formed within the relationship between two or more paragraphs or clauses.

Rewrite an Angry Retort into a More Tactful Response

It may feel cathartic to write a nasty email, comment, or social media post in response to something you find offensive, but such an action could also cost you your job, your customers, or your reputation. Fortunately, you can turn to ChatGPT to rewrite your response so that you can still express your displeasure but without using language that may bring you painful consequences.

When writing the prompt to get ChatGPT to add some diplomatic polish to the rage in your message, don't paste your angry words verbatim into ChatGPT's prompt field. Remember always that your words might be kept to train future AI models, and those words can come back to haunt you at some point. It's better to write a prompt stating that you want ChatGPT to "write a tactful response expressing disagreement/displeasure to the primary point made in the following social media post. Focus on my disagreement with the central point but also include specific points x, y, and z (whatever the central points are to your argument) to support my position."

Create Resumes and Cover Letters Customized for Each Job and Employer

I find it difficult to understand why cover letters are still considered necessary when resumes are written to be read by machines. Do cover letters sway the machine to pick your resume from the pile? Of course not. Only the right combination of keywords in the resume will help you there.

Perhaps someone eventually does read the cover letters of the few candidates the machine picks, so I guess it's best to include one.

The good news is that you can use ChatGPT to customize your resume and a cover letter for each job and company you're contacting. This means you can apply for lots of jobs in a lot less time and with a lot less effort. Your chances of success are higher too because each application is targeted toward what the employer is looking for in terms of keywords and experience.

Well, it will use targeted keywords if you prompt ChatGPT to be sure to work those into your cover letter and resume.

Attach the job ad, the job description, and your basic resume to the prompt and ask it to generate a new resume containing the ten most common keywords for this job position. Ask for a cover letter in the next prompt. Edit both the resume and the cover letter output to your liking and submit them via the appropriate channel to apply for the job. Repeat the process for each job you want to apply for.

Engage in Conversations with Interesting Characters

You can engage in conversations with fictional characters or historical figures for fun or educational purposes. Simply prompt ChatGPT to respond accordingly. Stuck trying to solve a puzzle or a problem? Ask ChatGPT to be Sherlock Holmes and deduce the answer. Want to hear a first-person account of what it was like to live during the Great Depression? Ask ChatGPT to recount daily life from a farmer, a soldier, a mother of three, or anyone else living in that period.

You can "talk" to an endless list of characters to get their perspectives on any number of things. Your own imagination is the only limit.

ChatGPT can entertain or educate through the mouths and minds of characters alive or dead, real or fictional. It's a great way to explore ideas and potential solutions to anything that may be on your mind. It's also a fun use of downtime.

Get Homework Assistance Tutoring

Although many schools forbid the use of ChatGPT outputs as homework, writing exercises, or other academic assignments, ChatGPT can still help you or your children better understand the assignments.

In other words, don't use ChatGPT to *do* your homework, but prompt it to respond as a tutor or teaching assistant so that you can understand the assignment and the lesson better. For some parents, using ChatGPT as a tutor for the kids can save thousands of dollars and improve their scores too!

Check for Misinformation

You have plenty of reasons to doubt information you see online and in social media. One way to check for misinformation is to ask ChatGPT to fact-check it. Enter the info into the prompt and ask ChatGPT to fact-check it and provide the sources it used to do so.

TIP
Remember that generative AI exists in other software that may be more helpful in fact-checking ChatGPT. But be careful not to accidentally ask the same model to check its own work. For example, Copilot in the Bing search engine is based on the GPT-4 model, which ChatGPT also uses. So maybe not the best place to fact-check ChatGPT responses. However, there is an advantage to consider. Bing can search the internet for more recent information to fact-check the topic in ChatGPT's response if that version of ChatGPT is not connected to the internet. That's because not all ChatGPT applications are connected to the internet, so the models underneath may be limited to information prior to the training data cuttoff date.

Generate and Modify Recipes

ChatGPT can help you come up with new recipes based on ingredients you have on hand, dietary restrictions, or flavor preferences. It can also suggest modifications to existing recipes to accommodate allergies, improve nutrition, or experiment with different cuisines.

Need to take a dish to a potluck dinner or holiday event that's different from the usual fare? Prompt ChatGPT to give you ideas based on the amount of time you have to cook, the ingredients you have on hand, how well the dish keeps unrefrigerated, or some other criteria. People may end up thinking you're a chef!

Plan and Pack for a Trip

ChatGPT can assist with travel planning by suggesting destinations, creating itineraries, and providing information on local customs, points of interest, visa requirements, and travel advisories. It can help you and fellow travelers prepare for trips by suggesting attire to pack (and space-saving ways to pack it). It can also help you make informed decisions about the itineraries.

Provide Technical Support and Troubleshooting Help

ChatGPT can guide you through solving technical issues with electronics, software, or appliances. It's faster and easier than trying to find the answer in an owner's manual or on YouTube.

Specifically, ChatGPT can offer step-by-step troubleshooting instructions, explain error messages, or suggest common fixes for a variety of technical problems. And if none of that works, ChatGPT can tell you who to call for additional support, repair, or a refund.

Get Personal Finance Advice

ChatGPT can offer general guidance on budgeting, saving, investing, and managing debt. Although it's not a substitute for professional financial advice, it can give you basic information to help you understand personal finance concepts and make more informed decisions. For example, if you don't know how to read the stock page or a stock report, take a pic or screenshot and attach it to a prompt that asks ChatGPT to explain it to you!

And if you want to know more about the economy, interest rates, stock prices, investing tactics, or other factors that may affect your personal finances, ChatGPT can explain a lot of that and customize its answers to address how any of that specifically affects you. Just be aware that it occasionally makes errors, so be sure to look further into concepts that interest you, or consult a qualified advisor.

Chapter 17

Ten Amazing Things You Can Do with ChatGPT

....

IN THIS CHAPTER

» **Writing interactive stories, poems, and song lyrics**

» **Creating role-playing games or immersive language learning experiences**

» **Documenting technical information or**

» **Designing products**

» **Programming made fast and easy**

....

Given the fast pace of ChatGPT advancements, particularly in the immense capabilities the newer GPT-4o and GPT-o1 models bring, the list of things you can do with the chatbot appears to be limited only by human imagination. In this chapter, you look at ten amazing and perhaps surprising things you can do with ChatGPT now.

The suggestions in this chapter are meant to spark additional ideas as well as point you toward a few interesting projects. That's why each includes a description, an example, and a tip. At the very least, this list should prove that any interpretation of ChatGPT as a simple word-pattern prediction tool is a gross underestimation of its current and growing capabilities.

