



JG

Jennifer Gupta

Prompt Engineering

By the end of this course, participants will be able to:

1. Demonstrate the use of prompt engineering with ChatGPT.
2. Identify ChatGPT's capabilities and limitations.
3. Use recursive engineering to experiment with ChatGPT's results.
4. Recognize where to find more information and help.



Introduction to ChatGPT



ChatGPT's Capabilities and Limitations




Basics of Prompt Engineering




Intermediate Prompt Engineering



Recursive prompting

 Getting Chat to do the work for you

 Resources & Next Steps

Introduction to ChatGPT



What is ChatGPT?

ChatGPT is like having an assistant in your pocket. It's a tool powered by **Artificial Intelligence (AI)** that can understand and respond to questions or prompts you give it, in a natural, human-like way.

Think of it as a brainy chatbot that:

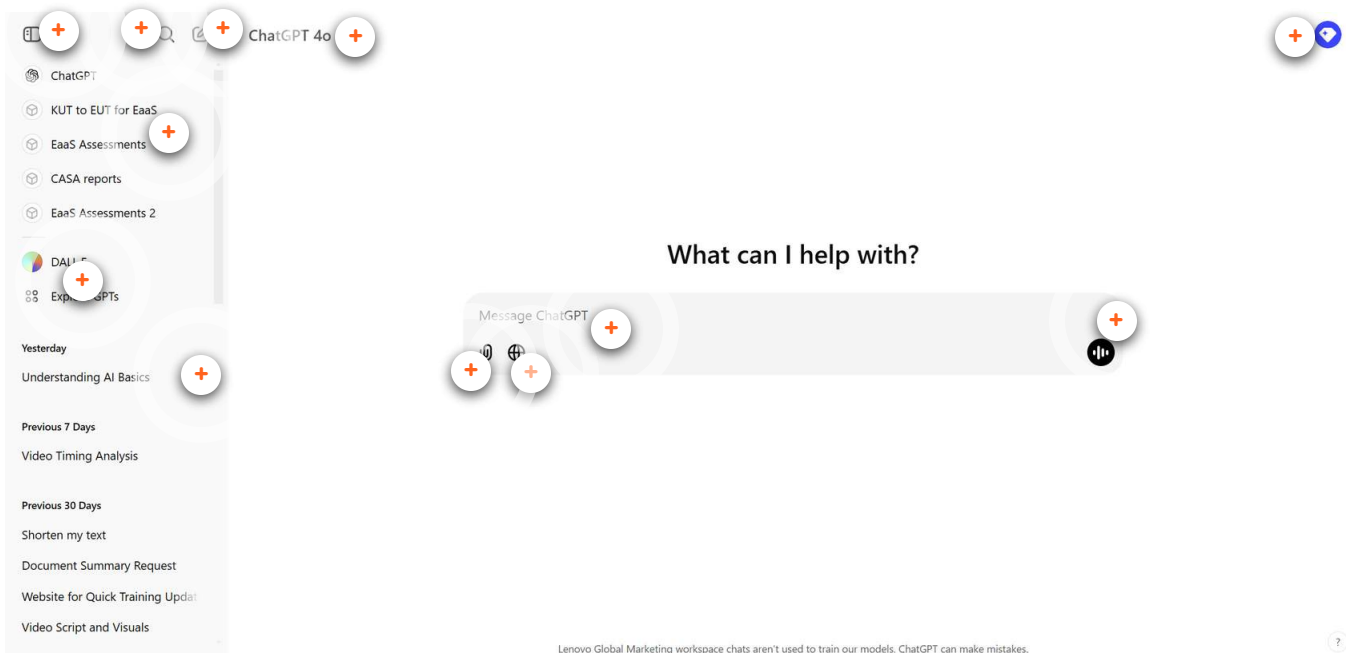
- **Answers Questions:** Like "What's the capital of France?" or "How do I bake a cake?"
- **Writes Stuff:** From emails to poems, stories, or even job descriptions.
- **Generates Ideas:** Need a catchy name for your project? ChatGPT can help brainstorm.
- **Explains Things Simply:** Struggling to understand a topic? It can break it down step-by-step.

