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Assignment name: CS 470 Final Reflection

https://youtu.be/xnYV-3pXQkE

Experiences and Strengths

From this course, CS 470: Cloud Computing and Microservices Architecture, I have gained a good understanding of the concepts in cloud computing and microservices architecture which has helped me achieve my career objectives. My knowledge on cloud computing was very limited before I embarked on this course. I had some knowledge on the conventional development processes but I had no previous experience with cloud-native development and the tools used to deploy such applications. This course filled that gap and I was able to gain the knowledge and courage to experiment with and use some of the cloud technologies such as Docker for containerization, AWS Lambda for serverless computing and DynamoDB for NoSQL database. The following are some of the tools that are vital for the current cloud-native application development and have made me more employable in the tech world. Another strength that I possess is the capability of grasping and applying technical knowledge and skills. It has helped me gain knowledge on how to create serverless APIs, how to manage cloud resources and how to implement secure cloud storage solutions. However, I am still not very clear about my future plans. I am now in the process of finding out whether I should take on new roles in business systems analysis, IT project management or software development. All these fields are beneficial from the skills that I have learned in this course. For example, understanding cloud computing and its real life application will be beneficial for a business systems analyst who requires evaluating technical alternatives or an IT project manager who will manage cloud projects.

My experience in documenting processes and presenting technical concepts to diverse audiences also prepares me for leadership roles that require both technical expertise and communication skills. These qualities will serve me well regardless of the specific career path I choose to follow.

Planning for Growth

The knowledge I got about cloud services allows me to plan for the future growth of web applications. As applications grow, managing scale and ensuring reliability become difficult. By using serverless computing models, like AWS Lambda, I can be positive in the use of automatic scaling instead of unpredictable user demand. For example, serverless APIs can handle high traffic without requiring manual intervention, ensuring consistent performance and user satisfaction. Additionally, error handling can be addressed by integrating monitoring tools like AWS CloudWatch, which provides real-time insights into system performance and identifies issues right then and there.
Cost prediction and management are also important for planning growth. Serverless computing offers a more predictable cost model compared to containers because the cost is based solely on resource consumption rather than provisioning for when more resources are needed. However, for applications with consistent and predictable workloads, containers might be more cost-effective due to their fixed resource allocation.

To support future career growth, I would incorporate microservices architecture to modularize the application, allowing individual services to scale independently. This approach not only improves efficiency but also simplifies the deployment and management process. By designing with elasticity in mind, the application can adapt seamlessly to user demands while maintaining cost efficiency and reliability. These strategies demonstrate my ability to think ahead and apply complex cloud concepts to ensure the long-term success of web applications. Furthermore, this understanding of scalability and resource management would also be highly beneficial in roles such as IT project manager, where planning for system growth and ensuring cost-effective solutions are key responsibilities.