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CS 470 Final Reflection

Conference Presentation Link: https://youtu.be/mvB5pkHvgOk

As I reach the completion of this course, I have gained experience and skills that will support me in reaching my professional goals. As I pursue a career within Software Development, the skills I that I have not only learned, but developed and mastered include effective communication, attention to detail, problem solving, and the ability to analyze complex technical information. Each of these skills relate to my strengths as a software engineer. Being able to analyze technical jargon and concepts and being able to communicate this to technical and non-technical audiences is something that is important when facing clients, consumers, and peers. Creating and presenting a presentation while considering my audience of peers and clients better prepared me for the role of completing conference presentations that come within my future job in my career field. Problem solving and having attention to detail are also strengths that I have as a software engineer. The software development process requires paying close attention to coding, tools, and configurations. A portion of problems that halt the development process comes from slight errors in a line of code or using a different version of a development tool, which I have had experience with through this course. Another role I am prepared to assume with a new job is meeting development requirements within a specific timeframe and deadline. The weekly assignments have also allowed me to manage my time to complete certain steps in the development process in a timely manner to complete the final project of the cloud application.

When planning for growth and expansion of the web application I created, microservices and serverless can be used to produce efficiencies in management and scale handling. Microservices involves breaking an application's functionality into modular components. This allows for each component to be scaled independently from others, preventing the need for needing to make and implement changes to the entire application. Microservices also eases error handling because an error encountered would not affect the other component's services that are running. However, in terms of handling encountered errors, utilizing best practices differ based on the type of application being used.

In predicting the cost, the great thing about cloud computing is that it is generally free when it comes to storage, such as with AWS. However, if looking to expand and utilize a different platform or environment, I would be able to view how much storage is being used within the cloud right now and determine the cost to expand or transport the application to a different environment. Compared to containers, serverless may be more cost predictive since you would only be paying for the time that the servers are running, and containers involve

managing maintenance, configuring, and gathering outside tools and features that are needed for the application to run. However, with serverless, everything is generally all in the same environment and configuration and management of the servers are taken care of.

There are pros and cons that act as deciding factors in planning for growth and expansion. Pros include the advancement of the application and software development, more exposure within the computer science field, and an increase in the consumption of the application. Expanding the web application involves further development, which also leads to more advancement in the field of software development, not just for the company expanding the application, but other organizations that may follow suit with expansion. This also relates to the increased exposure and consumption of the application. Further expansion introduces more opportunities to attend conferences and do presentations of the changes and advancements and reaches more consumers and clients that may be interested in the application. Cons include the costs of expanding, the time lost, and the risk of failing. Expanding the application may involve further costs from the company, depending on the environment used. This also takes away time and may delay the completion of other projects, and the risk that the expansion does not meet the expectations we have would mean that the cost and time was wasted.

Cloud elasticity and pay-for-scale plays a significant role in the decision making for planned future growth. Cloud elasticity refers to the ability of a cloud to adjust-whether grow or shrink- it's capacity for resources such as memory and storage. Cloud elasticity emphasizes cloud-based development's ability to adapt to changing demands of developers and organizations. So, expansion of the web application may involve growing the cloud's resources, and elasticity would support that. Pay-for-scale will allow us to only pay for what we use within the cloud, meaning we would not need to pay for extra storage or space and then end up with any leftover.