Imagine giving a helper a task. You say, "Hey, explain Blooms Taxonomy to me," and it looks at all the

knowledge it has (which is a lot!) to give you an answer. It doesn't **know** things like a person, but it's trained on tons of information to help answer your questions.

Ready to get started? Curious to play with it?

When you get your enterprise license, go to www.chatgpt.com and login with your SSO account. Click around the below image to get a feel for where everything is, and what you will see when you login.



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- 🌐 ChatGPT
- 📄 KUT to EUT for EaaS
- 📄 EaaS Assessments
- 📄 CASA reports
- 📄 EaaS Assessments 2

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🔗 Explore GPTs

Yesterday

Understanding AI Basics

Previous 7 Days

Video Timing Analysis

Previous 30 Days

Shorten my text

Document Summary Request

Website for Quick Training Update

Video Script and Visuals



What can I help with?

Message ChatGPT



Lenovo Global Marketing workspace chats aren't used to train our models. ChatGPT can make mistakes.



Manage ChatGPT



Manage workspace



My GPTs



Customize ChatGPT



Settings



Get ChatGPT search extension



Log out

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Voice Mode

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Attach files

You can attach files into this chat so that chat can use them in formulating its response

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ChatGPT 4o



What can I help with?

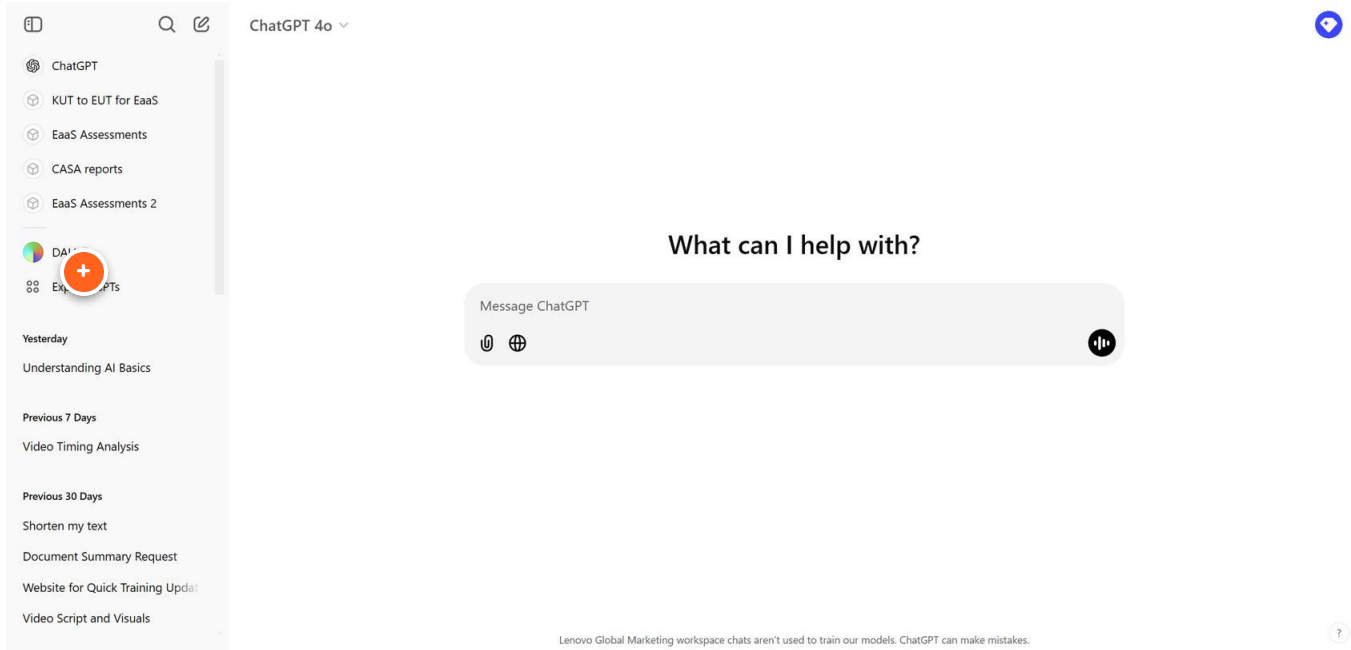
Message ChatGPT



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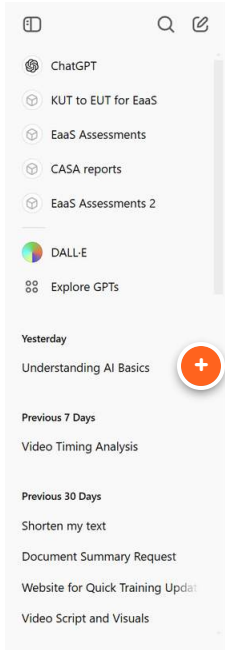
Close Sidebar



Additional GPTs

Selecting DALL-E brings you to an image generation GPT. It is provided in our license.

However, while you can Explore other GPTs - a lot of them are not included in our license, even though you can see them.



ChatGPT 4o

What can I help with?

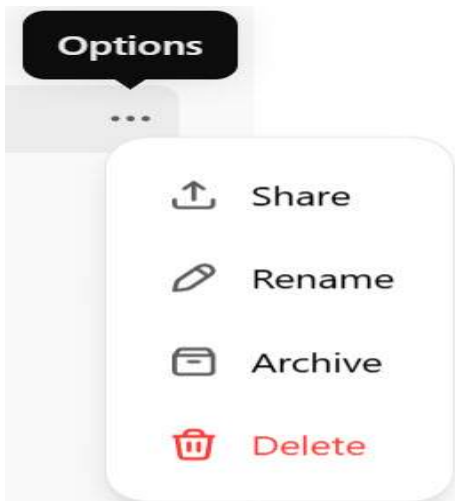
Message ChatGPT



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History



Your history of chats. These can be deleted.

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GPT's

This is where the GPT's are stored, which include our standard Chat, and any that you create or import.

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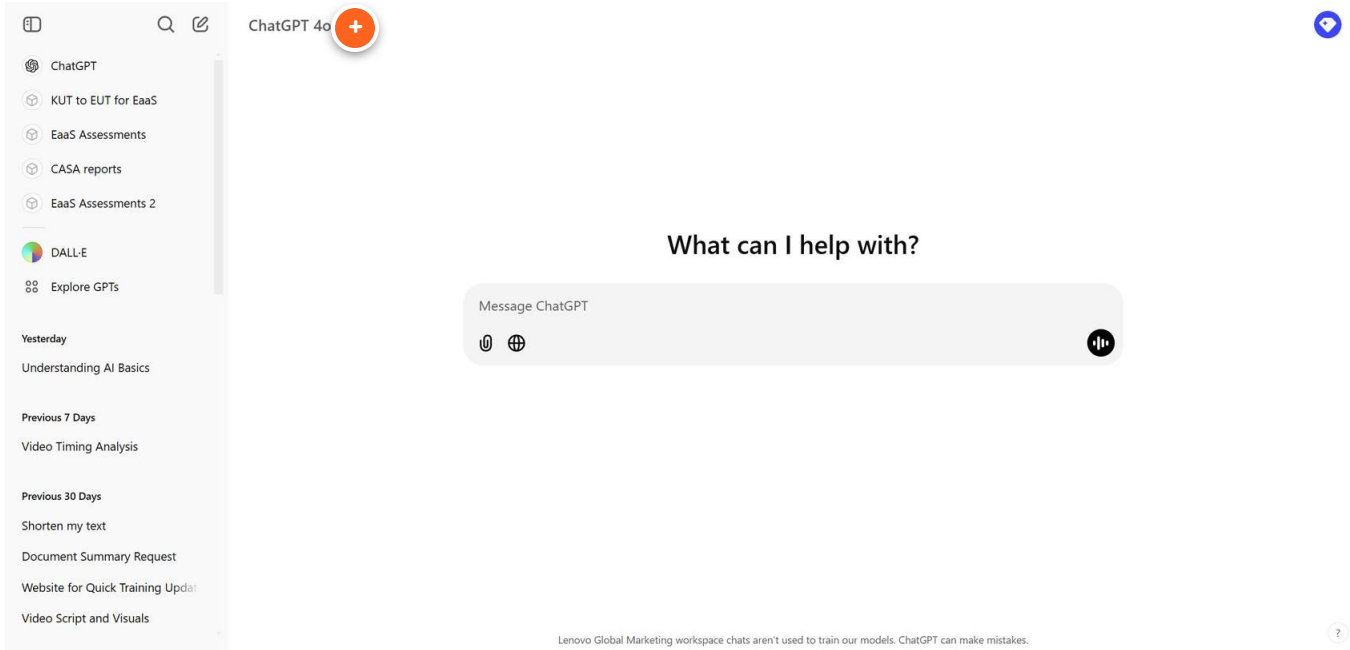
Message ChatGPT