Interactive Stories

You can use ChatGPT to craft interactive stories where the reader makes choices that influence the outcome. For example, a reader

could choose which path a character takes at a fork in the road, leading to different story arcs like you see in Figure 17-1.

Title: The Adventure of Whiskers the Brave Cat

Once upon a time, in the cozy little town of Purrville, there lived a curious and brave cat named Whiskers. Whiskers had fluffy fur, bright green eyes, and a tail that swished with excitement at the thought of adventure.

One sunny morning, Whiskers woke up to a strange sound coming from the garden. It was a soft, mysterious melody that seemed to call out to him.

Do you want Whiskers to: A) Investigate the sound in the garden? B) Stay inside and look out the window?

If you chose A, keep reading. If you chose B, skip to the section marked with a B.

Generated with AI in ChatGPT

FIGURE 17-1: An example of the opening of an interactive children's story that ChatGPT created.

ChatGPT can also plot out the corresponding story arcs for you. Figure 17-2 is an illustration of that capability for the same story begun in Figure 17-1.

A) Investigate the sound in the garden

Whiskers leaped off his comfy cushion and darted out the cat flap. The garden was full of colorful flowers and buzzing bees, but the sound was coming from the old oak tree. As Whiskers approached, he saw a little door at the base of the tree that he had never noticed before.

Does Whiskers: A1) Open the door and enter? A2) Call out to see if anyone answers?

If you chose A1, continue. If you chose A2, skip to the section marked with A2.

A1) Open the door and enter

With a gentle push, the door creaked open, revealing a spiral staircase leading down into the earth. Whiskers, with a heart full of courage, tiptoed down the stairs. At the bottom, he found a room lit by glowworms, and in the center, a tiny mouse playing a harp. The mouse smiled at Whiskers and asked if he would like to learn a song.

Does Whiskers: A1a) Learn the song? A1b) Politely decline and explore the room?

If you chose A1a, continue. If you chose A1b, skip to the section marked with A1b.

Generated with AI in ChatGPT

FIGURE 17-2: ChatGPT-generated story arcs for the same story started in Figure 17-1.

TIP   Plan your branches and endings before starting. Keep track of the story paths to maintain coherence.

Customer Service Chatbots

ChatGPT can simulate customer service and help desk agent interactions with your customers by answering inquiries and providing help or guidance. For example, you can use ChatGPT to create customer interaction simulations or serve as a chatbot that assists customers in tracking their online orders or troubleshooting products after the sale. You can see an example of an agent-customer simulation in Figure 17-3.

Customer: Hi, I ordered a SmartChef Blender a week ago and I haven't received a shipping update. Can you help?

Customer Service (ChatGPT): Absolutely! May I have your order number, please?

Customer: Sure, it's #SCB2024922.

Customer Service (ChatGPT): Thank you! I've checked your order. It was shipped yesterday and should arrive by October 3rd. Your tracking number is 123456789. You can track it here.

Customer: Great, thanks for the quick update!

Customer Service (ChatGPT): You're welcome! If you need anything else, just let us know. Enjoy your new SmartChef Blender!

Generated with AI in ChatGPT

FIGURE 17-3: A chatbot conversation with a customer created by ChatGPT.

TIP   Train the chatbot on specific FAQs and to use a friendly, professional tone. Regularly update the knowledge base so the chatbot's answers remain up to date and accurate.

Educational Tutorials

ChatGPT can create step-by-step guides on various topics to teach students, to train employees and volunteers, or for other educational purposes and tasks. Examples include tutorials on how to use a software application or a language learning guide. Figure 17-4 is an example of a fun tutorial on how to blow a bubble using bubblegum.

How to Blow a Bubble with Bubble Gum

1. **Choose Your Gum:** Pick a piece of bubble gum for the best results.

2. **Prepare the Gum:** Unwrap the gum and pop it into your mouth.

3. **Chew the Gum:** Chew until it's soft and smooth, ready to be blown into a bubble.

4. **Flatten the Gum:** Use your tongue to flatten the gum into a small, even disk.

5. **Blow Gently:** Place the gum disk over your tongue, close your lips around your tongue, and blow gently.

6. **Grow the Bubble:** Keep a steady stream of air to expand the bubble.

7. **Catch the Bubble:** When you're done, close your lips to catch the bubble and pull it back into your mouth.

Remember, practice makes perfect. Happy bubble blowing!

Generated with AI in ChatGPT

FIGURE 17-4: An example of an educational tutorial that ChatGPT created.

Use clear, concise language and check for accuracy. Include visuals or links to resources in your prompts when possible.

Poetry and Songwriting

ChatGPT can generate poems or song lyrics in various styles and themes. Examples include making a sonnet about the changing seasons, as you see in Figure 17-5, or creating lyrics for a pop song about heartbreak.

Provide ChatGPT with a theme, mood, or style in your prompt to guide the creative process. Edit and refine the output until you have the piece you imagined.
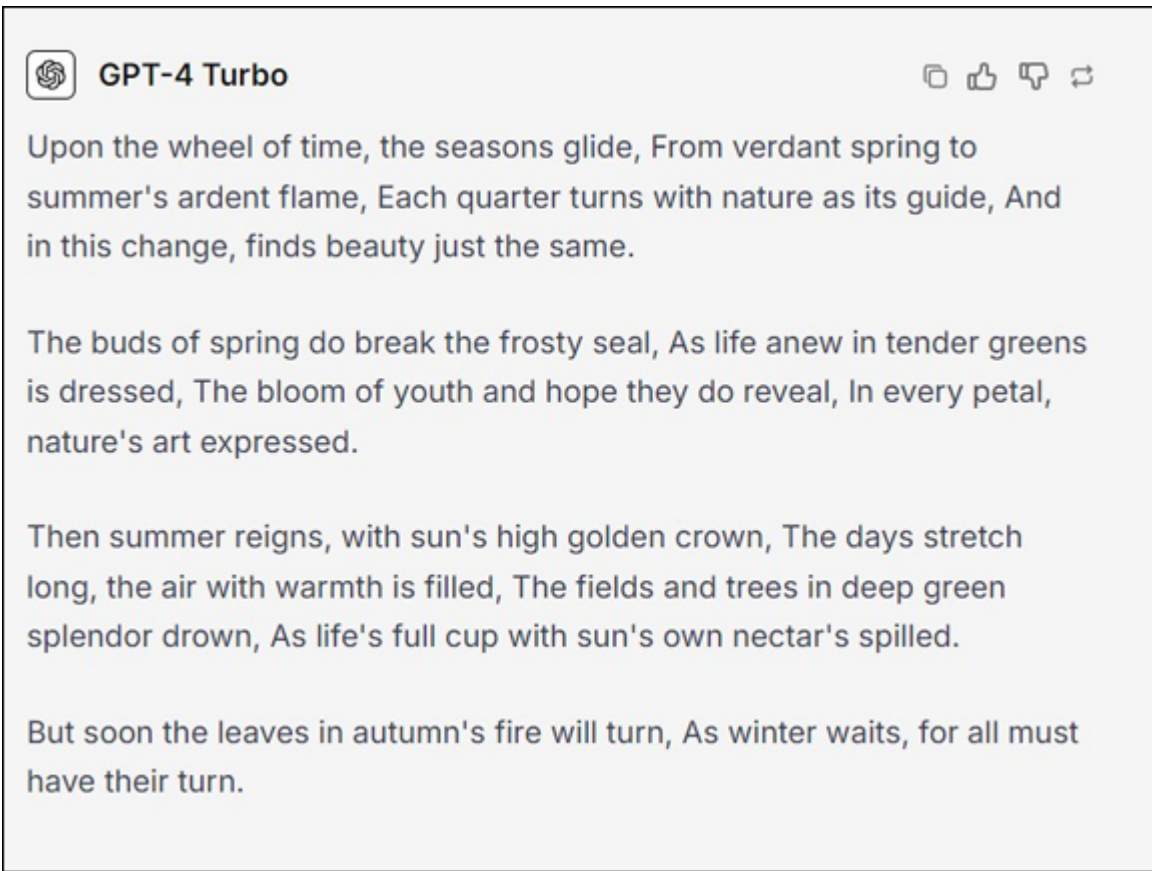
Generated with AI in ChatGPT

