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https://github.com/NobleWolf42/CSC108-Tutor

Weekly Progress Report – 03/08/25

Last Week – 03/01/25:

Plans were put on hold for the animations as I spent most of the week fighting with c++ libraries, causing us to ultimately decided to rewrite the backend in python since there is better documentation for vector databases in python. I then with the help of a tutorial wrote out a functional rag pipeline in python and my project mate started rewriting our webserver in flask for python. I am currently working on fixing a weird API bug I am getting on the python end and we should have a functional backend with rag support. I also converted all the pdfs to txt for easier handling in the backend.

This Week - 03/08/25:

I got the backend to work with message history, while my teammate set up the front-end storage that I then passed to the backend. It is now fully functional across the board. I added the missing animations and a clear history button. I had a friend test it and for the most part she thought it worked fine, but was having issues seeing chapter 4. After my teammate cleaned up the text files the results got a lot better. As of right now we still need to do more testing, mainly asking questions form the first 4 chapters of the zybooks for CSC108. I want to look deeper into the first chapter’s usefulness because at least some of the sections don’t seem to be helpful and seem to be hyper-fixated on by the AI (Specifically 1.09 for some reason). I also added a logging function that saves a log of all messages and responses; however, this was finished after my friend had tested it earlier. I am hoping to get more info from people during class on Saturday.

Based off of my limited testing it does prompt for mor info on vague questions, it has issues recognizing the user’s code, It can answer some conceptual questions, but it has issues with loops because the RAG seems to get stuck on chapter 3 and not 4, It provides a lot of info for debugging if you pass the code directly, It does explain concepts relatively well, but the depth could use some adjustment.

Have people ask it questions from beginning (cin/cout) through loops, but not beyond that as for right now it does not have that information.

Next Week - 03/15/25:

Fine tune the results based off of user feedback and really work on the paper/poster.