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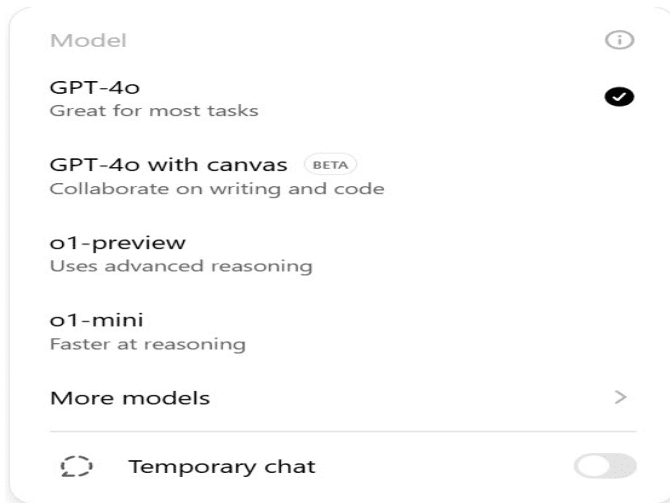
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Chat with GPT

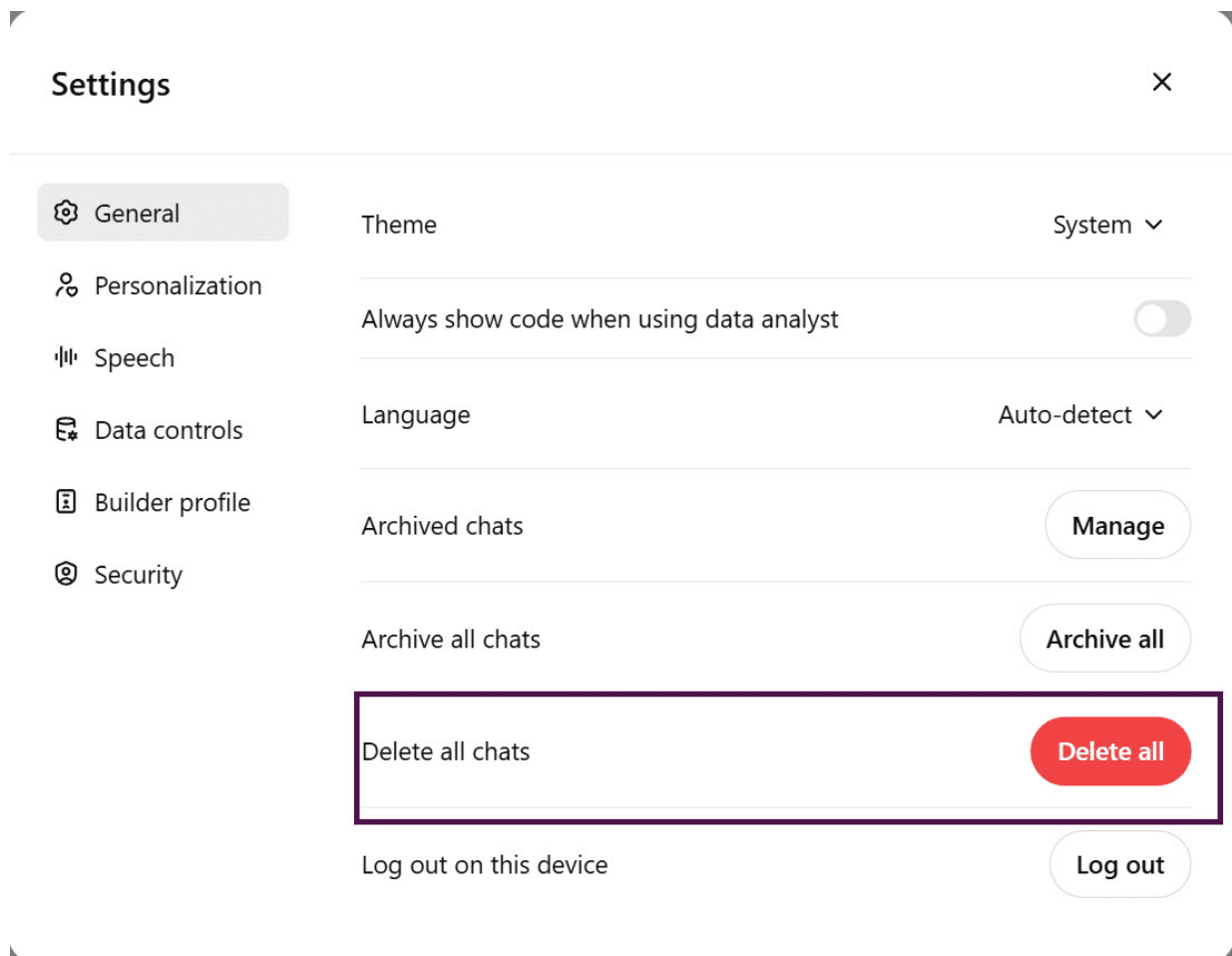


Select GPT Model



Clearing your chat history

There may be times when you want to clear all your chat history. The image below shows you how to do that.



To clear your chat history click on the **Blue diamond** (see image above) to manage your ChatGPT instance, then click on **Settings**.

Find the big **Delete All** button and click it.

If you have trouble finding it, ensure you are in the **General** tab.

Some RULES

Our enterprise license provides safety and security when it comes to Lenovo data. It is not used to train OpenAI's models and is also encrypted.

Personal licenses, which you may use to learn from, are not. if you test prompting on your personal account, you CANNOT use any Lenovo data that is not publicly available

already.

ChatGPT's Capabilities and Limitations



Capabilities of ChatGPT

1. Understanding and Generating Text:

- Chat can process and respond to prompts in natural language, making it easy to have a conversation, answer questions, or assist with writing tasks.

2. Content Creation:

- Chat can draft essays, emails, reports, stories, and other text-based materials. Chat is good at generating ideas, rephrasing content, and making writing clearer or more engaging.

3. Summarization and Simplification:

- Chat can condense long documents or explain complex topics in a simpler way that's easier to understand.

4. Brainstorming and Problem-Solving:

