CS 470 Final Reflection

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Presentation Link

https://youtu.be/ouVVppGdODs

Experiences and Strengths

This course has been a valuable experience for me and will help me achieve my professional goals due to my interest in the world of cloud technologies. I have learned a variety of skills such as exposure to Docker containerization and orchestration as well as a wealth of AWS services such as Lambda, S3 Buckets, API Gateway and DynamoDB. This will help me become more marketable in the career field because I will have exposure to technologies another developer may not have. My strengths as a software developer would definitely be my adaptability and problem solving. Migrating a full-stack web application onto the cloud requires an understanding of both architectures as well as understanding how to solve any problems and adapt to the changing requirements and circumstances. I am prepared to assume any number of software engineer style roles. I would be open to being a developer, work on DevOps or cloud technologies and even be a support or test engineer.

Planning for Growth

Through my exposure to cloud services it has become clear that there are a variety of ways that microservices or serverless environments may be used to produce efficiency in managing and scaling my web application in the future. For example if I was to implement scale and error handling, I would research the best AWS service that would help facilitate my goal. AWS empowers the developer to make use of existing services to facilitate matters such as scaling and error handling. One of the key benefits of moving to a serverless environment is the capacity to

scale as needed for the project load at a given time. In addition, AWS is a fully managed service and with a clear through line it is easier to handle errors. As far as cost prediction goes, AWS has an intuitive pay for use model where the cost can be understood by the rough estimation of how much data will be used to host the application. It can also be understood that a container service would be more expensive and less cost predictable. This is a result of the slightly more expensive up front and run costs associated with running containers. A serverless environment is straightforward in its cost predictability and as a result is often cheaper as well.

When it comes to expansion there are some pros and cons to consider. For example there are pros such as clear cost predictors, ease of scaling and security. Some cons to consider are the foundational development changes as the local full-stack application does not map onto the serverless environment as a 1 to 1. Refactoring and recompilation of certain code will require manipulation of the local files. The final main con is the understanding that while it is cost effective and easy to scale, it will at the end of the day cost more to expand due to the nature of consuming more cloud resources.

Elasticity plays a clear determinate role in the decision making for the planned future growth. It can be understood that through the properties of elasticity the application can scale and increase and size without the associated services breaking. The pay of service model is also a clear factor. It makes planned future growth costs more predictable. A clear estimation of cloud costs can be determined as the developer is only going to be charged based on their usage.