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CS 470 Final Reflection

https://www.youtube.com/watch?v=_fYA4tNVsWU

This course has given me hands-on experience with a number of useful technologies, including Docker, Angular, DynamoDB, and AWS services such as API Gateway and Lambda. Using my new knowledge, I was able to build and deploy a full-stack web application to the cloud. This application is secure, elastic, and scalable.

During this course and others I've taken as a Computer Science student at SNHU, as well as through my own coding projects, I have learned about myself as a developer. I have a strong understanding of programming logic and experience in a number of in-demand languages including C#, C++, Java, Javascript, and Python. I am confident in my ability to create and consume APIs, manage virtual machines and containers, and deploy/host web applications, whether on a local server or in the cloud.

Currently, based on my knowledge and 1+ year of experience as a software development intern, I feel prepared to assume a software development role at a junior level. I feel most comfortable with backend work, but I am very interested in sharpening my skills with frontend development as well as UI/UX design, which could allow me to express my artistic side.

If I were to continue working on this application, I would likely start by implementing more robust error handling, perhaps by adding some pages that could be displayed to the user if an error occurs. I could also implement code to automatically retry an operation if it fails, or to

cache certain information on the client-side for faster execution. AWS' serverless services make scaling applications much easier, since there is no need to be concerned with physical servers or load balancing, but measures could be taken to optimize the application for better performance under heavy loads.

Since pricing for serverless AWS apps is based on usage, the cost to host the application will depend on the number of users and what kind of operations they perform. This means that container-based apps using services like ECS are generally more cost-predictable, but with the downside of higher upfront cost and the possibility of paying for resources that you don't need.

When planning for expansion, a number of factors will need to be considered; in addition to cost, I would explore the technologies currently utilized by the application and determine whether they are the best choice for a more intensive environment. Security will also need to be taken into account, especially if outdated versions of libraries are being used, and it may be necessary to update or replace these as part of the expansion process. Ensuring elasticity for a serverless application is also important, as mismanagement of resources can offset the benefits gained by utilizing such an architecture.