FIGURE 17-5: A ChatGPT created sonnet about the changing seasons.

Role-Playing Game (RPG) Narratives

Have fun using ChatGPT to create detailed narratives and dialogue for characters in role-playing games (RPGs). Examples include creating a backstory for a superhero's sidekick in a game, as in Figure 17-6, or creating a script for a quest.

Generated with AI in ChatGPT

FIGURE 17-6: Here is an example of a ChatGPT-created backstory for a superhero's sidekick.

TIP Give ChatGPT context about the game's world and characters. Use the output as a starting point for further development in the next prompt and so on until you have the backstory or script exactly the way you want it.

Language Learning Conversations

ChatGPT can simulate conversations in different languages to help you or your students learn and practice a new language. One

example is creating a mock conversation in Spanish to practice ordering food at a restaurant, as you see in Figure 17-7.
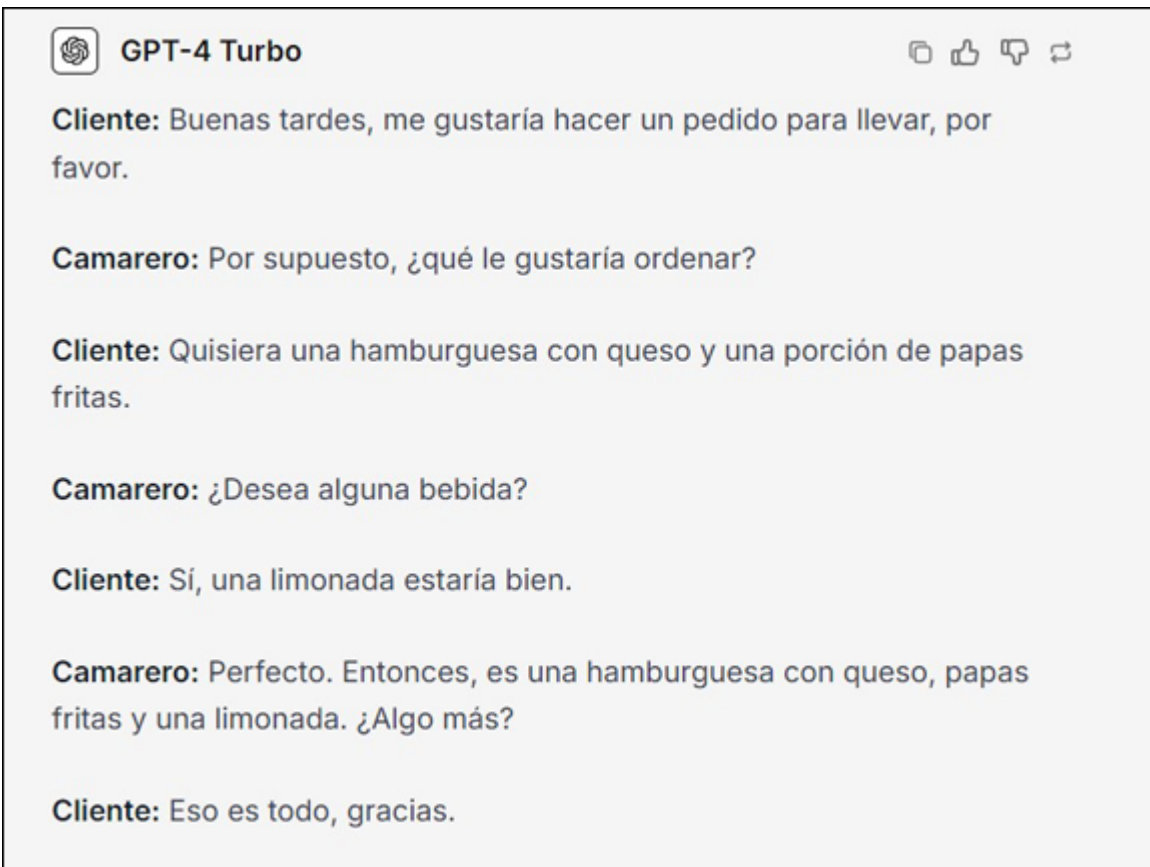
Generated with AI in ChatGPT

FIGURE 17-7: ChatGPT can create a practice conversation in Spanish in which you or a student can answer a fictional waiter's questions to order a meal.

TIP   Start with simple conversations in common scenarios and gradually introduce complexity. Correct any errors to prevent learning mistakes. It's also a good idea to double-check ChatGPT's translations with a human translator or a separate translation tool.

Technical Documentation

ChatGPT can assist in writing technical documentation for software and hardware. Examples include writing API documentation or a user manual for a new tech product. You can also use ChatGPT to pull key data points from that documentation to use in a FAQ. Write and reuse the generated copy in any way you see fit.

TIP Provide specific technical details to ensure accuracy. As you would in any other technical documentation process, review and test the documentation for clarity and completeness.

