Using effective prompts in generative AI

1. Introduction

The information, guidance or questions that you enter into a generative AI tool determine the quality of the output you receive from the tool. This activity will look at how to create effective prompts when using generative AI tools.

Using this tutorial

Use the back and next buttons at the bottom right of the screen to navigate through the tutorial. Alternatively, use the contents button to jump to a specific page.
You will need to allow approximately **5 minutes** to complete the tutorial.

Learning outcomes

When you have completed this tutorial, you will be able to:

- **Write clear prompts**: Make prompts easy to understand for better AI responses.
- **Improve prompt quality**: Adjust prompts to get the results you want from AI.
- **Check and fix prompt issues**: Review prompts and make them better if needed for good AI outcomes.
- **Use fair prompts**: Make sure prompts lead to fair AI results by avoiding bias and other ethical problems.

2. What is a prompt?

A generative AI prompt is a set of instructions or text given to an AI model to generate a specific response. For language models, a prompt usually includes a starting sentence, phrase, or question that tells the generative AI what kind of text to create.

For example, if you give a prompt like "Write a short story about a lost astronaut", the generative AI will generate a story about a lost astronaut.

AI prompts help interact with generative AI models to produce text, answer questions, complete tasks, or create content. Clear and specific prompts lead to better and more relevant responses from the generative AI.

'Generative AI creates text or images in response to prompts entered by the user. This can be as simple as asking for something in plain English, not dissimilar to using a search engine. But as with search engines, there is a knack to it: including the right references, hints and keywords can guide the AI towards the desired outcome.' Sparkes (2023)

3. Hints and Tips

- **Be clear and specific:**
  - Clearly state what you want the generative AI to do or generate. Avoid vague or ambiguous instructions.
- **Provide context:**
  - Give the generative AI relevant context to understand the task better. You can provide a brief introduction or background information.
- **Use natural language:**
  - Frame your prompts in natural, conversational language. Avoid overly technical or complex instructions.
- **Ask open-ended questions:**
  - Instead of yes/no questions, use open-ended questions to encourage detailed responses.
- **Specify the tone and style:**
  - Clearly state the tone or style you want the generative AI to use (e.g., formal, informal, humorous).
- **Break down complex tasks:**
  - If the task is complex, break it down into smaller sub-tasks or steps.
- **Experiment and iterate:**
  - Don't be afraid to experiment with different prompts to see what works best.
- **Be patient:**
  - Generative AI models like GPT-3.5 might not always provide perfect responses on the first try. Be prepared to refine your prompts and provide feedback.
- **Review and refine:**
  - After receiving responses, review them carefully. Identify any errors or areas for improvement in the generative AI's output.

4. Mistakes to avoid

- **Overcomplicating the Prompt:**
  - Unnecessarily complicating the prompt can be a particular issue. Being too specific can often result in a confusing outcome.
- **Not Providing Enough Context:**
  - Providing too little context to the AI prompt will more than likely result in a very broad response. For example, if you're going to ask it to draft words for your business, you're going to first need to tell the generative AI more about what your business does and what products you offer.
- **Ignoring the generative AI's Capabilities:**
  - Expecting your generative AI to perform beyond its capacity is a common mistake. Make sure you are aware of the pros and cons of the AI platform you are using. For example, ChatGPT is prone to make up sources and URLs if you ask for it to link to articles.

5. Example of an effective prompt

If we go back to our earlier example of wanting the generative AI tool to write a short story about a lost astronaut, we could use the following prompt:

"Write a short story about a lost astronaut"

This is a fairly vague prompt and we could improve the output generated by producing a more sophisticated prompt:

"You are a children's author. Write a story of no more than 1000 words about an astronaut who is lost in space. Aim your story at 8-year-olds"

This is a much more specific prompt, giving context and detail and will result in a more specific and detailed output, suited to your needs. Remember you can tweak the responses by carrying on the conversation with the generative AI tool.

5. Quiz

Question 1 of 5

What are generative AI prompts?

1. Commands given to generative AI models
2. Questions asked by generative AI models
3. Inputs provided to generative AI models to generate desired outputs

4. None of the above

Question 1 Feedback for Option 1

False. Prompts are more like inputs or guidelines provided to generative AI models rather than direct commands.

