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CS-470
SNHU
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Video Link: https://youtu.be/cMcfvXqJi3I

CS 470 Final Reflection

- **Experiences and Strengths:** Explain how this course will help you in reaching your professional goals.
    - **What skills have you learned, developed, or mastered in this course to help you become a more marketable candidate in your career field?**
        - This course has taught me to utilize Docker and Docker Compose to containerize a full-stack application and use the lift-and-shift method to turn a local full-stack application into a serverless full-stack application with the help of AWS. I can now create a secure cloud-based full-stack application with customized security policies, while benefiting from DynamoDB, Lambda Functions via AWS Lambda, and a serverless API via AWS.
    - **Describe your strengths as a software developer.**
        - My strengths as a software developer are my focus on the end user, technical expertise, solid foundation of Computer Science as a whole, attention to detail, and understanding of Object-oriented, test-driven development that allows for efficient and effective development of secure applications that ensure customer satisfaction.

- **Identify the types of roles you are prepared to assume in a new job.**
  - At this point I could perform well as a QA Tester, Full-stack Software Engineer, Cloud Developer, and Scrum Master.

- **Planning for Growth:** Synthesize the knowledge you have gathered about cloud services.
  - **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?**
      - Scale can be easily managed with AWS due to the pay as you use methodology. Storage, API usage, and Lambda calls will all increase as more users start to utilize the application. Error handling can be managed with State Machines that utilize catch fields to monitor lambda functions and ensure custom errors can be thrown for any issues that customers/developers may encounter.
    - **How would you predict the cost?**
      - I would predict cost by utilizing the AWS Pricing Calculator for a pricing estimate and create a range above and below this estimate to have an idea of what we will actually have to pay.
    - **What is more cost predictable, containers or serverless?**
      - Serverless hosting should be more predictable due to the AWS Pricing Calculator with parameters of the services you are running for your application. Containers are constantly running and usually

cost more for this reason, and unknown errors can occur which raise the price significantly if developers are not careful.

- **Explain several pros and cons that would be deciding factors in plans for expansion.**
    - Expanding an application to the cloud is a process that should be evaluated carefully. If cloud-based hosting is chosen, applications can scale with the userbase automatically and without much complication, although this will cost the company more money. This means that the company should have enough revenue to cover the cloud-based hosting costs and ensure they will still manage to profit and meet financial goals for the financial years to come. Another important and necessary factor is employees that are trained to utilize cloud-based hosting. If no employee's have knowledge regarding AWS, they will have to be trained and this can be costly.
- **What roles do elasticity and pay-for-service play in decision making for planned future growth?**
    - Elasticity is the meaning behind cloud-based applications scaling up or down depending on the resources that are being consumed. This is intertwined with the pay-for-service model since you pay for what you use on cloud-based platforms. This means that when traffic is high, the application will scale up and allow for users to utilize the application, and when traffic is low, the application will scale down and save money. This increases the likelihood of company's scaling up and feeling comfortable with handling increasing growth for the future.