- Need creative ideas or solutions? Chat can suggest innovative approaches or help refine existing ones.

5. Multilingual Support:

- Chat can understand and generate text in many languages, making it useful for translation or cross-lingual communication.

6. Technical Assistance:

- Chat can help with coding problems, debug simple errors, or provide explanations for technical concepts.

7. Learning and Research:

- Chat can provide background information or insights on a wide range of topics to help with learning or research.

Limitations of ChatGPT

1. Accuracy of Information:

- While Chat strives to provide correct answers, It doesn't have real-time access to the internet or the latest updates unless explicitly fetched. Some responses might be outdated or incorrect.

2. Context and Nuance:

- Chat relies on the text input for context, so if the information provided is vague, it's response might not fully align with your expectations.

3. Complex Decision-Making:

- Chat doesn't truly “understand” or “think.” It predicts responses based on patterns in its training data, so its suggestions may lack deep reasoning or ethical judgment.

4. Specialized Knowledge:

- It can simulate expertise in many fields but may oversimplify or misinterpret highly specialized or niche topics.

5. Lack of Emotional Understanding:

- It can mimic conversational tone and empathy, but It doesn't have emotions, personal experiences, or consciousness.

6. Dependence on Input:

- Chat's effectiveness depends on how clear and detailed your prompt is. Ambiguous questions may result in incomplete or unhelpful answers.

