Southern New Hampshire University

CS-470 Final Reflection

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What skills have you learned, developed, or mastered in this course to help you become a more marketable candidate in your career field?

The skills I have learned in this course that can make me more marketable in my career field include knowledge in AWS services, containerization, and orchestration. The knowledge gained in each of these 3 categories has taught me how to take a full stack application and deploy it to the cloud. AWS services that I now have experience in include S3 buckets, Lambda, API Gateway, and IAM. Additionally, I have learned how to utilize Docker and Docker Compose for containerization and orchestration.

Describe your strengths as a software developer.

My greatest strength as a software developer is testing throughout development. I also have strengths in breaking down business and client requirements into clear user stories that can completed with incremental development. Being detail oriented and thorough while using iteration allows me to complete work quickly and efficiently and ensuring as many bugs are caught throughout development as possible.

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

The types of roles I am prepared to assume in a new job include software test engineer, automated test engineer, software engineer, developer, and full stack developer.

Final Reflection

Identify various ways that microservices or serverless may be used to produce efficiencies of management and scale in your web application in the future.

Microservices or serverless architecture can be used to scale an application automatically depending on the application's needs. For example, if a new online retailer moves their application to the cloud, they may not need a lot of capacity right away. As the retailer grows in consumers, the application in the cloud can scale automatically based on the increased user traffic. Error handling could also be handled through the cloud using Lambda and API Gateway as well as utilizing logging through the cloud provider. Cost can be predicted based on current needs and estimated growth as a business ages. Since using a cloud provided typically utilizes pay-per-use pricing, a business only pays for what they need and use at the time of use. As the application scales within the cloud, the business will need to increase the amount paid. Serverless architecture can be used when the amount of traffic is predictable or may change in the future. Whereas containerization may be used when traffic is predictable and stays consistent.

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

Pros and cons for plans for expansion can be the age of the application, it's current and future business uses, and the technical difficulty of expansion. If an application is old or outdated, it may not make sense to expand the application, as is. It may be considered a legacy product, and the company would better be suited to creating a more up to date, streamlined application that covers consumers' needs. If an application can benefit from having part or all of it expanded or a business sees a lot of potential or current growth, expanding the application may be beneficial, including moving the application to a serverless architecture. Businesses must also think about their clientele and what the client's needs are. Furthermore, the business must consider the cost and time needed for an application expansion. If a business does not see the need for an application to scale quickly or at all, then it may be best to stick with the system they are currently using, which may be traditional servers. If a business sees a lot of future growth and has the developers available, time, and cost to move their application from a traditional architecture to the cloud, a serverless architecture would be the best choice.

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

Traditional architecture using physical servers may cause difficulties for decision making and planned future growth. Elasticity is the ability for an application to scale based on business needs. Pay-for-service means a business pays for services used and no more. With traditional architecture both elasticity and pay-for-service are not provided. Traditional architecture requires the purchasing of physical servers up front and a business must estimate the amount of storage they will need before purchasing as well. With a serverless architecture, the cloud will scale the application automatically and allow businesses to pay-for-service or pay-per-use. Thus, if a business needs to plan future growth, a serverless architecture provides more benefits compared to a more traditional architecture.