Question 1 Feedback for Option 2

False. AI prompts are inputs or instructions given to generative AI models by users or developers, not questions asked by generative AI models themselves.

Question 1 Feedback for Option 3

True. This is the correct choice as AI prompts are inputs that guide the generative AI model on what kind of output is desired.

Question 1 Feedback for Option 4

False. This is incorrect because choice (c) accurately describes what generative AI prompts are.

Question 2 of 5

Which of the following is a characteristic of a good generative AI prompt?

1. Vague and ambiguous
2. Specific and clear AI that cannot update its data
3. Long and convoluted
4. Unrelated to the desired output

Question 2 Feedback for Option 1

False. This is incorrect because good AI prompts should be specific and clear to guide the generative AI model effectively.

Question 2 Feedback for Option 2

True. This is the correct choice. Good AI prompts provide clear instructions or context for the desired output.

Question 2 Feedback for Option 3

False. Long and convoluted prompts can confuse generative AI models and may not produce desired results efficiently.

Question 2 Feedback for Option 4

False. Irrelevant prompts will not guide the generative AI model effectively towards producing the desired output.

Question 3 of 5

What is the purpose of a generative AI prompt?

1. To confuse the generative AI model
2. To provide context and guidance for generating outputs
3. To limit the capabilities of the generative AI model
4. To entertain the user with random responses

Question 3 Feedback for Option 1

False. This is incorrect because the purpose of a prompt is to guide and inform the generative AI model, not to confuse it.

Question 3 Feedback for Option 2

True. This is the correct choice. Generative AI prompts provide necessary information and context to the generative AI model to generate specific outputs.

Question 3 Feedback for Option 3

False. Generative AI prompts are designed to guide the generative AI model, not to restrict its capabilities.

Question 3 Feedback for Option 4

False. While generative AI responses can be entertaining, the primary purpose of prompts is to direct the generative AI model towards specific tasks or outputs.

Question 4 of 5

When creating generative AI prompts, it is important to:

1. Keep them short and simple
2. Make them complex to challenge the generative AI model
3. Use technical jargon to confuse the generative AI model

4. Avoid providing any instructions to the generative AI model

Question 4 Feedback for Option 1

True. This is the correct choice. Simple and concise prompts are easier for generative AI models to understand and act upon.

Question 4 Feedback for Option 2

False. Complex prompts can confuse generative AI models and may not produce desired results.

Question 4 Feedback for Option 3

False. Technical jargon should be avoided unless necessary for the task, as generative AI models generally understand more natural language.

Question 4 Feedback for Option 4

False. Without clear instructions or prompts, generative AI models cannot generate meaningful outputs.

Question 5 of 5

Which of the following is an example of a good generative AI prompt for generating a poem?

1. "Write something."
2. "Compose a poem about love and nature."
3. "What is 2+2?"
4. "Tell me a story about robots."

Question 5 Feedback for Option 1

False. This prompt is too vague and doesn't provide specific guidance for poem generation.

Question 5 Feedback for Option 2

True. This is the correct choice. It provides clear direction and context for the desired output.

Question 5 Feedback for Option 3

False. This is unrelated to the task of generating a poem.

Question 5 Feedback for Option 4

False. While this could be a valid prompt for another task, it's not specific to poem generation about love and nature.

6. References and recommended resources

Making AI Magic (2023) *Secrets to creating stunning AI images: Expert prompts*. 6 February. Available at: https://www.youtube.com/watch?v=Od3FRMLqwFk (Accessed: 24 May 2024)

Sparkes, M. (2023) 'The rise of AI prompt engineers', N*ew Scientist,* pp. 17–17. Available at: https://doi.org/10.1016/S0262-4079(23)01633-0.

Su, J. (2023) *Master the perfect ChatGPT prompt formula (in just 8 minutes)!* 1 August. Available at: https://www.youtube.com/watch?v=jC4v5AS4RIM&t=170s (Accessed: 24 May 2024).

This activity was written with the help of ChatGPT 3.5.