CS – 470 Full Stack Development II 2024

Final Reflection

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https://www.youtube.com/watch?v=RM4PZPZk0AM

First, I must say that completing this course was a very rewarding experience that increased my skills and prepared me for future professional opportunities. By developing a full-stack web application in the cloud, I learned to integrate multiple cloud services and microservices, which has given me a better understanding of cloud infrastructure and development. This knowledge surely aligns with my professional goal of pursuing a career in software development or cybersecurity, as the skills that I developed in building scalable and resilient applications are essential in these fields.

Next, throughout this course, I learned to use Docker for containerization, Amazon Web Services for hosting, and got experience in serverless computing using AWS Lambda. These skills, along with a solid knowledge of API development and cloud architecture, have made me a wanted candidate in the tech field. I am confident in my ability to design and manage scalable web applications, and I now understand how to leverage cloud services to effectively manage resources. Additionally, I developed skills in tools like Docker Compose, AWS S3, and API Gateway, which are very desired in cloud-based roles. My strengths as a developer lie in my adaptability and problem-solving abilities, and this course has also strengthened my attention to scalability and optimization while building systems. I feel like I am well prepared to take on roles like a software developer, cybersecurity specialist, cloud developer, or a DevOps engineer.

Looking ahead, planning for the growth of my cloud-based web application is necessary for ensuring scalability and cost efficiency. I would leverage microservices to independently scale components of the application as needed. By adopting serverless architecture, I can also lower the operational load, since AWS Lambda handles the backend functionality as a response to application events. This method will help me keep an agile development process while benefiting from auto-scaling features.

Finally, cost predictability is also a key factor when planning for growth. Although serverless functions offer scalability without needing dedicated servers, they can become more expensive depending on how much they are used. On the other hand, containers provide a predictable cost structure but may need more management to keep their environment. Each approach has its pros and cons. While serverless provides complete scaling and reduced maintenance, containerization offers better cost predictability and environment consistency. In planning future growth, elasticity and the pay-for-service model play key roles. AWS services like Auto Scaling and S3 storage provide a flexible approach that lets the application scale dynamically as demand increases or decreases, ensuring resources are used efficiently.

Paying only for what is used keeps the cost low, allowing the application to grow sustainably without incurring unnecessary expenses.

Overall, this course gave me not only technical skills but also a strategic mindset needed to plan for and support the growth of cloud-based applications. I am looking forward to applying these skills to my future career in software development or cybersecurity, constantly learning and adapting as technology evolves.