CS7180: Sptp in AI: Vibe Coding
Homework 1

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1 Prompts making

The most of content of prompts are in a text file with XML labels.

1.1 General Prompt

This prompt is used to set limits:

```
Please use the following rules for further development. If there is anyting
unclear about the process, ask me about it. Do not write code until I tell you
 to do so
```

We use this prompt before we upload prompt document. This is essential as those questions serve as one of the bases for refining prompts

1.2 Prompt Document(Minimal Prompt Template)

The prompt document usually has following structures:

```
<system>
You are a {role here} with {technical depth expectation for LLM. for example,
    with 10 years of experience}
You are developing {content here}
</system>
```

2 Prompt Iteration

The iteration of prompt file has following steps:

1. Write initial prompt document from scratch.

2. Upload initial prompt to LLM along with query template(in which we will require LLM to ask about implemtation detail)

3. Repeat: Answer questions & add more prompts util:1) We are satisfied about the plan LLM gives us; 2)LLM thinks the plan works and stop giving out questions.
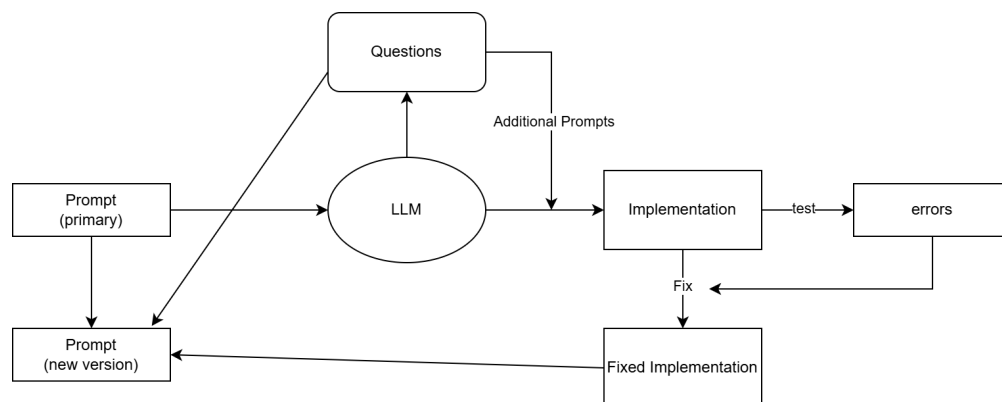
Figure 1: Iteration Process

4. Require LLM proceeds to implementation.

5. Validate code from three aspects:

   - Prompts and initial expectation about this code(for example, modular TypeScript class);

   - Additional expectation after seeing the code.(for example, I want them in separate files/ I noticed that object-oriented is to sophisticated and not needed.)

   - Test result

6. Repeat: Require LLM to create new versions(for example, v1.1 to fix v1.0) of artifact to fix existing problems. If new versions created, require LLM to creat development log based on a give template.

7. When the code is satisfying enough, the conversation stops. Then imporve prompt document and begin a new iteration(Create v2.0 with imporved prompts for v1.0).

3 Summarization

3.1 What Makes Good Prompts

Based on observation, most components that make good prompts have already been covered in the lectures, but the specific direction and content require refinement.

3.1.1 Detailed Description about Output

Possibly, we should always clarify whether we want a piece of code or files. Specifically, we need to give out file names to encourage Claude to use artifacts.**If we don't give out specific file name, Claude is less likely to use artifact, and will give out code in the chatting window** It will also ingore any of your command that requires using an artifact, as it thinks that the content in the chatting window is an artifact.

3.1.2 Repeat Limitations & Ask, Don't Describe

Claude sometimes **ignore requirements mentioned at the beginning of the conversation, even though the conversation is short.** And, if we just give out description(like test result)

without a specific requirement, this ignorance is more likely to happen. For example, `"Don't code until I tell you"` is usually ignored. This may be a result of Anthropic emphasizing model diligence, and we sometimes need to impose limits on this.

3.1.3 Describe the Code's Execution/Compilation Process

A   Links

GitHub Repository: `https://github.com/YoungZ2357/CS7180-SptpAI-VibeCoding-HW`

Challenge 1

- Version1: `https://claude.ai/share/7fa640bc-53f0-421a-89e4-d7a1892d0550`

- Version2: `https://claude.ai/share/b478f1e3-ba38-4672-8d69-ed1f7a9da809`

Challenge 2

- Version1: `https://claude.ai/share/9ecef542-1d4c-464b-bfdc-4969fba770cc`

- Version2: `https://claude.ai/share/d58574ea-41ee-45ce-afc2-6d35896cbfc5`