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CSCE 240 Final Project Report

For our final project of this course, we were tasked with combining our previous Project Assignments (PA's) to make a fully functioning chatbot which can answer questions about certain companies' 10K financial reports. Through this process I feel that I improved my knowledge upon already known topics like classes, Input/Output, and code organization, while also learning new skills like reading/storing data in csv files and overall structuring of chatbots.

The combination of all five Project Assignments seemed daunting, but turned out to be quite easy in the end. Since I recognized and solved most issues that occurred while doing the Project Assignments, it was much easier to gradually integrate everything together at the end because using what I had learned. I coded my project in Java. I did this because it is the language I know best, so I figured a challenge like creating a chatbot from scratch would further develop my Java skills and show that I can be creative and be limited to simple homework assignments. I think I was very successful in achieving this, as my chatbot is highly functional even when incorporating features I hadn't used prior to this, and it can easily be reused. My chatbot can do all of the following: read and write to .txt and .csv files, handle user inputs about the supported companies 10K files, handle chit chat, and calculate usage statistics,

For the difficulties I encountered while doing this, I'd say my main struggle was with code reuse. Because of the few creative and language limitations, each student's Project Assignments were much different than the others. Because of this, I was limited to looking at the code of students who used Java, all of which had vastly different ways of functioning. I also struggled with keeping my code organized. Just as I was done organizing my previous work, I would also have to incorporate new requirements which lead to my code getting cluttered again and again.

Overall, I enjoyed the new challenges this project introduced and I feel that I have a better understanding of the basics of chatbots and simple AI. If I had more time on this project, I would have possibly developed a system which can use word length and distance to ignore typos a user may make and still give correct responses.

Code Reuse

P5 Reuse

All of the code I reused was from Jacob Walton and in Java. I improved accuracy with commands by borrowing his method of if statements to remove the dependency on dashes being in front of and within the command. I also reused his code and implemented a feature of being able to switch between supported companies. Jacob had his program set up so that the company being asked about is detected based on the users query and can be changed at any time. My program was different because the user has to first declare the company they'd like to ask about before asking a question about it. To reuse this code, I made switching companies into a command. The user does still have to declare the company they'd like to ask about at first, but if

they later want to switch and ask about a different 10K form, they can use the “-switch-companies” command to change companies.