Individual Capstone Assessment

CS 5001: CS Senior Design I

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The main focus areas of our senior design project is web development and data science. We plan on developing a data driven web application. More specifically, we plan on creating an app to help users live a healthy lifestyle. It will help users track their sleep, create a diet, plan out a workout routine, and more. The data driven part comes in the form of recommendations. For example, the app will recommend a particular exercise based on the type of muscle they are trying to train. In addition, it will take into account the user’s previous exercises as well as exercises favored by other users.

Throughout my career as a student, I’ve learned many things through my courses that have helped me grow professionally. CS 2028C (Data Structures) as well as CS 4071 (Design & Analysis of Algorithms) are the bread and butter of computer science. These courses teach you how to organize, store, and process data. CS 4092 (Database Design & Development) is another crucial course. Since our app manages large amounts of data, knowing how to work with databases and making queries is paramount. EECE 3093C (Software Engineering) is one of my favorite courses in the curriculum as it’s one of the more practical classes. It taught me about the SDLC and project management. For the more theoretical classes, MATH 2076 (Linear Algebra) and STAT 2037 (Probability & Statistics I) will aid in creating the recommendation system.

The co-op program at UC has provided me with real world industry experience that I wouldn’t have received otherwise through schooling. I learned how to use tools commonly used to produce professional software. I got to experience first hand what it's like being on a scrum team. For my first co-op, I actually ended up doing an independent project as part of UC’s EEP programming (My original co-op offer was rescinded due to COVID-19). I developed a mobile game for iOS. This was my very first introduction to iOS development and I managed to learn a lot of neat stuff. I worked on the project with my cousin (a non-coder) who developed the art and assets for the game. One of the key things this project taught me was how to communicate with non-technical people, an important skill to possess as a software developer. In the end, we made a fun and unique game. It made me appreciate those who work in game development (it’s not easy!) and the passion that drives them. This independent project taught me how to be a self-starter and tapped into my more creative side. For my professional software development experience, I did all my co-ops at Siemens Digital Industries Software. My manager moved me around to different teams initially. My first rotation I worked mostly as a front-end QA tester. I learned how to write cucumber tests and use the Selenium framework. My second and third rotation is where I started to settle into the Microservices team which was more back-end oriented. I learned how to create CI/CD pipelines on GitLab, deploy microservices via Docker, and fix critical software defects.

The senior design project is meant to be a culmination of everything we’ve learned as students and professionals. I’m excited to be able to work with a team to create an amazing app that can help people live healthier. I feel my entrepreneurial spirit ready to tackle the challenges this project will offer. I will serve as the project’s manager and the team’s scrum master. Everyone has their assigned roles, but we’ll all be doing a little bit of everything. This is similar to what you would see at a small startup where developers often wear many hats.

In the coming weeks, our team will start to discuss some of the preliminary elements of the projects such as what tech stack we’ll be using. We’ll most likely be using a mix of what’s popular and what’s familiar. We want to play towards our strengths, yet at the same time try something new. We have a pretty solid foundation to start with already and how to expand upon it within the coming weeks. By the end of this project, I hope that our team will have produced a Minimum Viable Product (MVP). Ideally we want to have a somewhat featured rich application, but the core functionality will be the priority. The team will keep each other accountable and ensure that everyone contributes. I’m confident in my team and the skills they bring to the project. I’m also excited to see at the end what the other teams have created as well.