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CS470

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CS470 Final Reflection

Link to Final Presentation

This course has been a good journey into cloud development. I've learned the art of containerization with Docker and got to learn about the importance of code portability and consistency across any platform—skills that are crucial for cloud development and CI/CD pipelines. The ability to make sure code runs reliably, regardless of the environment, makes me a good addition to development teams focused on cloud integration.

Diving into serverless architectures, particularly AWS, opened a new realm for me. The concept of building scalable applications without the hassle of server maintenance has been great to learn about. It is a capability that is increasingly looked for by companies, and I'm equipped to show my personal projects in a cloud environment, showing both my technical knowledge and understanding of modern infrastructure.

I am excited about the skills I have developed. This course helped me realize how adaptable I am as a developer. I have become skilled at learning new technologies quickly and solving problems efficiently, especially under tight deadlines. One of my main strengths is quickly finding and fixing issues, and it was a necessity with the fast pace of our coursework. This ability to quickly troubleshoot makes me a strong candidate for roles that require agility.

With the skills from this course, I would be interested in Cloud Developer roles where I can use my Docker and AWS skills. A position in DevOps also seems attractive to me because it would allow me to help teams deliver software smoothly. Also, my experience with serverless architectures would be valuable in roles focused on scaling applications to meet demand efficiently.

Understanding cloud services is important for the expansion of web applications. By moving to microservices, management and scalability improve quite a bit. There are extra tools you can use to improve as well, like incorporating load balancers with microservices to help distribute traffic evenly and keep systems stable even as they scale. Adding thorough logging and monitoring also speeds up identifying and fixing errors.

Using serverless architectures, like AWS Lambda, allows for automatic scaling to handle increases or decreases in demand without manual intervention. This simplicity extends to error management, where integrated monitoring tools can identify issues quickly so developers can address issues.

Predicting costs involves continuous monitoring and utilizing AWS's cost estimation tools to manage costs effectively. This method helps adjust resources based on actual usage, improving the predictability of costs.

When comparing containers and serverless solutions, serverless usually offers more predictable costs because charges are based on actual usage. Containers can be more economical for consistent loads but need careful planning to avoid unnecessary expenses.

In terms of expansion plans, the decision between microservices and serverless depends on specific needs. Microservices offer flexibility and support continuous updates, although they can add complexity and potential delays. Serverless solutions remove the hassle of server management and are inherently scalable, making them ideal for rapid growth. However, they can limit control over the environment and potentially lock you into specific vendors.

Elasticity is crucial in dynamically adjusting resources to match demand, ensuring efficient performance during peak times and cost savings during downtimes. The pay-as-you-go pricing model supports this flexibility by linking costs directly to resource usage, reducing upfront investments and financial risks.