7. Ethical Constraints:

- Chat is programmed to avoid providing harmful, inappropriate, or illegal information, but It may occasionally misinterpret prompts or fail to enforce these boundaries perfectly.

The video below (from 3browns1blue) is a fabulous short introduction to how LLM's work.

Large Language Models explained briefly

3Blue1Brown



Watch on

Basics of Prompt Engineering



Introduction to Prompt Engineering

Prompt engineering is the art and science of crafting effective instructions or queries to communicate with AI tools. Think of it as giving clear directions to an assistant: the better you describe what you need, the better the result you'll receive.

Why use prompt engineering?

Unlike casual conversation, prompt engineering focuses on achieving specific outcomes. When you thoughtfully structure your prompts, you:

1. **Get Precise Results:** AI can misinterpret vague or broad questions. A well-crafted prompt avoids misunderstandings and ensures your request is accurately fulfilled.
2. **Save Time:** Clear instructions minimize back-and-forth adjustments, delivering what you need faster.
3. **Unleash AI's Full Potential:** Prompt engineering lets you explore creative, analytical, or technical outputs that might not emerge from informal interaction.

Example:

- **Conversational Prompt:** "Tell me about gardening."
 - Result: General information about gardening.
- **Engineered Prompt:** "Create a step-by-step guide for beginners to start a vegetable garden using only native plants in Zone 5b."
 - Result: A focused, actionable guide tailored to a specific need.

Consider this -

[you] - I'd like a coffee

[person getting coffee]? Black? How much sugar? What type of sugar? How much milk? What type of milk? What size of coffee? Hot or cold?

[you] I'd like a Ham and cheese sandwich

[Deli person] What type of bread? What type of ham? What type of cheese? What sides do you want? What condiments, extras, spices....

[you] I'll take a black forest ham and swiss cheese on wheat, with yellow mustard, cucumbers, a slice of tomato, and some lettuce. Oh! And sprinkle on some salt & pepper too.

The idea with prompt engineering is to give ChatGPT enough information to do what you ask it to do. It will never be exact the first time around, but we can then refine it and have it help us refine it. Lets see how we start:

Prompt Engineering with RTF:

With RTF we tell GPT to act as a specific **Role**, do a specific **Task** and output that into a specific **Format**.

RTF (**Act as a [Role]**), perform as a **[Task]** in a **[Format]**

Some examples of the **R** (Act as a Role) might be...

You are a seasoned instructional designer

You are a social media marketer

You are a content developer

You are a JavaScript programmer

You are a Storyline Developer

Some examples of the **T** (perform a Task) might be...

Develop a course outline

Create objectives

Describe potential scenarios

Suggest engaging ways to

Write code for...

Some examples of the **F** (in a Format) might be...

Create a table

provide in a list

Save to a word document

Show me a graph

Write code for...

RTF (Act as a [Role], perform as a [Task] in a [Format])

Act as a(n) [ROLE]	Perform a [TASK]	Show as [FORMAT]
<ul style="list-style-type: none">• Instructional Designer• Copywriter• Content Developer• [Language] programmer• Storyline developer• Captivate developer• Lenovo learner• Designer• Specific Names (Cathy Moore, Tim Slade, etc)	<ul style="list-style-type: none">• Develop a course outline• Develop a mind map• Suggest ideas for• Suggest engaging ways to• Describe potential scenarios for• Write potential topics on• Provide x# assessment questions for• Brainstorm ideas for• Write x# learning objectives based on• Rewrite the following (sentence, paragraph)• Create learning objectives for () using Blooms Taxonomy• Suggest engaging interactions for	<ul style="list-style-type: none">• Table• Word doc• A list• Summary• Spreadsheet• Graph• Word cloud• Pdf• Rich text• Plain text• Bullet points• JSON / JavaScript• HTML• XML• Markdown

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Some examples of RTF in action:

You are a **seasoned instructional designer** tasked with creating an engaging and innovative course from the attached PDF file. Please **create a course outline** and **output it into a bulleted list** please.