Personalized Workout and Diet Plans

ChatGPT can generate customized fitness routines and diet plans based on your preferences, limitations, and goals. For example, use ChatGPT to create a personalized four-week cardio-focused workout schedule or a vegetarian meal plan for weight loss. See Figure 17-8 for a snippet from a ChatGPT-generated recipe for a vegetarian dish for weight loss and an increased intake of vitamin B12.

Notes:

- Vitamin B-12 is not naturally abundant in plant-based foods. This recipe includes fortified vegetable broth and optional Greek yogurt to help increase the intake of B-12.

- For a vegan version, omit the Greek yogurt or use a plant-based alternative that is fortified with B-12.

- This dish is high in fiber and protein, which can aid in weight loss by promoting a feeling of fullness.

Enjoy this delicious and nutritious curry as part of your weight loss journey while also boosting your vitamin B-12 intake!

Generated with AI in ChatGPT

FIGURE 17-8: You can create a ChatGPT-generated vegetarian recipe for a normal adult seeking to lose weight but increase their vitamin B12 intake.

> **TIP** Include accurate user data and goals for personalized recommendations in your prompt, and consult with professionals for health and safety. Remember that ChatGPT is no substitute for a doctor or nutritionist.

Product Designs

ChatGPT can assist in generating product design concepts, features, and descriptions. Examples include a new electronic car design that increases storage space or ideas for a smart water bottle tailored for gym enthusiasts, including a hydration tracker and app integration. Figure 17-9 below shows a rendering of a smart water bottle.

FIGURE 17-9: ChatGPT can create a design for a smart water bottle that includes a hydration tracker.

TIP Provide detailed product goals and user demographics. Use suggestions as a creative foundation to develop further.

Coding Tutorials and Examples

ChatGPT can provide explanations and write code snippets for programming concepts and languages. One example is a Python computer language-based tutorial on how to create a web scraper or examples of components for React, the free and open source JavaScript library for building user interfaces (UI), as you see in Figure 17-10.

GPT-4 Turbo

Certainly! Below are examples of two simple React components:

Functional Component Example:

```jsx
function WelcomeMessage(props) {
  return <h1>Welcome, {props.name}!</h1>;
}

// Usage
<WelcomeMessage name="Alex" />
```

This functional component takes a `name` prop and renders a welcome message.
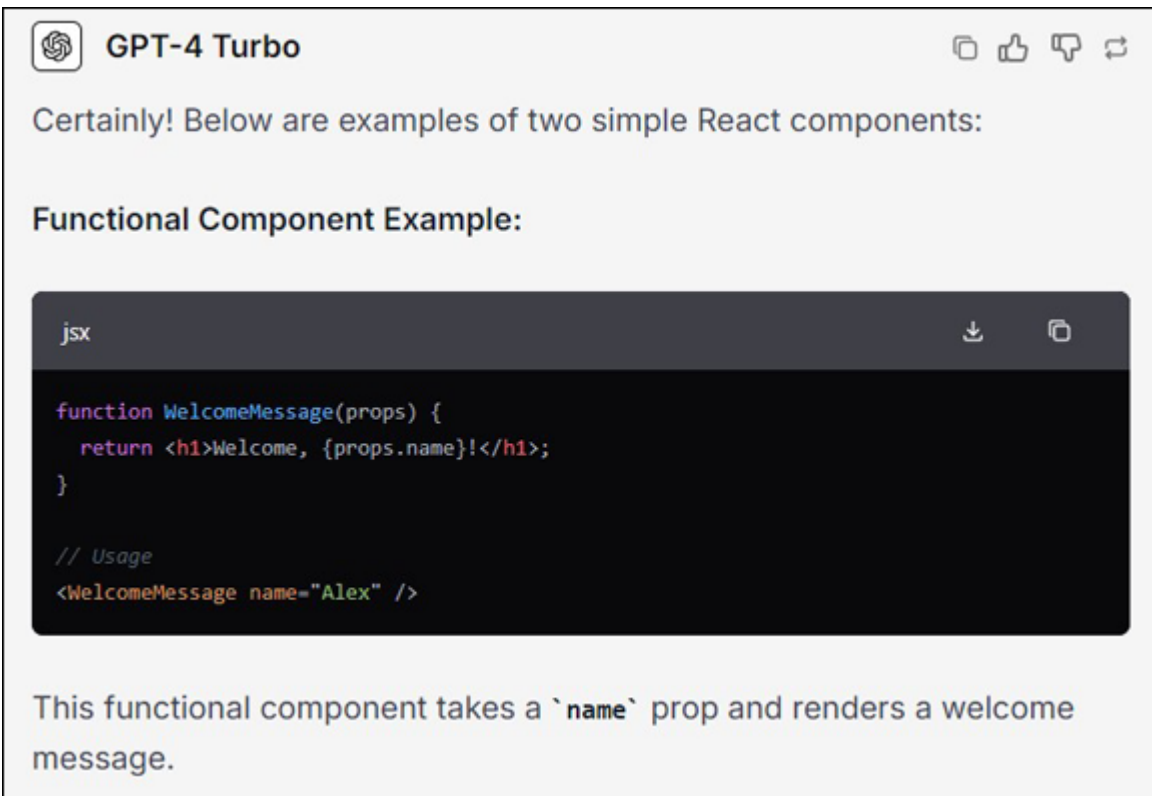
FIGURE 17-10: A functional React component example that ChatGPT created.

TIP   You'll likely discover that using GPT-o1 as the underlying model powering ChatGPT for this exercise yields the best results. Even so, be sure to verify the code for accuracy and functionality. Tailor explanations to your own or the learner's skill level.

Chapter 18

Ten Bold Predictions for the Future of ChatGPT and Generative AI

....

IN THIS CHAPTER

» **ChatGPT as the commander of autonomous AI agents**

» **ChatGPT as discoverer of new scientific breakthroughs**

» **ChatGPT as instant, real-time interpreter**

» **Raising the level of self-care healthcare**

» **Surviving an AI content swamp**

....

You're not alone if you think ChatGPT is a modern miracle. In technological terms, it certainly is. But in many ways, it's still in its infancy and far from a mature and fully realized tool. That means you should expect continued progress in models, features, and capabilities for the foreseeable future. Be sure to stay abreast of developments as they happen. For most people, it's much easier to learn about incremental changes than to grasp all the details in huge technological jumps.

It's important to learn of new features and capabilities, but it's also smart to constantly explore uses for them. To get your thoughts primed in that direction, here's a peek at what I predict will be the short- to mid-term future for ChatGPT.

Integrating into Everyday Applications

Generative AI models and applications like ChatGPT are embedded in an array of existing software and devices. But that's just the beginning. Expect that trend to continue until it's nearly impossible to use any application or device (industrial, commercial, or personal) that doesn't have ChatGPT or one of its competitors in it.

