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Part #2: Individual Capstone Assessment

Introduction:

My senior design project focuses on developing a collaboration infrastructure system aimed at improving communication, task management, and workflow efficiency within distributed teams. This project allows me to apply my academic knowledge of computer science and my practical experience from multiple co-op positions. The goal is to design a robust system that streamlines communication channels, integrates various tools for project tracking, and ultimately enhances the productivity of teams working in different locations. From an academic perspective, this project represents the culmination of my technical and non-technical skills, giving me the opportunity to contribute meaningfully to a solution that addresses real-world collaboration challenges.

College Curriculum:

My academic coursework has provided me with a strong foundation to tackle this project. Courses like Large Scale Software Engineering and Database Design equipped me with the skills to develop and manage systems that support large teams and databases. In Operating Systems & Systems Programming, I learned how to build efficient systems that could handle multiple concurrent processes, an essential skill for developing a collaboration infrastructure. Through these courses, I gained proficiency in programming languages such as Python, SQL, and C++, which I will apply to the system development process. Moreover, non-technical skills such as project planning, problem-solving, and teamwork were reinforced through group projects and presentations, preparing me to effectively collaborate with my capstone team.

Co-op Experiences:

My co-op experiences have played a pivotal role in shaping my approach to this project. As a Business Analyst Co-op at Insight (May 2024 – August 2024), I worked closely with stakeholders to gather requirements, define user stories, and ensure alignment between business goals and project objectives. These experiences helped me refine my skills in Agile methodologies and project management, both of which are crucial for structuring the workflow and sprints of the capstone project. Additionally, during my time at SHP as a Computer Science Co-op (August 2023 – December 2023), I developed custom solutions using C# for AutoCAD Revit software, which taught me how to create user-centered solutions that improve workflow efficiency. Both co-ops sharpened my ability to balance technical development with user needs, a skill I will apply as I design and implement the collaboration infrastructure.

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Motivation for the Project:

I am highly motivated to work on this project because it aligns with my long-term goal of becoming a technical project manager. The opportunity to develop a system that directly improves team communication and efficiency excites me, as I am passionate about creating solutions that enhance productivity and collaboration. This project also allows me to explore leadership within a technical context, where I can apply both my coding expertise and my project management skills. I look forward to the challenge of coordinating a team to build a system that can have a tangible, lasting impact on how teams collaborate and achieve their goals.

Preliminary Approach and Evaluation:

My approach to this project will be grounded in Agile principles, ensuring that our team remains adaptable to changes while setting clear milestones for each phase of development. I plan to structure the system using a modular approach, where each component (communication, task tracking, project management) is developed and integrated iteratively. I will evaluate my contributions based on how well the system meets the needs of its users, as well as through feedback from team members and stakeholders. Success for me will be defined by the system's ability to improve team communication and workflow efficiency. I will also set personal milestones to track my progress and ensure that I am consistently contributing to the project's overall success.