Directory/Description of Prompt Engineering Projects:

Travis Rillos

The following is a description of the included folders in this Github repository, each containing screenshots of several prompt engineering projects/chains. My hope is that this document helps guide the reader through the folders and provides a basic explanation of each prompt chain's purpose, and my goals in each.

Folder: "Python_and_OpenAI_API_course_example"

- This folder contains both .py files and Jupyter Notebook versions of the same programs.
- The included programs illustrate the use of OpenAI's API in Python programs.
  - Includes illustration of accessing an API key that's been saved as an environment variable, to keep it secret once loaded to a public Github repository.
  - Shows understanding of saving/modifying prompts and system roles as variables, for easy swapping and updating.

Folder: "Beer_Recipe_Prompts"

- With my prior experience in homebrew and beer recipes, I decided to test GPT to see what sort of recipe it could come up with from a basic prompt. The result ("01_IPA_Screenshot_20240103_202934") matched my expectations of what such a beer recipe should look like.
- The remaining screenshots of the folder were more general questions about beer recipes, in a somewhat meandering pattern, mainly to test GPT's capabilities in answering questions I already knew the answers to, and in writing outlines and articles based on some of the information:
  - I started by asking for a recipe that used Midnight Wheat Malt, a dark malt sometimes used in place of chocolate malt or black patent malt for dark beers. It's a lot smoother and less bitter than other dark malts.
  - Next, I asked some of the benefits of fermenting beers under pressure (this is sometimes done in order to ferment a clean-tasting lager without using refrigeration).
    - I had some disagreements with the AI over its insistence that a saison could be fermented under pressure.
  - Next I asked what sorts of syrups and adjunct sugars could be used in the brewing process, to increase ABV and lighten the body of a beer. Its answers were more or less what I expected.
    - I added more specific questions to the sugar prompt, asking about Belgian rock sugar/syrup, piloncillo (an unrefined sugar used in Latin cuisine), and jaggery (an unrefined sugar used in Indian cuisine).

- I prompted GPT to write an outline to an article about using all of the above adjunct sugars. I had GPT revise the outline to specifically include mention of several sugars it missed.
- From the outline, I prompted GPT to write a full article that could, in theory, be posted to my homebrew blog (I would prefer to write these the old-fashioned way in reality).

Folder: "Mead_Label_Creation_Prompts"