Further, you can expect the rapid rise of devices and software to be built on top of ChatGPT. Already, wearable devices, phones, tablets, and laptops are being built and sold as "AI-ready" or with embedded AI capabilities. Those are primarily based on chatbots like ChatGPT. Look for new devices not yet imagined entering the scene as well.

Advancing Multimodal AI Capabilities

Yes, it's true that ChatGPT has come a long way since its debut on the market just a short time ago. For example, ChatGPT 4o is multimodal, and that's no small accomplishment. But as of this writing, some of its multimodal outputs — particularly in data visualizations and images — have a lot to be desired, although they're steadily improving.

Certainly, the specialized GPTs in ChatGPT's GPT Store help, but even they have shortcomings. Consider Figure 18-1, and note the oddities in the pie chart that Image Generator (a GPT in ChatGPT's GPT Store) seems to recognize as it promises to make another, only to fail to follow through.

If you're trying to make an infographic or a specific illustration, for example, you're likely to be frustrated with the results. This will improve over time as ChatGPT's multimodal AI capabilities continue to improve. Indeed, the capability is steadily improving even as I write this book. Consider the much-improved ChatGPT 4o's pie chart in Figure 18-2.

Recently, Canvas was added as a model choice in ChatGPT and now it is an embedded capability that can be automatically or manually triggered. When the model senses that your prompt requires deeper analytical work it automatically triggers Canvas to take over. But you can manually initiate Canvas too. For example, note the pencil icon at the bottom of ChatGPT's response in Figure 18-2. Click on the pencil icon and you can edit the pie chart using Canvas in ChatGPT. Note also the icons at the top right of ChatGPT's pie chart. The first icon in the margin allows you to turn this static pie chart into an interactive pie chart. The second icon lets you change the colors in the various sections of the pie chart as Figure 18-3 shows. The familiar arrow icon, shown in the margin, allows you to download the pie chart. And the final icon allows you to enlarge the pie chart as seen in Figure 18-4.
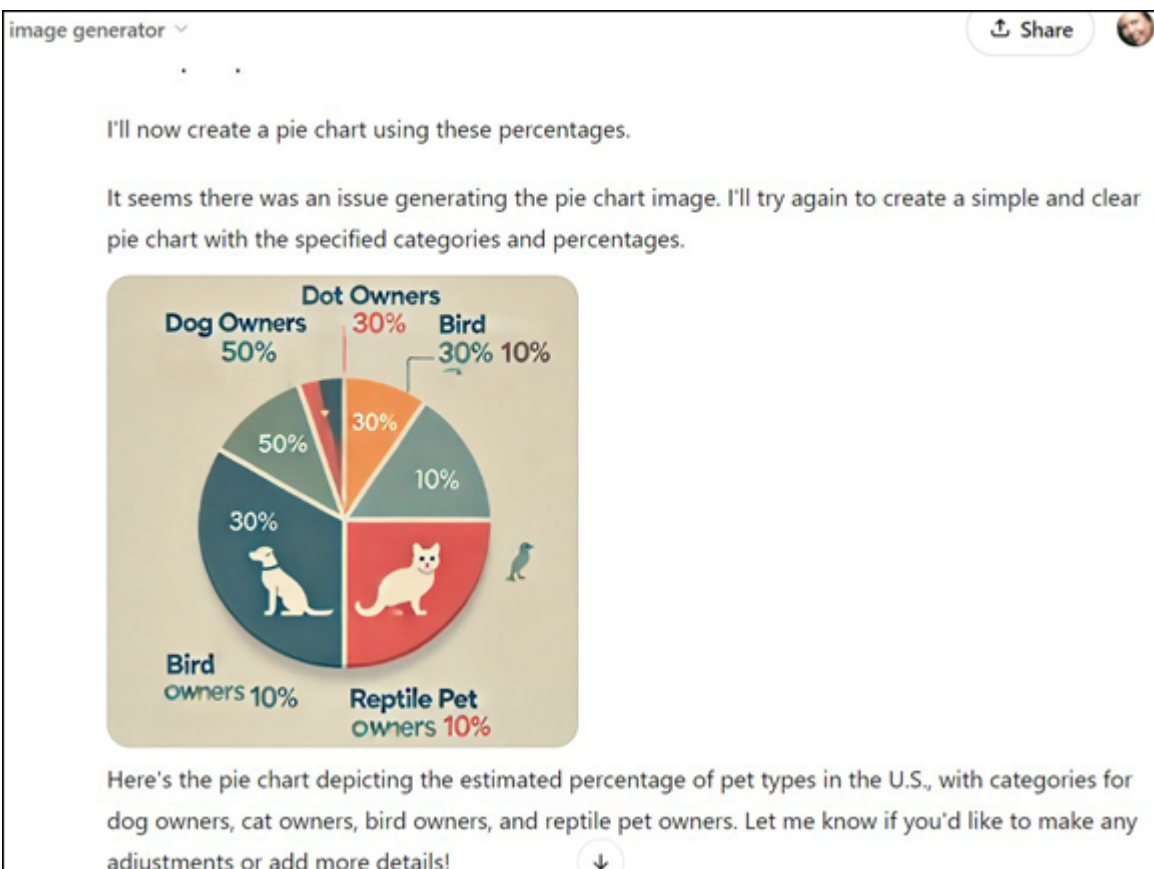
Generated with AI in ChatGPT

