CS 470 Final Reflection

YouTube Video: https://youtu.be/8YVyKWqw1pk

- **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 gained proficiency in crucial Cloud development principles like containerization, AWS-based serverless architecture, and elasticity. Mastering these skills equips me to explore broader career prospects within software development. Additionally, I acquired extensive knowledge in constructing and managing REST APIs using AWS services, a fundamental skillset for creating and deploying scalable web applications.

- Describe your strengths as a software developer.

As a software developer, I'm perpetually driven to embrace and utilize fresh skills and technologies, ensuring I stay at the forefront and remain competitive in the market. My forte lies in comprehending and pinpointing software requisites, offering innovative solutions to challenges. Additionally, I pride myself on being a collaborative team member, maintaining transparent communication and delivering clear presentations to fellow developers.

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

Having finished this course, I'm self-assured in launching my path as a Full Stack software developer, equipped to handle diverse tasks and confront

challenges. My aim is to implement the best practices gleaned from this course and embark on migrating additional applications and services to AWS and other cloud platforms. This journey signifies my commitment to evolving and applying newfound skills in practical scenarios.

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.

- How would you handle scale and error handling?

  To initiate the scaling of my web application, my primary step would involve setting up and implementing AWS auto scaling via the CloudWatch service. This configuration enables my application to dynamically allocate additional resources in response to varying traffic levels and adjust the read capacity of my DynamoDB database accordingly. Additionally, I plan to address error handling by constructing and managing custom AWS step functions. These functions will serve to automate and manage any potential issues that may arise within my other services or Lambda functions, ensuring smoother operation and handling of errors.

- How would you predict the cost?

To kick off, I'd start by utilizing the AWS Cost Explorer tool, which allows me to assess the average cost and usage patterns pertinent to my web application. This exploration not only provides insights into the expenses incurred but also enables me to explore various savings plans available within my budget. By leveraging the Cost Explorer, I can identify and implement suitable savings plans to further optimize and reduce the billing amounts associated with AWS services utilized for my application.

- What is more cost predictable, containers or serverless?

Serverless computing indeed presents cost advantages by charging solely for utilized resources. However, containers tend to offer a more predictable cost structure as the management fees for these containers remain relatively stable. Companies seeking consistency in cost analysis might find containers preferable due to their steadier rates. On the contrary, businesses comfortable with fluctuating expenses tied to demand and resource fluctuations may lean towards embracing the variability inherent in serverless approaches. The choice often hinges on a company's tolerance for cost variations vis-à-vis resource usage.

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

Expanding the web application hinges on several factors. Firstly, the current user interest plays a pivotal role in decision-making. Additionally, the cost

involved in transitioning the existing application to a serverless framework serves as another critical factor. Despite the substantial upfront expense of migrating to cloud architecture, this move promises long-term cost efficiencies during the application's maintenance phase.

Moreover, security remains a paramount concern for the company. Ensuring the application's continued security across different cloud providers becomes imperative. Balancing the financial investment, user interest, migration costs, and security measures will be pivotal in determining the feasibility and benefits of transitioning to a new serverless approach for expansion.

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

Elasticity provides organizations with the agility to accommodate anticipated growth by flexibly adjusting resources according to demand. This aligns with AWS's pay-for-service model, allowing their services to seamlessly scale from the outset. This payment structure incentivizes companies to routinely test their capacity, ensuring preparedness for sudden surges in growth while maintaining stability. Consequently, this adaptable infrastructure not only facilitates scalability but also encourages proactive testing and readiness for rapid expansions without compromising stability.