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CS 470 Final Reflection

YouTube Link: <https://youtu.be/7U3YGmRVeyQ>

In completing the full stack web application in the cloud, I not only gained hands-on experience in developing and deploying a cloud solution but also obtained critical skills that helped myself grow as a software developer. The final stages involved the completion of the API and rigorous testing, followed by thorough documentation through a presentation. This experience has significantly contributed to my professional development and preparedness for future roles in the tech industry.

This course has been useful in bridging the gap between theoretical knowledge and practical application, especially in cloud-based development. Through the challenges and projects completed, I have learned to efficiently design, build, and manage full stack applications that are scalable and secure. The key skills I have developed include cloud architecture, API development, testing and debugging, and documentation. These skills not only make me a more marketable candidate but also prepare me for roles such as a Full Stack Developer, Cloud Engineer, or DevOps Engineer. My strengths as a software developer lie in my ability to solve complex problems, adapt to new technologies, and think critically about the architecture and scalability of each solution I put in place.

Looking ahead, the sustainability and growth of the web application in the cloud depends heavily on strategic planning around scalability, cost management, and the use of advanced cloud services like microservices and serverless computing. Microservices architecture will allow applications to scale efficiently by breaking down the application into smaller, independent

services, while serverless computing offers a cost-effective solution by only charging for actual usage, eliminating the need for managing servers. To manage scale, I would implement auto-scaling groups for microservices and use cloud-based monitoring tools to automatically adjust resources based on traffic. AWS does this with services like CloudWatch that monitors traffic. Predicting costs in the cloud requires careful analysis of usage patterns, with serverless offering cost predictability in low-traffic scenarios, while containers could be more cost-effective for consistently high traffic. The pros and cons of microservices and serverless solutions will guide decisions on resource allocation, service selection, and scaling strategies, ensuring the application remains both efficient and cost-effective.

In conclusion, this course has equipped me with the necessary skills to not only develop but also plan for the future growth of cloud-based applications. What I have learned about cloud services and their application to scalability and cost management will be invaluable as I move forward in my career as a software engineer.