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CS-470 Final Reflection

https://youtu.be/90nTieoPX9g

In CS 470, I've acquired a range of skills and experiences that have prepared me for a career in the tech industry. Firstly, I've learned how to design and develop full stack web applications using cloud services such as AWS. This hands-on experience has strengthened my understanding of modern web development practices and technologies, making me a more marketable candidate in the field.

Through this course, I've honed my skills in frontend and backend development, database management, and API integration. I've also gained proficiency in using tools like Docker Compose, AWS Lambda, API Gateway, and DynamoDB, which are widely used in industry settings. These skills have equipped me to take on roles such as web developer, software engineer, or cloud engineer in a new job.

As a software developer, my strengths lie in my problem-solving abilities, attention to detail, and adaptability. I excel in tackling complex challenges, breaking them down into manageable tasks, and finding innovative solutions. Additionally, my strong communication and collaboration skills enable me to effectively work in team environments and deliver high-quality results.

Looking ahead, planning for the growth of my web application involves leveraging microservices or serverless architecture to achieve efficiencies of management and scale. With microservices, I can modularize my application into smaller, independent components, allowing

for easier scalability and fault isolation. Serverless computing, on the other hand, offers automatic scaling and cost optimization, reducing the need for manual resource management.

In terms of scale and error handling, I would implement auto-scaling policies and robust monitoring systems to dynamically adjust resources based on demand and detect and handle errors proactively. To predict costs, I would carefully monitor usage patterns and leverage AWS cost management tools to estimate expenses accurately.

When considering cost predictability, serverless architectures often offer more predictable pricing models compared to containers. While containers provide more control and flexibility, they require more management overhead and may result in unpredictable costs as the application scales.

Several pros of expansion with microservices or serverless include improved scalability, reduced operational overhead, and faster time-to-market for new features. However, challenges such as increased complexity, potential vendor lock-in, and security concerns must be carefully considered in the planning process.

Elasticity and pay-for-service models play crucial roles in decision-making for planned future growth. Elasticity ensures that the application can scale seamlessly to handle varying workloads, while pay-for-service models enable cost optimization by paying only for the resources consumed. These factors must be balanced with performance requirements, security considerations, and business objectives to achieve sustainable growth in the cloud.