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CS 470 Final Reflection

<https://youtu.be/oVfaFWpCJQI>

## Final Reflection

Through this course, I've gained valuable technical skills to migrate legacy web applications to the cloud. In my opinion, this is a skill that will enhance my abilities and add value to my software development expertise. This skill will also help me become a more marketable candidate in my career field.

On my journey to becoming a software developer, I've had the opportunity to enhance my thinking and problem-solving skills through numerous assignments and projects. I learned how to analyze and tackle problems from multiple angles, whether by breaking them down into simpler, smaller problems or by approaching them from different mindsets. I also had the opportunity to learn about agile methodology, how leading developers work and handle projects, and how to take on challenges while collaborating with other developers to deliver projects on time.

I see myself as a lifelong learner, and I always enjoy taking on new challenges and learning new skills. The software development field has always been thriving and growing exponentially, which challenges developers to continuously learn new skills or enhance the current skills. Learning new skills has become a hobby of mine, which has given me a fresh perspective on the field and keeps me engaged.

This field also provides me with opportunities to take on challenges and forces me to approach problems from different mindsets, both technically and analytically. As technology rapidly changes, it allows me to analyze problems from various angles and solve them more effectively while utilizing fewer resources.

As a software developer, the ability to analyze and solve problems, as well as the capacity to continually enhance my skills, are among my strengths.

I am fully confident and prepared to take on roles such as software developer, software engineer, full-stack developer, and Android app developer. I am ready to step into any opportunity where I can showcase my skills, gain hands-on experience in a professional environment, and further enhance my current abilities. I am particularly motivated to work on testing, debugging, and experimenting with my coding skills. While I am proficient in backend programming languages like Python, Java, and C++, I am preparing to learn frontend languages like JavaScript in depth, as well as iOS app development with Swift.

The serverless cloud has proven to be one of the most efficient technologies we have today. With cloud services, we can develop and deploy web applications without worrying about scalability and storage management. It is also cost and time efficient.

During the development of cloud applications, each service is broken down into independent components. Once deployed, the serverless cloud manages the web application automatically. Individual services are more manageable and efficient in handling traffic, as opposed to managing the entire service. The system automatically scales and manages traffic load, provisioning resources during peak times and offloading them during downtime, making it cost-efficient. The serverless cloud platform has built-in systems to handle errors. It makes multiple copies of the data across different servers to handle any errors and ensures consistent delivery of quality data on demand.

Serverless systems are designed to charge on a pay-per-use basis, depending on the resources consumed. During event-driven periods with high traffic, the service automatically manages resources and delivers uninterrupted service. During low-traffic times, the cost decreases, since the resources are not used.

Docker containers provide an overview of memory and CPU usage for each container, allowing for cost prediction. Serverless services, which use a pay-per-use model, are automatically managed by the service provider. The flow of traffic determines the size and frequency of services used. During periods of high traffic, higher costs are expected, while during low traffic, costs should decrease. This can make cost prediction more difficult.

When planning for the expansion of a service, multiple factors, such as scalability, error handling, and cost, must be considered. Microservices can be scaled individually, allowing for separate scaling as needed without affecting other services. Errors are also handled independently, ensuring the entire system is not impacted. While these are advantages, a disadvantage is that managing individual services can sometimes be complex.

Serverless services are automated, cost-effective, and scale internally. They also have built-in systems to handle errors. However, the cost is usually dependent on traffic volume, which can make it difficult to predict.

Elasticity and pay-for-service go hand in hand. Elasticity automatically manages the distribution of resources based on traffic demand, while the pay-for-service model charges for the resources used according to the amount of traffic. During high traffic, more resources are used, and the cost increases. During low traffic, resources are automatically offloaded, decreasing the cost.