Meg Jones

Fred Annexstein

CS 5001

The University of Cincinnati

Team Super Mega Awesome Cool Cats and the Python Simulation

For the 2021 to 2022 Senior Design Project for the University of Cincinnati College of Engineering and Sciences, our team has decided to choose a project revolving around graphical user interfaces and Python programming. In a way, I feel like this project is designed to have us focus on our ability to work on a team as well as how to delegate work in a fair and equal fashion amongst team members. I feel like we are also exploring equity in the workload amongst team members, because some team members have more experience with Python than others do and those with less experience may need more help. And in another way, we are also increasing our experience in one of the many programming languages is available to software developers. I personally don't have much experience with Python aside from one class my first year at UC. So, this project will also give me more experience in a language I'm not completely familiar with.

The variety of college classes required by the University of Cincinnati gave me variable experience to navigate the construction of this project. Particularly, my Python Programming [CS2021] course I took back in the autumn of 2019 will be my best source of fundamentals for building things in Python. I am also spearheading a new fraternity at the University of Cincinnati along with a few other people, and to build the website I started looking to Python as a possibility for front end web development. Although finding a fraternity isn't technically a part of college curriculum, I find it still is closer to college then it is to a co-op. I also feel my coursework with Data Structures [CS2028C] would also be helpful in the construction of the combat simulator. I also feel my current curriculum with Machine Learning [CS5137] and have AI Principles and Applications [CS4033] could come in handy.

Over the course of my co-op terms at the University of Cincinnati I had the opportunity to work with two separate companies. The first company I worked with for two consecutive co-op semesters, and my most recent one I had the opportunity to work with over the summer. At my first company, London Computer Systems in Loveland OH, I had the opportunity to work as a Quality Assurance Analyst as well as a software developer. Over the course of these two Co-op terms, I was able to work on my communication within a team as well as testing through programming and finding bugs in developer fixes. This helped me to understand what things I need to keep an eye out for when I go through my own programs and debug them prior to sending them off to QA. As a software developer, I was able to experience working remotely and on a small team within the company whose sole focus was to deliver new features into the program. At my most recent Co-op, the Normandy group in Blue Ash Ohio, I had the opportunity to work within a small company of only a few developers focusing on one product. I learned while working at this company that not every company has ample resources to dedicate to training new employees, so I had to learn to do research on my own. I think this skill will come in handy with this project especially since I am not very familiar with Python.

I'm very excited to participate in this project with a couple of people I know from outside of my major. I feel like being able to work with people outside of the computer science bubble would add a new perspective into the work that can be done and new skills that normal CS majors don't have experience with. And on top of that, I find it would give me good insight into what it would be like coding a video game. I enjoy playing games like Minecraft, Assassin's Creed, and Mario Party with friends and family. so, I would be able to understand a fraction of what some developers go through when they choose to go into the video game side of programming. I still don't fully know what career path I would like to go on outside of graduating, but I hope this project will also help me with that too.

Although I haven't had the opportunity to discuss with my team how we want to go about designing this project, this computer engineering project comes with a few steps. We do know, however, that we want to have each one of our team members take the lead on each step of the project. This way we will also gain some leadership experience with leading a small team, and a deeper understanding we can use to teach others. I expect that this project will have some fun and frustrating aspects, but I feel we all accomplished a lot and go beyond the bounds set within this project. To know when I'm finished with a particular task, I'm going to run it past my other two team members must see if they can point out anything that needs to be fixed or changed. When it goes past them and everything is OK, I will feel a sense of accomplishment and that I did a good job with my tasks. I still don't feel very confident with myself when it comes to programming, so I still seek a lot of advice from people who seemed to have more experience than I do. I know eventually it will change, but for now my sense of accomplishment comes from whether or not others can find faults in my code.