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6/28/2024

CS 470 Final Reflection

https://youtu.be/rd0LuAoODfg

Experiences and Strengths

Throughout this course, I have developed a range of skills that will significantly contribute to my professional growth. I have gained proficiency in cloud development, including creating and testing APIs and utilizing Docker and Docker Compose for containerization. My experience with serverless computing, specifically deploying applications using AWS Lambda, has expanded my understanding of scalable and efficient application deployment. Additionally, I have managed databases using MongoDB and DynamoDB, further enhancing my backend development skills.

As a software developer, my strengths lie in my adaptability and problem-solving abilities. I can quickly learn and apply new technologies, such as cloud services and containerization tools, which allows me to stay current with industry trends. My problem-solving skills enable me to troubleshoot and resolve issues efficiently in cloud environments. Moreover, I work effectively in team settings, contributing to both development and deployment processes. My technical proficiency in multiple programming languages and cloud platforms positions me well for various roles in the industry. I am prepared to assume roles such as Cloud Engineer, DevOps Engineer, Backend Developer, and Full Stack Developer, where I can leverage my skills in designing, deploying, and managing cloud infrastructure, implementing CI/CD pipelines, and developing comprehensive applications.

Planning for Growth

In planning for the future growth of web applications, I synthesize the knowledge I have gathered about cloud services to identify efficiencies in management and scale. Utilizing microservices or serverless architectures can significantly improve scalability and error handling. Auto-scaling features in serverless architectures allow applications to handle fluctuating loads

effectively, while comprehensive monitoring and logging enable prompt error detection and resolution. Predicting costs using cloud cost management tools helps maintain budget control. Serverless architectures, in particular, provide cost savings through their pay-per-use models, eliminating the need for over-provisioning and offering more predictable costs compared to containerized solutions.

When considering expansion, both microservices and serverless architectures have their pros and cons. Microservices offer high modularity, independent scaling, and easier maintenance but come with increased complexity in managing inter-service communication and deployments. On the other hand, serverless architectures simplify deployment, provide automatic scaling, and reduce operational overhead, though they may face challenges like cold start latency, vendor lock-in, and limitations in long-running processes. Elasticity plays a crucial role in ensuring that applications can scale dynamically based on demand, providing a seamless user experience during peak times. The pay-for-service model of serverless architectures is cost-effective, allowing for better budget management by only paying for resources used, thus reducing wasted expenditures on idle resources.

Overall, my experiences and strengths as a software developer, combined with my strategic planning for growth, position me well to contribute effectively to cloud-based projects and drive their success.