Individual Capstone Assessment Essay – Sam Puffer

For me, my senior capstone project is something that should be considered the pinnacle of my college academic career. This project is something I’ve been excited about since I started at the University of Cincinnati. What better way to finish your college career than to have a project that showcases your academic growth? It should be a demonstration of my technical skillset to both potential employers and academic peers. Even with this professional mindset for the project, it should also be fun and engaging to work on. It is also a great opportunity to develop a pet project or to contribute to a hobby you’re passionate about.

Both my academic and professional experiences from the last 5 years will be the driving forces behind my development of the project. My group and I plan on focusing on many different subject areas, including but not limited to machine learning, data analytics, and user-interface development. Because of this, classes like AI Principles and Applications (CS 4033), Database Design and Development (CS 4092), and Intelligent Data Analysis (CS 5152) have incredibly important subject material for us to reference. We will also need to follow development practices, such as those we learned in Software Engineering (EECE 3093C). This is arguably the most important class, because it gave us the experience of developing a project under similar circumstances. The material we learned in these classes will give us the building blocks to create a successful product.

During my time on co-op, I was an IT intern at PPL. A lot of my job responsibilities were incident work. Although it’s a drastically different development method than project sprints, I believe my work experience enables me to be a beneficial team member. I’m used to working collaboratively on programs with my mentor or other interns. This has taught me communication skills as well as an increased proficiency in a team environment. I was also doing database work throughout my co-op, which has the potential to be directly applicable to this project.

As far as the project itself, the goal is to create a user-friendly application that helps balance combat encounters in tabletop roleplaying games, such as D&D Fifth Edition. This will be used by game masters, who will be designing the combat themselves. They will use our service by dropping in their characters’ stat sheets as well as choosing from a selection of monsters they intend to add to the fight. With the given user data, our program will run simulations of the combat, and provide the user with specified metrics (difficulty, chance of a party wipeout, etc.) Because D&D is such a complex game, I do have some concerns regarding the scope of the project. Namely, I believe we could over-engineer a solution, adding too much from the game into our simulation. Ultimately this is a problem of scope, and depending on the time and resources we have, we will need to adjust the requirements accordingly.

I’ll be using a handful of metrics to measure my own contributions to the project. I would like to meet the expected three hours per week, taking time both in and outside of group meetings to work on our project. Another one of my goals for this project are to grow my own technical skillset, becoming proficient in programs I’m currently unfamiliar with. So, another metric is to reflect on my own technical growth throughout working on this project. Lastly, I want to make something that I’m proud of. I realize this is incredibly nonspecific and not really an observable metric. But at the end of this I want to have a project where I’m incredibly proud of the work I’ve done on it.