- This folder contains a progression of images in an old-fashioned woodblock style.
- The prompts were used to guide GPT-4/DALL-E in creating images of the four main flavoring ingredients in a homebrewed mead that I made:
  - Chanterelle mushrooms
  - Shiitake mushrooms
  - Garlic
  - Saffron (crocus)
- Once I had chosen my four favorite images (one for each ingredient), I ran each through GIMP in order to do some cleanup and save each as a PNG file with an invisible background.
- The four PNG images were added to the label for the Mushroom-Garlic Mead that I bottled:
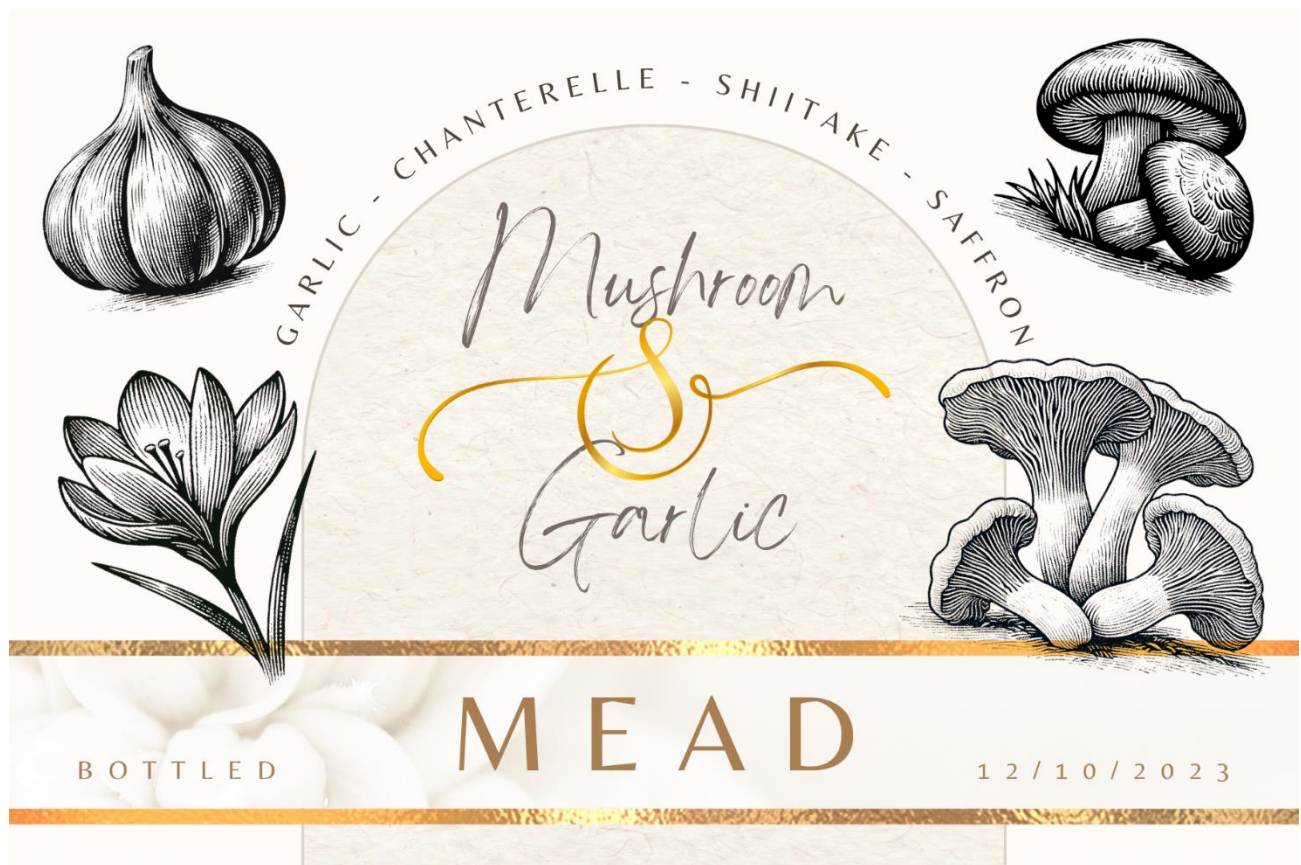
Folder: "Folder_Structure_Python_Program"

- I used GPT to help plan out and refine a simple Python program.
- I required a program that could be pointed to a folder, run, and then would output a text file showing a basic version of that folder's file structure.
    - I needed this to get around a problem of upgrading a work laptop.
    - Inside the intended target folder was a personal archive of old tools (as CAD models) and CNC programs. Folders containing interesting circumstances (unusual tool features, useful CNC techniques) included a basic description of the situation in the folder name.
    - The output text file would show me the interesting names all in one place, so that I could create a list of go-by CAD models and CNC programs.
- Having this list meant that I wouldn't have to keep the archive of CAD models or CNC programs anymore, or transfer them to a new work laptop (file transfer would've taken days).

Folder: "GIF_Creation_Prompt_Chain"

- Another for my homebrew blog. For a long time I've wanted a GIF of myself stylized in a 16-bit 90's video game stirring a cauldron to show up in the corner of my blog. A nice little touch to stand out more.
- I attempted to prompt GPT-4/DALL-E to help me create this GIF, in the form of an initial image followed by 12 frames that would run in a loop.
- However, I was mostly unsuccessful with this particular prompt chain:
    - After multiple attempts, including trying to feed some of my own (very old) artwork into GPT, it just wouldn't successfully get the hair right.
    - Since things didn't work out the way I wanted, I resolved to manually create Frame 1 the way I would like it, in a 16-bit style using something like GIMP.
    - I still haven't gotten around to doing this.

Folder: "Green_Company_Names_Prompt_Chain"

- A very basic exercise, to name a theoretical company focused on fermenting and distilling butanol fuel from Azolla aquatic fern. I quite liked several of the options.

Communication and Writing Example:

- Article written (manually) on the process of creating Mushroom-Garlic Mead (mentioned earlier): https://brewingmischief.com/mushroom-garlic-mead/
- Food article, Char Siu Ribs process: https://cookingmischief.com/smoked-char-siu-ribs/