Jayden Sipe

CS 410 Text Information Systems

Team: MLN

Project Proposal

- **What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.**

I will be working on the project solo, so I will be the captain. My NetID is jwsipe2.

- **What is your free topic? Please give a detailed description. What is the task? Why is it important or interesting? What is your planned approach? What tools, systems or datasets are involved? What is the expected outcome? How are you going to evaluate your work?**

For my free topic project, I wanted to create a modular home assistant / chat bot. I wanted this to be modular in the sense that it would be easy to add different features to the application (such as different smart device functions). It would be able to determine user actions via a user's microphone or text input. I also want the application to have a GUI and not be only in the terminal. I also want there to be a way to have general conversations using something like ChatGPT, although I will explore options that can run locally instead of relying on ChatGPT. It is interesting because it is an app that allows several features to be added, and with each feature added a completely new library or system can be used.

Some of the libraries I want to use are nltk, tensorflow, and tkinter for the GUI.

The expected outcome with the app is to be able to have a home assistant that can have generic conversations, as well as understand when certain actions need to be taken. This will happen all in a GUI for the user to explore. The evaluation is how the application functions and can parse the user's intents correctly.

- **Which programming language do you plan to use?**

I plan to use Python as the programing language.

- **Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.**

Learning nltk, tkinter ~ 5hrs

Designing GUI ~ 5hrs

Coding ~ 15hrs