FIGURE 18-1: A pie chart generated by Image Generator, a GPT in ChatGPT's GPT Store.
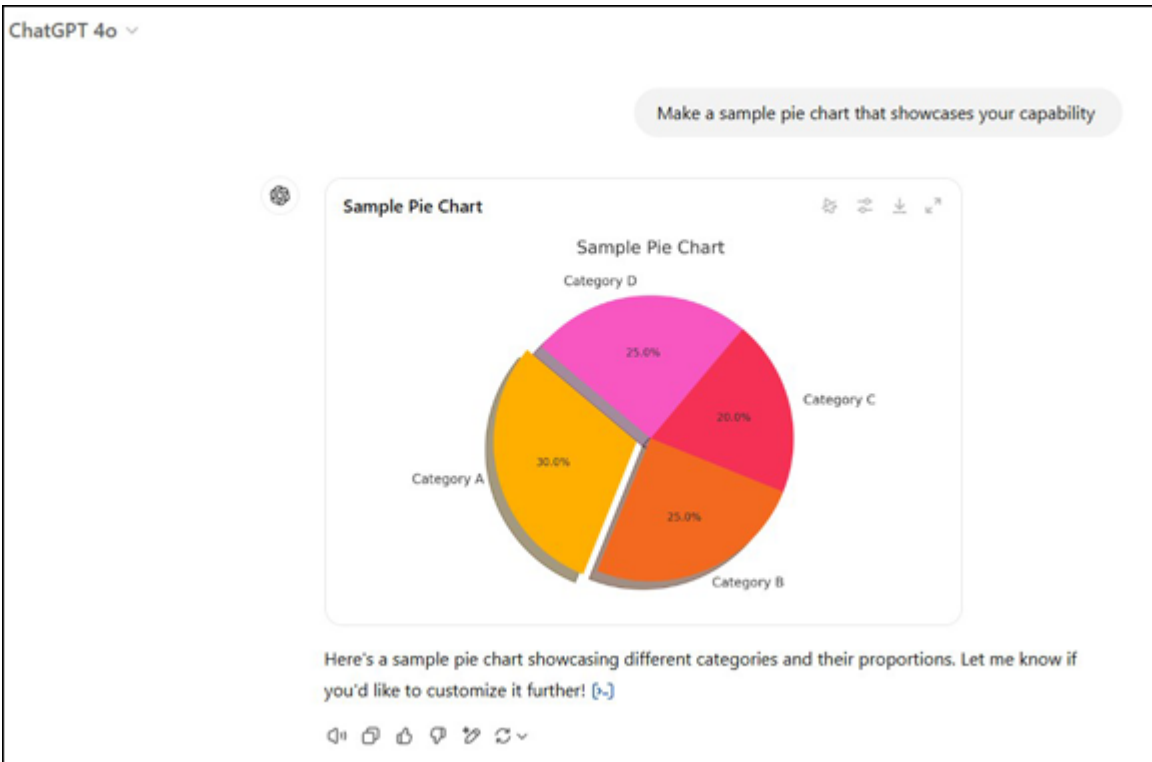
Generated with AI in ChatGPT

FIGURE 18-2: ChatGPT 4o's improving capabilities in making a pie chart.
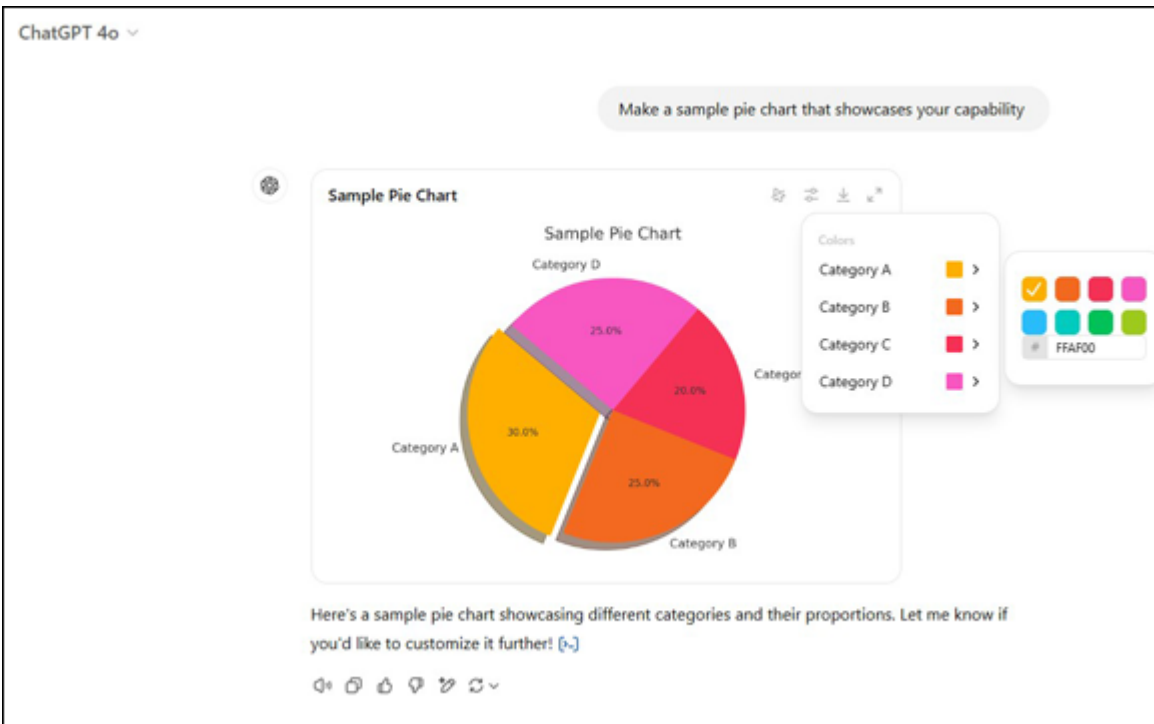
Generated with AI in ChatGPT

FIGURE 18-3: A screenshot showing the pie chart color editing capability in ChatGPT 4o.
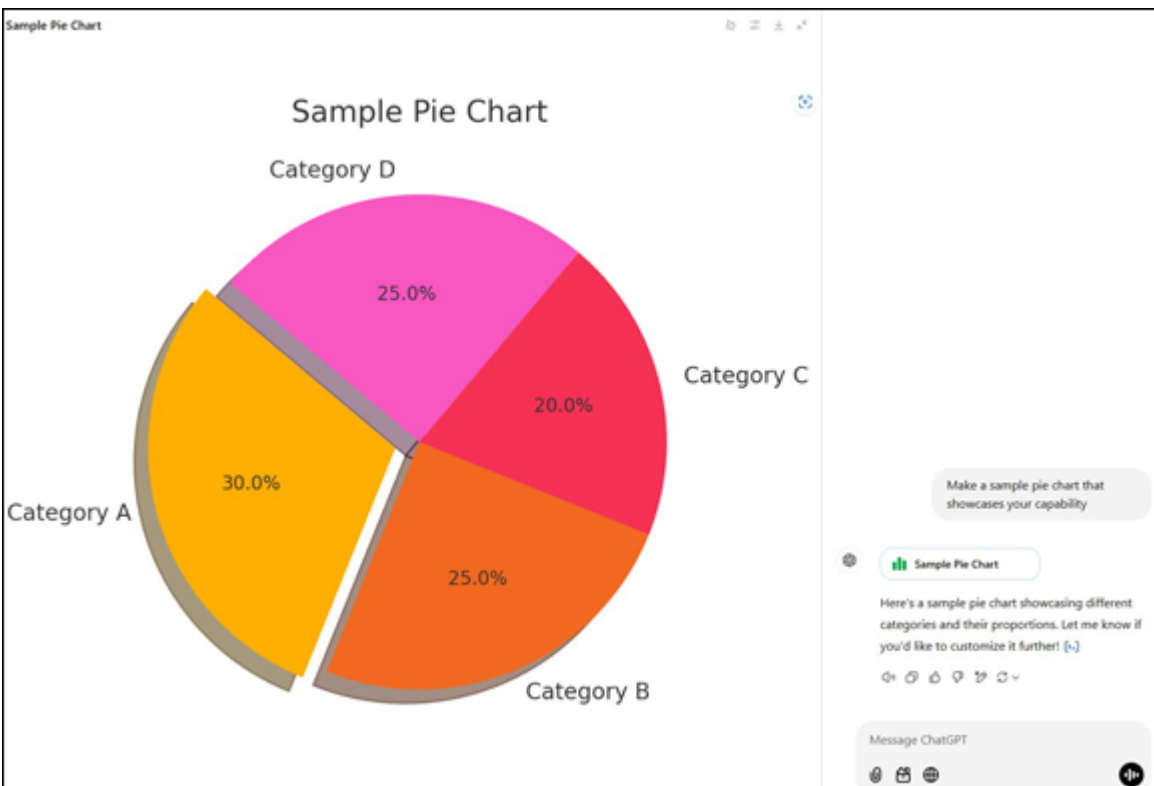
Generated with AI in ChatGPT