You are a **Lenovo instructional designer**. Please **create three measurable objectives** based on the material that use Bloom's taxonomy verbs. Also **create 3-5 assessment questions** that are directly measurable based on the objectives you created. Please confirm you understand and ask any questions you may have about this.

You are a **new hire to Lenovo**. **Estimate the time** it would take you to complete this course that I am going to upload here.

Some notes: If you do not give GPT the Format portion it will output it in the way that it thinks would make the most sense. It's always best to include it if you want to see the output in a particular format, but it is not a critical component of the prompt.

Below is a teams recording of the basic prompt engineering walkthrough done with my team on 12/6/24.

Microsoft Teams



Intermediate Prompt Engineering



Other Prompt engineering frameworks

RTF is arguably one of the simplest frameworks for prompt engineering, but there are others that can be more effective in other circumstances. SCRIBE and GCOPJ are two slightly more advanced methods. Lets explore them below.

SCRIBE

Prompt engineering with SCRIBE:

SCRIBE stands for –situation, complication, resolution, implementation, benefit, evaluate

Situation – describe the situation that you need help with

Complication – tell Chat any complications you foresee that it needs to account for

Resolution – define what success looks like, what solutions do YOU have that might solve this need? What are you looking to achieve?

Implementation – what steps need to be taken? Outline the steps to achieve your goal.

Benefit – what benefits will the target audience receive? What are the

expected outcomes?

Evaluate – this part doesn't go into the AI prompt but is instead there to remind you to evaluate the output of the AI, to determine if it fits your needs, is accurate and appropriate. This is the step you would iterate and refine to get the output you need.

You can find more information about the SCRIBE method by watching the Generative AI Marketing Workshop Series #3.

GenAI-driven Marketing Strategy, Ideation & Brainstorming (SAIV102)

WORKSHOP #3

GCOP -J

Or as Rose likes to call it - The recipe to making a good sandwich!

With GCOP-J we are looking at:

Goal - Define the goal of your chat

Context -

Objective -

Presentation -

Justification -

Rose has provided a PPT and a recording of this process for you to view.



Prompt_Engineering_101_withRC 1 (1).pdf
2.7 MB



Using AI & Prompt Engineering

4-11-21 14:03 UTC

ed by
elina Chan5

Organized by
Kellie Hollinger

An example of GCOP-J

Write a description about AI to my team of beginner instructional designers.

Goal: a clear description about AI to my team

context:

1. My team has very little tech background
2. they are afraid of using ai because they think it will replace them.
3. explain clearly using normal layman terms

objective:

1. make sure the team understands what ai is, and how to use ai in their daily job and

life

2. provide 1-3 relatable uses of AI for an instructional designer
3. make my team more comfortable that ai will not replace them
4. encourage the team to use AI to improve their productivity

presentation:

1. use analogies and fun facts for them to learn about ai
2. use icons and emoticons to make it more relatable

After you get the output

You can use the J - Justify. Ask the AI to justify itself

On a rating scale from 1-10, can you rate your output against the ask? Please evaluate your answer and suggest ways to improve.

Recursive prompting



What is Recursive Prompting?

Recursive prompting is a technique where you break down a task into smaller, iterative steps by using the output of each step as the input for the next. It's like having a conversation with an AI where you refine and build on ideas progressively until you reach a desired result.

This approach is especially helpful when:

1. The initial problem is too complex to solve in one go.
2. The AI's response needs further clarification, elaboration, or improvement.
3. You're developing creative ideas or working on multi-step processes.

How Recursive Prompting Works

1. **Start with a General Prompt:**
 - Ask an initial question or give an overarching task.
2. **Refine Based on the Response:**

- Identify gaps or areas needing improvement, then prompt the AI to elaborate, clarify, or adjust.

3. Repeat Until Satisfied:

- Continue refining step-by-step until the output aligns with your goals.

Examples of Recursive Prompting

Example 1: Writing a Course Outline

1. Initial Prompt:

"Create an outline for a course on time management."

- Output: A basic outline with topics like "Introduction," "Setting Priorities," and "Time-Blocking Techniques."

2. Follow-Up Prompt:

"Expand on 'Time-Blocking Techniques' and provide practical examples."

- Output: Details about how to set up a time-blocking calendar with examples.

