CS 4600: Senior Project
Progress Checkpoint 3 Agenda

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Project: Stardew Valley Mod Agent

1. Progress Update

- **Mod Development:**

  - Currently experimenting with Stardew UI framework to modify the game menu for text insertion.

  - Spending some time looking at the decompiled code to get functions of variables for retrieving data such as: day, season, weather, etc.

- **AI & Database Integration:**

  - Researching and experimenting with LLM models (LangChain with Hugging Face or Ollama locally).

  - Planning to use Marqo for database integration.

2. Challenges & Roadblocks

- **Modding menu:** Struggling to change the in game menu display. I have to play more with Stardew UI framework.

- **Accessing Game Data:** Difficulty locating methods to retrieve in-game information in C#. While easy in the API terminal, finding equivalent methods in C# has been challenging.

- **Question-Answering Method:** Uncertain about the best approach for question-answering—choosing between cosine similarity, RAG with LLM, API calls, or NLU.

3. Milestone Adjustments

- **Postponed:** User input from game text box feature moved to the next milestone.

- **Next Focus:** Modify the game menu to include a question tab and ensure proper server-game communication.

- **Future Goals:**

  - Get an idea of how I will implement the database.
  - Experiment with connecting the python script to an LLM API.

4. Questions for Instructor

- **Question-Answering Approach:**

  - What are the pros and cons of using cosine similarity vs. LLM-based methods (e.g., RAG) in this context?
  - Any recommendations for handling complex queries? Should I just relay on the model and the database?

- **Validation:**

  - Does the planned milestone adjustment (postponing user input handling) seem reasonable given the current challenges?
  - Any suggestions for improving the integration of the database and LLM with the mod?

5. Additional Notes

- I have been working through a steep learning curve, particularly with modding and AI integration, but I am making slow but steady progress.

- I am confident in the choice of Marqo for the database and am exploring LangChain with Hugging Face or Ollama for the LLM model.

- I am currently experimenting with Stardew UI to better understand how to modify the game menu visually.