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CS441 Artificial Intelligence

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Weekly Progress Report:

- Back end learning, design and construction
- Algorithm learning and design
- Problems encountered

Most of my work this past week has been learning about writing a server and developing on Windows. Since my machines at home run Windows and I've never coded for Windows before there was a little bit of a learning curve there, especially since I've only read about servers, never built one before. That said, it is up and passing simple messages to the client I've made. Setting up the back end seemed important because I'll be using it to generate the dataset for my learning algorithm and I really had no idea how difficult it would be. Turns out it wasn't too bad, it will be finished this weekend and I will move on to building some simple AIs and generating the game dataset. The server is coded in C++ using the visual studio compiler and Sublime Text editor. The server is multithreaded and can handle multiple games and networked clients which will make the generation of games and eventual playability of the system go smoother.

The rest of my time on this project this last week has been spent researching libraries and algorithms to use and nailing down a more final plan for how my learning algorithm will be structured. There is a solid foundation in using the Monte Carlo method for modeling and creating learning systems that play card games such as pinochle I dug up a bunch of sources and have been reading a few different sources on the topic. At the moment I am trying to develop the back end of the project a little more before I move into developing the learning AI in a week or so. In the meantime a have been trying to widen my perspective by taking in a bunch of different sources on the topic of game AIs specifically when one is trying to learn about decision making with limited possibilities such as bridge or pinochle but not so limited that they can be brute force calculated. Or more to the point that the potential card distributions are not as important as choices players would make between cards if they had them, which is where I believe the learning AI can excel.

Most of the problems I encountered this week were simple lapses in my understanding of creating a multithreaded, multigame server and development for Windows. The internet and my c++ textbook from a year ago were both quite helpful.