Soon ChatGPT's multimodal capability will enable ChatGPT to understand and create content that seamlessly combines different data types into one integrated output. For example, it could produce an ad complete with text, product still images, and interactive and speaking avatars in a video or assisted reality (AR) environment, scored with an original jingle for the brand in a single output. Hang on to your hat; there's a lot more to come from ChatGPT.

Personalizing AI Assistants

Soon you'll have access to AI assistants like Alexa and Siri that have ChatGPT embedded so that they can learn better from their interactions with you on how to provide personalized support. These assistants will adapt to individual preferences and needs, offering customized recommendations, reminders, and even creative content — including personalized entertainment — tailored to your tastes and preferences.

More AI assistants will appear on the scene too, but this new batch will be "AI-first" (meaning AI is the central component) creations with far more capabilities than traditional assistants can offer. For example, some will use ChatGPT as the user interface (UI) and the system commander overseeing a bevy of autonomous AI agents trained to complete tasks for you. In other words, these new AI assistants will be able to book flights and hotels for you as well as make dinner reservations, order groceries, and perform other tasks. AI agents complete tasks for you on your device and/or on websites, logging in and interacting as if they were you.

You can see the beginnings of this progression in the recently added ChatGPT with scheduled tasks feature as shown in Figure 18-5.
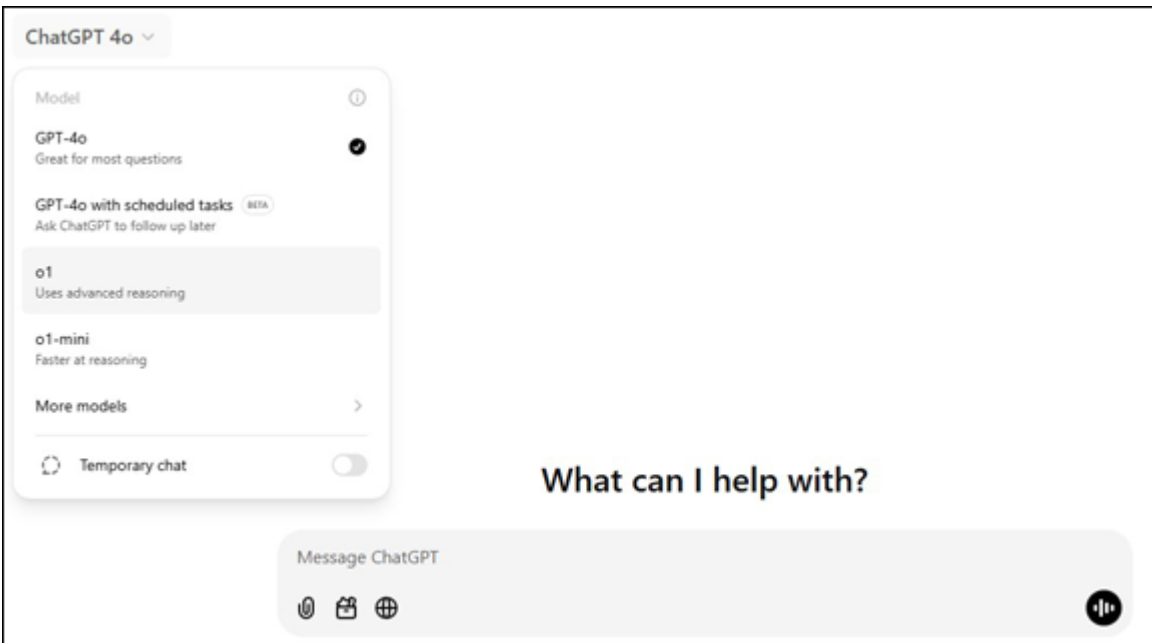
Generated with AI in ChatGPT

FIGURE 18-5: A screenshot showing the model dropdown menu's "ChatGPT with scheduled tasks" feature.

My prediction is that apps as we know them today will disappear into the background where generative AI models and apps like ChatGPT will use them instead of people — at least most of the time. In other words, ChatGPT or a competitor commanding an army of AI agents will do everything for us instead.

Improving Contextual Understanding

ChatGPT uses context to better predict what response would fulfill the requirements in your prompt. But for the moment it uses limited contextual information to do so. This partly accounts for some of its repetitive responses, hallucinations, and wide misses in a few of its outputs.

As ChatGPT matures and its underlying models do too, it will rely on more information for context, which in turn will vastly improve its responses to your prompts. The resulting enhanced algorithms

will also enable ChatGPT to correctly work with longer prompts and to maintain longer and more coherent conversations.

Enhancing Emotional Intelligence

As ChatGPT becomes better at using context to calculate increasingly more accurate and appropriate responses, it will likely develop a form of enhanced emotional intelligence almost by default, but also as guided by the guardrails that its maker applies.

When ChatGPT matures to that degree, it can also serve as a companion for lonely, ill, or disabled people, or anyone really. People may prefer that ChatGPT be installed in robotic form to work as a companion or an assistant capable of doing manual work, but ChatGPT can serve as a companion in its original form as a chatbot too.

In any case, you will have to work harder to keep from anthropomorphizing ChatGPT. No matter how humanlike ChatGPT, other AIs, and robotics appear, they're still just tools and not people. If you treat ChatGPT and other generative AI applications as human, you're much more likely to become dependent on them, maybe even addicted to them, and make serious — perhaps even fatal — mistakes from believing them to be smarter than you.

