Individual Capstone Assessment

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The senior design project is one of the most important and pivotal projects among all of the curriculum during undergraduate. One of the biggest reasons this project is so important in comparison to all of the other curriculum is its practical nature. While many other classes do teach important information many fail to introduce concepts and work that is directly related to the work force and life after graduation. The senior design project, however, does just that – it forces students to work on a full-scale project in a team environment, to go through the entire planning process, and to develop a product that is about as close to production ready as one might get working a full-time position as a software engineer. One of the other reasons this project is so important is it serves as a perfect resume builder. While some students may take some project-based classes towards their 4th or 5th years, many do not offer material that looks fantastic on a resume. It can also be hard for students to find the time or capacity to work on individual projects of this caliber on their own. The senior design project, however, gives students a fully fleshed out project to put on their resume – one that even includes the entire planning and architectural process.

There are two main areas of experience that I believe will help me with the senior design project – my classes and my co-op experience. From a college curriculum standpoint, I feel the thing that will be the most helpful is all of the homework/projects. One of the reasons I think all this experience is going to be so helpful is not necessarily the content of the assignments themselves but rather the size of some assignments and the number of total assignments. Through all these assignments I was able to improve many skills like time management, planning, and group coordination. I also believe that many of my foundational classes will help tremendously with this project. Although a lot of my technical skills do come from my co-op experience, the foundation of all of that comes from taking classes like intro to programming, intro to python, and data structures.

My other area of experience, co-op rotations, should hold a little more weight in helping me with my senior design project than my classes. Although classes do help with some things, the technical aspect isn’t really there. This is primarily because the kind of work I did on my co-op rotations and the kind of work I’ll be doing for my senior design project (front-end development) isn’t taught in many/any classes at UC. One of the reasons I think my co-op experience will be so beneficial is because the work I did during my last 3 co-op rotations is the exact kind of work I will be doing for my senior design project (front-end development). The languages I used during these rotations will be the same for my senior design project, as will the technologies and type of work. I also believe that my experience working on a team in an AGILE environment will help me with the teamwork aspect of this project and the planning.

My primary motivation for this senior design project is simple – I have a big passion for web application development! Through this project I am hoping to gain more experience building out web applications and user interfaces in hopes the skills can help me in the future with my job and with my resume. I also believe the concept of the website we are building is really interesting. I have very limited experience with stocks and stock trading platforms and think it will be really interesting to get to work on an application like that. One other area of motivation is the desire to learn more about back end development and API integration. While I will be primarily working with the front end of the web application, I would like to use this project as a good opportunity to learn more about how back ends work and how they work with APIs to deliver data to a front end for a seamless user experience.

The project has a pretty straightforward approach. At a *very* high level, Ethan (my teammate) and I intend to use the TD Ameritrade API to display stock information in a React front end using a Flask backend and a MySQL database. Our initial goal is going to be to set up a working proof of concept – getting stock information to display in a front end application that the user can have minimal interaction with. From here we would like to build the application out feature by feature and see how much we can push ourselves to develop. My expectation is that by the end of this project, we will have a fully functional stock-trading app that allows a user to see real-time stock information and trade stocks they own. I will feel I have done a good job if I have helped fully implement a front end (preferably one that is mobile responsive), if I have helped with the implementation of our product into the cloud, and if I can gain any knowledge or experience working with a backend or the TD Ameritrade API.