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Senior Design

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Capstone Essay

Senior design is all about expressing a student's understanding of the subject they have spent the past four to five years studying. Giving students a chance to display their collaborative, creative, and technical skills which they have garnered over their time at the university. The project that our team chose to work on will be a full stack web application which includes working with databases using SQL, programming the backend through a language such as python or C#, and utilizing some front-end JavaScript framework to provide the user interface. Currently our team does not have a complete idea of the project specifics besides that it will be a to-do list, however, this project will no doubt further my understanding of software development through research and work.

Over the last four years I have learned a lot about programming and the fundamentals of computer science. A few classes that inspired me to dive deeper into my studies were Operating Systems, User Interface Design, and Data Structures and Algorithms. These courses not only made me curious because of the subject matter, but also were very hands on in their approach to learning through the usage of labs and projects. Specifically, User Interface Design, which gave me a thorough understanding of web development which I did not have previously. Helping me land a position at my previous software development co-op at Medpace.

The coop experience at UC helped me decide my career path and figure out what I would like to do. For the first two coops I worked at Honeywell Intelligrated as a Controls Engineer intern. During my time there, I worked on the coding and networking of Allan Bradley PLCs for the conveyor belts in amazon warehouses. This was a great experience since they sent me to several sites in and outside of the United States. However, the work was not what I was looking for, considering PLC/Controls engineering is geared towards electrical engineers and not programmers. Therefore, I left and started working at Medpace, where I worked as an equal with

all the other software engineers. Over the course of my two rotations with Medpace I learned how to use SQL to write stored procedures and manipulate date, write back-end functionality with C#, and program the front-end of a web application using frameworks such as ASP.NET and Angular. This experience will not only help me with future job opportunities, but also complete the senior design project as well.

Each of the members in our group have similar backgrounds when it comes to our coop experiences; because of this common ground, it was decided that we do a full stack web application. I am excited to finally put what I have learned in my coops into a tangible project that displays all that I have accomplished thus far. Not only is this project a reflection of my time here at the university, but it also seems like a fun way to test myself and further my understanding of web development. Motivating me to not only put my best effort, but to learn more about my career path and harness skills that I could carry with me for the rest of my life.

I expect the result of this project to be a full-scale web application, which would make an aspect of everyday life easier. As of right now, our team is focused on making an application that would work as a to-do list and reminder, but also rewards the user with achievements and prizes as they complete their tasks. The goal would be to create something that we could use in our day-to-day life and could make one aspect of it a little bit easier. This application must be robust, gone through testing, and perform the way it was originally intended to before it can be considered complete.