CS-470 Final Reflection

Matt Smith
12/11/2023
Matt Smith CS-470 Project Two Presentation

Experience and Strengths:

- What skills have you learned, developed, or mastered in this course to help you become a more marketable candidate in your career field?
    - I've become more proficient with docker, and I've learned how to migrate an application from a local system to the cloud. These skills will help me become a more marketable candidate considering there's a lot of demand for people who understand cloud infrastructure. What will help me further is acquiring more knowledge about more cloud services and getting certifications from places such as AWS.
- Describe your strengths as a software developer.
    - I believe my biggest strength as a software developer is my ability to review code and error messages in order to solve issues quickly. Another strength I have is the ability to explain what's going on in the code in simple enough terms that anyone can understand.
- Identify the types of roles you are prepared to assume in a new job.
    - The type of roles I'm prepared to assume is anything related to cloud technology such as a solutions architect, cloud security engineer, or cloud security architect.

Planning for Growth:

- Identify various ways that microservices or serverless may be used to produce efficiencies of management and scale in your web application in the future. Consider the following:
    - How would you handle scale and error handling?
        - To handle scale with microservices, I'd use load balancers to distribute any traffic evenly across instances and allow the services to communicate with each other in a dynamic environment. For error handling, I would use logging and monitoring to detect and deal with errors quickly.
        - To handle scale with serverless, I would utilize the auto-scaling capabilities of AWS Lambda and design the application in stateless functions that can be executed to handle any increase in requests. For error handling, I would use cloud monitoring tools to quickly identify and address issues.

    - How would you predict the cost?
        - To predict the cost, I would implement monitoring and alerts to keep track of usage and costs. I would also use cost estimation tools that AWS provides to simulate different load scenarios and their cost. Another way to help predict the cost would be to review usage patterns and adjust resource allocation to optimize it.
    - What is more cost predictable, containers or serverless?
        - I believe serverless is more predictable because costs are directly tied to the number of executions. Containers may be more predictable if you have a stable and consistent load.
- Explain several pros and cons that would be deciding factors in plans for expansion.
    - Microservices are good for agile development and facilitate continuous deployment. Microservices can be bad if you don't orchestrate the services correctly and it could increase latency.
    - Serverless is good because there's no server management, it's highly available and scalable. Another benefit is the pay-as-you-go model that saves money. Some cons of serverless are the limitations of third-party control and vendor lock-in scenarios.
- What roles do elasticity and pay-for-service play in decision making for planned future growth?
    - Elasticity makes it so resources are dynamically allocated to meet demand without someone having to intervene. It helps maintain performance during high loads and reduces waste when demand drops.
    - Pay-for-service helps with financial planning by eliminating the need for a large upfront investment in infrastructure and reduces financial risk.