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CS5001 CS SENIOR DSGN I

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Assignment 06 – Individual Capstone Assessment (Spring 2025)

The STIMS project was completed individually, therefore, this individual capstone assessment will forego talking about project contribution and team performance and instead focus on a solo reflection. Last fall, I identified several skills that I possess and experiences that I've had that I believed would help me in the completion of the STIMS project. One of those experiences proved very useful in the creation of the project, my co-op rotation at London Computer Systems. Since the project that I worked on at LCS was a front facing user interface that pulled and stored information in a database layer, the tech stack was something that I was able to implement into STIMS. The skills that I learned at LCS helped me greatly as I chose the same front-end framework, Angular (& TypeScript), that I had used at the company.

The major new skill that I learned during my time working on the STIMS project was definitely a better and deeper understanding of the Docker technology. Behind the scenes, all services of the STIMS project (front-end, API middleware, and back-end database) are all hosted and communicate over a virtual Docker bridge network. The reason for me implementing this was to showcase how each service could theoretically be separated onto different machines or into the cloud if needed. The use of containerization with Docker also allowed me to create scripts for easy setup of the entire system, which can be completed in under three minutes. This project required me to learn a lot of the more

advanced features of Docker, and I'm glad that I have that skill set now as I hope to use virtualization and containerization technology in my future career.

One major obstacle for me during this project was the design and layout of the front-end user interface. Creating visually pleasing interfaces has never been easy for me. However, the STIMS project allowed me to gain more experience in creating and styling good looking interfaces, specifically using Google's Material Design framework. I am quite happy with the final visual style of the STIMS interface, and I'd like to continue to explore other design frameworks in the future.