CS 470 Final Reflection

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CS-470-H7083 Full Stack Development II 22EW2

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YouTube Presentation URL:

https://www.youtube.com/watch?v=_qnYvN-6k5s

Experiences and Strengths

This course has been a helpful step towards my professional goal of becoming a software developer or a related role in the IT field. Course CS 470 has taught me how to migrate a local full stack application to a cloud based full stack application in AWS as well Docker containers. Further, I learned concepts such as elasticity, the pay-for-use model, and cloud security. Adding these skills to my resume will help me become more marketable in the IT field. The strengths I have as a software developer is persistence, resourcefulness, and eagerness to learn. As a growing software developer, I often hit roadblocks or obstacles that seem impossible. Being persistent means that I do not give up easily in the face of these obstacles. Being resourceful means that I am able to utilize the resources I have in order to find solutions. My eagerness to learn means that I am passionate about software development and strive to become a better developer.

The roles I am prepared to assume in a new job are AWS Solution Architect, AWS SysOps Administrator, and AWS Developer. The AWS Solution Architect “help organizations design and implement cloud solutions using Amazon Web Services (AWS), working with customers to understand their needs and requirements and designing and building the most efficient and effective solution possible” (Coursera, 2022). An AWS SysOps Administrator is responsible for “deploying, managing, and operating various required systems on the given AWS platform”, “maintaining and managing their organizations’ AWS infrastructure “, and optimizing and managing costs (Intellipaat, 2022). An AWS Developer “designs, maintains, and manages

the cloud-based infrastructure used to run web applications in AWS's cloud" (Carpenter, 2022). Although this course did impart a great wealth of knowledge on working with AWS, these roles do have certifications that are provided by AWS and there are many resources available that can help with learning more about these roles including courses supplied by AWS.

Planning for Growth

AWS offers several cloud services that work in an ecosystem. This ecosystem has excellent integration with each AWS service and yields other advantages as well. Scaling is necessary for growing businesses which AWS provides with Auto Scaling. The purpose of AWS Auto Scaling is to monitor "applications and automatically [adjust] capacity to maintain steady, predictable performance at the lowest possible cost" (Barr, 2018). Errors can be handled with the help of AWS Step Functions which is "a serverless orchestration service that lets you easily coordinate multiple Lambda functions into flexible workflows that are easy to debug and easy to change" (AWS, n.d.). Cost can be predicted with AWS Cost Explorer which can forecast costs based on past usage. Another useful tool for predicting cost is the AWS Pricing Calculator. Users can input what services they may use and configure settings and usage for each service. The calculator then computes all the input and outputs a summarized cost.

Containers are most predictable in terms of cost compared to serverless since cost is usually fixed for containers while serverless costs can vary because serverless is based on usage and usage can vary from one billing cycle to the next.

Expansion will always have its pros and cons. Demand is an important factor to consider when expanding. If the expansion results in a "supply", or resources, that exceeds the demand by too much, then there will be waste which can lead to lower profit margins. Expansion requires capital to train and hire employees, lease office space, buy software licenses etc. Higher revenue

can be the benefit of expansion since there are more resources to meet demand. Elasticity plays a role in planned future growth because having the ability to dynamically acquire and release resources based on usage means that services can automatically grow with the business. The pay-for-use pricing model is complementary to the elasticity concept because this pricing model is not restricted by a planned or set capacity, rather, the pricing model is set to how much the resources are being. Additionally, the pay-for-use model is often more cost effective since businesses are paying for usage instead of paying for what is expected to be used even when the actual usage can be less than what is expected resulting in waste or the actual usage can be higher than what is expected resulting in customer dissatisfaction with slow or unresponsive services. AWS Serverless is fantastic for a growing business since the services easily scale with the business.

References

AWS. (n.d.). *How do I handle errors in serverless applications?* AWS. Retrieved December 18, 2022, from https://aws.amazon.com/getting-started/hands-on/handle-serverless-application-errors-step-functions-lambda/

Barr, J. (2018, January 16). *AWS Auto Scaling*. AWS. Retrieved December 18, 2022, from https://aws.amazon.com/autoscaling/

Carpenter, A. (2022, July 27). *What does an AWS developer do?* Codecademy News. Retrieved December 18, 2022, from https://www.codecademy.com/resources/blog/what-does-aws-developer-do/

Coursera. (2022, November 7). *What is an AWS solution architect? course, career, job, salary*. Coursera. Retrieved December 18, 2022, from https://www.coursera.org/articles/aws-solution-architect

Intellipaat. (2022, November 14). *AWS Certified SysOps Administrator: A Career Guide*. Intellipaat Blog. Retrieved December 18, 2022, from https://intellipaat.com/blog/aws-certified-sysops-administrator/