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CS-470

Final Reflection

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https://youtu.be/SH2_2RqnWV0

- **What skills have you learned, developed, or mastered in this course to help you become a more marketable candidate in your career field?**

Having knowledge of cloud coding as part of my full-stack developer experience is very important especially as I look for a job in my chosen career field as a software developer. This class has encouraged me into new avenues of expertise and may delve into more cloud computing, maybe even get certified in cloud, most likely AWS because it's so widely used.

- **Describe your strengths as a software developer.**

I believe my strengths lie in my passion for machine learning which has transformed into AI. I don't believe I have the creativity for front-end development, but I do love deep learning and back-end development and testing. My favorite coding languages are C++ and Python but I have already started learning Android and Swift for mobile development so I can create my first app.

- **Identify the types of roles you are prepared to assume in a new job.**

Right now, I am looking for internships or entry level work so I can gain experience in the industry and figure out better where I best fit. I would like to get a job as a full-stack developer working on testing and algorithms. My one dream, that probably isn't obtainable, would be to work on Space X projects contributing towards space exploration.

- **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?**

Both scaling and error handling are complex problems that require different solutions:

Scaling could be hindered by too many requests being bottlenecked because the system can't handle it. This could be remedied by scaling out or running more instances of the same service. Regarding hosting services, most offer automatic scaling with set conditions.

Error handling is done by the application. Errors can be handled; one just needs to find what's causing the error. Looking at error codes, like in APIs, being thrown by the endpoint and where they are coming from. Setting industry error codes such as 200 OKAY, 401 Unauthorized, etc., or in POST they might return 400 for a bad request. Your call functions need to be able to handle success or failure and logging failures so that troubleshooting can be done.

- **How would you predict the cost?**

I would be to compare different services and hosting platforms that will accommodate the system, comparing fixed prices and pay as you go services. I would include scaling and future projections for requests and additional services offered, seeing which would best benefit my system and profitability.

- **What is more cost predictable, containers or serverless?**

Starting out containers is easier to predict long-term costs due to the fixed monthly costs.

Serverless is easier to predict compared to other fixed rate services or local servers

depending on the traffic and needs. Starting out this cost most likely will be minimal and would preserve the cost vs revenue being generated.

- **Explain several pros and cons that would be deciding factors in plans for expansion.**

Pros: Expansion means more revenue. More revenue means more employees can be hired or better infrastructure that could benefit the company.

Cons: Expansion means that costs go up. A large expansion means that there wouldn't be much time to switch from a local infrastructure to cloud or vice versa, so this is why planning is crucial. If no other choice but a switch being made after a large expansion then costs increase.

- **What roles do elasticity and pay-for-service play in decision making for planned future growth?**

With pay-for-service it allows large costs to be deferred until revenue becomes available to pay for those costs. However, the caution regarding this form of service is that the revenue needs to outweigh the costs and outpace them to be profitable. This means that ways to gather revenue need to be as much part of planning as the payment for services in case fast expansion results.