3. Further Refinement:

"Add an activity for learners to practice time-blocking."

- Output: A guided exercise where learners create a one-week time-block schedule.

Example 2: Generating a Creative Story

1. Initial Prompt:

"Write the beginning of a mystery story involving a lost artifact."

- Output: A few paragraphs introducing a detective discovering an ancient map.

2. Follow-Up Prompt:

"What challenges could the detective face while searching for the artifact?"

- Output: Suggestions like rival treasure hunters, cryptic clues, and dangerous environments.

3. Further Refinement:

"Write a scene where the detective deciphers a cryptic clue."

- Output: A vivid description of the detective solving a riddle in an old library.

Example 3: Debugging a Code Snippet

1. Initial Prompt:

"Here's a Python function that doesn't work as expected. Can you help fix it?"

- Output: Suggestions for potential errors and a modified version of the code.

2. Follow-Up Prompt:

"Explain why the initial code failed and how your changes fixed it."

- Output: A step-by-step explanation of the error and solution.

3. Further Refinement:

"Can you optimize this function further for performance?"

- Output: An improved version of the code with optimization tips.

Why Recursive Prompting is Useful

1. **Clarification:** Helps break down complex topics and refine outputs iteratively.
2. **Depth:** Encourages AI to dive deeper into specific aspects of a task.
3. **Collaboration:** Creates a back-and-forth dialogue, mimicking real-world problem-solving.
4. **Customization:** Ensures the final output is tailored to your exact needs.

By using recursive prompting, you turn the AI into a partner that progressively builds on ideas, helping you tackle even the most intricate tasks step-by-step.

Getting Chat to do the work for you



Get the AI to do the work!

If you're new to ChatGPT and aren't sure how to ask the right questions, don't worry —ChatGPT can help you figure out what to say! You can think of it as a brainstorming assistant that helps you create effective prompts by asking for a few key details about what you need.

Here's how it works:

1. **Describe Your Goal:** Share what you're trying to achieve, even if it's not in perfect detail.
2. **Provide Context:** Mention any background information that might help.
3. **Let ChatGPT Do the Work:** Ask it to create the prompt for you based on the details you've provided.

This approach is great when you don't know the exact words to use or when you need to frame your request in a more precise way.

Example: Creating a Prompt for an AI Activity

Imagine you're an educator creating a classroom activity but don't know how to phrase your request to ChatGPT.

1. Your Input:

"I want to create an activity for students about teamwork, but I'm not sure how to ask ChatGPT to help me. Can you write a prompt I could use?"

2. ChatGPT's Response:

"Here's a prompt you can use to ask me for help: 'Design a classroom activity for middle school students to learn about teamwork. Include instructions, materials needed, and a debrief discussion question.'"

3. Next Step:

You can take the suggested prompt and use it directly, or refine it further by asking:

"Can you make it more focused on outdoor activities?"

Another Example: Writing a Cover Letter Prompt

1. Your Input:

"I need help writing a cover letter for a job, but I don't know what to ask."

2. ChatGPT's Response:

"Here's a prompt you can use: 'Write a professional cover letter for a marketing job at a tech company. Highlight teamwork, creativity, and project management experience. Use a friendly but formal tone.'"

3. Next Step:

You can provide feedback to refine it:

"Can you make it focus more on leadership and achievements?"

Why This Works

Asking ChatGPT to help you write a prompt is like having a conversation with a coach. You provide the starting point—what you want to achieve—and it helps you turn that

into a clear and effective request. This method saves time, helps you clarify your thoughts, and ensures you're asking questions in the most productive way.

Resources & Next Steps

JG Jennifer Gupta



[Lenovo's Generative AI Marketing Workshop Series on Grow@Lenovo](#)

External Resources

<https://zapier.com/blog/custom-chatgpt/>

<https://www.linkedin.com/pulse/five-powerful-frameworks-prompt-chatgpt-quickdesk/>

<https://datayon.substack.com/p/7-chatgpt-prompt-frameworks>

<https://www.learnprompt.org/chatgpt-prompts-for-instructional-designers/>

Join

One Lenovo AI group

Steve Leeds' AI group