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Title: CS 470 Final Reflection

Link: <https://www.youtube.com/watch?v=NxjoOYA90sM>

- Experiences and Strengths: Explain how this course will help you in reaching your professional goals.
 - What skills have you learned, developed, or mastered in this course to help you become a more marketable candidate in your career field?

During this course, I was able to gain hands-on experience with using the AWS console and features to transfer a fully functioning application to the cloud.

- Describe your strengths as a software developer.

As a Software Developer, I am proficient In various coding languages such as Python, Javascript, PHP, and C++. I have experience using the MEAN stack and AWS cloud platform to build and deploy fully functioning applications. Additionally, I am proficient in SQL and NoSQL databases.

- Identify the types of roles you are prepared to assume in a new job.

I am prepared to assume tech roles as an AWS Solutions Architect, a Software Developer, a Website Developer, a UA Tester, and a Database Administrator.

- Planning for Growth: Synthesize the knowledge you have gathered about cloud services.

- Identify various ways that microservices or serverless may be used to produce efficiencies of management and scale in your web application in the future. Consider the following:
 - How would you handle scale and error handling?
 - How would you predict the cost?
 - What is more cost predictable, containers or serverless?

Microservices and serverless architecture can be used to produce many efficiencies of management and scale in your web application. These include horizontal scaling of specific application components that require more resources in order to reduce cost and improve performance. By balancing workloads across multiple instances of microservices to ensure high availability and auto-scaling in platforms such as AWS Lambda.

This architecture allows for error handling by isolating individual microservices so that errors won't bring the entire application down and by logging, identifying, and diagnosing system errors. Lastly, cloud providers typically offer pricing estimators and services to predict the cost of services while taking into account memory usage, storage requirements, and execution time. Serverless is also considered to be the most cost predictable because of its pay-as-you-go pricing system its lack of infrastructure and its auto-scaling feature.

- Explain several pros and cons that would be deciding factors in plans for expansion.

Some pros that can serve as deciding factors when considering expansion include the following;

- Competitive advantage that is gained from entering a new market ahead of other competitors and offering a wider range of products and services.

-Expansion allows for the benefit of economies of scale due to the distribution of fixed costs over an increased production or customer value.

-Expansion also allows for an increase in market reach. It allows for more opportunities to attract new customers and generate additional revenue.

Some cons that can serve as deciding factors when considering expansion include the following;

-Expansion typically requires a large amount of financial investment in expansion needs such as marketing research and infrastructure development.

-Expansion is also typically accompanied by new operational complexities such as regulatory compliance and the task of managing multiple locations.

- What roles do elasticity and pay-for-service play in decision making for planned future growth?

Elasticity is a system's ability to scale its resources up or down based on the current demand. As such when planning for future growth elasticity allows the system to handle an increase in traffic and volume without compromising system performance. By scaling resources elasticity also reduces costs linked to paying for idle resources and overprovisioning. This is critical when planning for future growth as it allows for efficient cost management.

Pay-for-service is a model that involves paying for the services or resources that were used instead of paying a fixed price. It influences decision-making for planning future growth by providing cost controls which allows one to scale their business expenses in relation to their business growth. This cost control is important as it allows you to align business expenses with business revenue. The pay-for-service model also offers a high level of cost

predictability which allows you to estimate and align costs with the growth trajectory of the business.