Drowning in an AI-Content Swamp

Much is said about the dangers of ChatGPT and other generative AI produced misinformation, and rightly so. But there are other dangers from the swell of this content.

For one thing, at some point, the internet will be overrun with AI-generated garbage content that will be little to no value to anyone. It will be difficult to tell which content is accurate and which isn't; which content was made or vetted by humans, and which by machines or not vetted at all; which content is deliberately — perhaps even maliciously — manipulative, and which content is simply factual.

For another, emails, texts, comments, and other communications will soon be mostly chatbots talking to chatbots — one ChatGPT to another. That may leave humans communicating with no one at all. It's hard to see that as emotionally healthy or rewarding for anyone.

Further, if you think you're inundated with advertisements now, wait until you see how many ads ChatGPT and other generative AIs can generate and where they can put them. You may soon find yourself trying to protect nature and yourself from a tsunami of advertisements and other agenda-riddled content.

Collaborating AI Systems

ChatGPT and other generative AI-based chatbots make excellent user interfaces because anyone can communicate with and command them in their own natural language. They also make great captains or commanders of autonomous AI agents and other AI applications that comprise an AI system. For example, an autonomous car uses several types of AI and automation to handle the complex series of tasks involved in driving. Together, they make an AI system.

As mentioned in the "Personalizing AI Assistants" section, ChatGPT can serve as the captain or commander that coordinates and evaluates other AIs in a system. But it can also enable different AI systems to collaborate with one another. The use cases for such configurations are seemingly endless in industry, commercial and retail, finance, and other sectors. There are personal use cases as well wherein a smart home, a smart

car, and a smart office, for example, become one unified AI-run system to see to your every need. Cool, huh? And yeah, maybe it's more than a little worrisome too.

Accelerating Scientific Research

Like in other AI systems and in collaborative AI systems, generative AI and ChatGPT will play a significant role in advancing scientific discovery by making such discoveries faster and more understandable by humans. Traditionally, bioinformatics has had the lead over AI in analyzing vast seas of scientific data, but when AI and bioinformatics are combined, the rewards tend to be great. By processing vast amounts of data and simulating complex models, bioinformatics and a variety of AI models together can assist researchers in generating hypotheses, designing experiments, and even uncovering new insights in fields like medicine and physics.

Interestingly, ChatGPT excels in data discovery and as a UI. Both of those traits are highly beneficial to scientific research across the sciences.

Automating Real-Time Language Translation

The day is soon coming when people will be able to speak or type in their own language, and the recipient will read or hear it in their own language. Real-time automated translation work is an ideal fit for ChatGPT and other generative AI chatbots.

When that automated and seamless translation function becomes commonplace, international communication will be instantaneous, fostering immediate understanding across multiple languages and creating more inclusive interactions. Business, travel, and

diplomacy are just a few areas where you will see immediate benefits.

Facilitating Better Self-Care Healthcare

With the help of sensors either on a device such as a smartphone or strategically placed in homes and healthcare facilities, ChatGPT coupled with other forms of AI will be able to advise you on your health condition and measures you can take to improve it.

You've likely heard of smart sheets that can analyze human sweat for diagnostic purposes and smart toilets that can analyze urine and other excrements. Other types of sensors will become available to perform various diagnostic tests, many of which will replace some of the more invasive tests used today. For example, consider the wearable monitors existing today that can read a diabetic's blood sugar levels without a finger prick for a blood sample.

Similarly, generative AI can analyze medical data to detect diseases earlier, recommend therapies, and predict patient outcomes. Soon it will be able to develop the recipe for genetic-based drugs to optimize a specific patient's outcome too. Combined, these capabilities will significantly improve healthcare quality and accessibility. And ChatGPT will be there to explain everything to you too!

Index

A

avatars, 278

B

Baker, Pam (author)

   Generative AI For Dummies, 210–214, 245

beginner-friendly advice, examples of establishing intent in prompts for, 103–104

BERT (Bidirectional Encoder Representations from Transformers), 31, 33

BI (business intelligence) apps, moving to ChatGPT from, 156–161

bias, 36

Bidirectional Encoder Representations from Transformers (BERT), 31, 33

Bing (Microsoft), 8, 154, 155, 296

Bing Copilot, 282

blog post content, creating, 164

brain, human, 287–289

business intelligence (BI) apps, moving to ChatGPT from, 156–161

business prompts, examples for adding structure to, 92–94

business software, 163

business use cases

   examples of user-end AI chaining in, 146–147

   standalone ChatGPT applications for, 163

C

Canva, 226, 310

Carruthers, Stephanie "Snow" (researcher), 37

casual chats, standalone ChatGPT applications for, 163

E

F

Grok-2,

H

Haidar, Sarah (researcher)

"Using ChatGPT in medical Education for Virtual Patient and Cases,"

hallucinations,

Harvard,

healthcare

self-care,

as a use for ChatGPT,

highlighting key points,

historic events, example of using prompt chaining to understand,

historical figure role,

homework assistance tutoring,

HR (human resources), as a use for ChatGPT,

human brain,

human resources (HR), as a use for ChatGPT,

human-AI interaction,

humanizing machines,

I

icons, explained,

idea generation, standalone ChatGPT applications for,

IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems,

image-generation models,

Kung, Tiffany H. (researcher)

"Performance of ChatGPT on USMLE: Potential for AI-Assisted Medical Education Using Large Language Models," 195

L

M

Q

R

S

T

V

W

Z

About the Author

Pam Baker is an award-winning freelance journalist and author. Her previous books, *Generative AI for Dummies* and the first edition of *ChatGPT For Dummies,* are best sellers. She has written books on other types of AI and related techniques and technologies too, such as *Decision Intelligence For Dummies,* and *Data Divination: Big Data Strategies*. Additionally, Baker is a popular instructor of a variety of online courses at LinkedIn Learning.

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Dedication

Dedicated to Stephanie Baker Forston and David Forston, Ben Baker and Dr. Katherine Poruk Baker, and my all inspiring and joy-infusing granddaughter crew: Mirabel, Coco, Poppy, and Charlotte. Special thanks to Ben for being my sounding board and technical adviser as I sorted out the details of the very new and incredibly fast-evolving ChatGPT. Thanks to Katherine for letting me use her office down by the sea for a third book running. Their two cats, Luna and Cinny, were in faithful attendance as they are on most of my book writing marathons lately. Thanks to Stephanie for bringing your all every single time to every situation. To all of you, thanks for being my inspiration and support team through this and other writing marathons and for rocking my world.

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