Jonathan Sussan

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CS 470 Final Reflection

https://youtu.be/ZW-pcdvp3Ww

I must admit, I was a bit timid at the start of this CS 470 course. You see, during a previous course CS 465, I had a lot of trouble and learned some rough lessons about using different environments and versions. I usually use my MacBook Air for schoolwork, but I also at times use my work laptop and desktop which are both Windows based. I spent more time trying to get everything such as NodeJS and Angular (to name a few) to work together, than on the actual assignments or projects. Although I ended up figuring out that I need to be using one environment and the same versions of everything as was used when the course was designed, it came at a cost of a lot of hours and stress. CS 465 left me timid about taking CS 470 and had me asking questions such as "how do developers deal with all these different environment and version issues in the real world?"

After a few weeks in CS 470, I was delighted to learn that there are solutions to the painful problems I was having. I learned how Docker Containerization and Orchestration solves environment and version issues by packaging the software code with just the operating system libraries and dependencies required to run the code. This was wonderful as now I can work on the same assignment on any environment and not worry about setup issues. Perhaps the most important concept I learned throughout this course, is serverless computing via Amazon Web Services. This was a real game changer for me as using AWS has features such as running a static website on an S3 bucket, Lambda and Gateway API, and DynamoDB database. AWS features many services that developers can utilize to save time on operations.

This course has taught me valuable skills as a developer. I learned how to apply cloud-based development principles, develop applications that can run on any environment, and how to defend design decisions that I make. I was happily surprised how quickly I was able to learn and understand how to use all the Amazon Web Services features. My strengths as a developer include the following:

- My ability to persevere no matter how challenging a situation is.
- I am comfortable being self-taught, as I possess the ability to learn new things on my own and don't need my hand held.
- I'm extremely disciplined and know how to manage my time.
- I am a problem solver and can figure out how to solve issues.
- Experienced and comfortable using multiple environments such as Mac, Linux, Windows, and cloud based.

The type of roles that I'm prepared to assume in a new job vary at the moment. I am looking into software developer, website developer, AI engineer, and video game developer roles. What is really catching my eye is to work for a company such as Block or Lightning Labs, who are in the process of simplifying the use of Bitcoin and making it mainstream. I'm a big believer in separating money from state and would love to turn my passion in computer science and Bitcoin into a career.

There are several pros and cons that would be deciding factors in plans for expansion. Some of the pros are attracting new customers, creating economies of scale, amortizing costs, increasing your market influence, and increasing protection through diversification. Some of the disadvantages include shortage of cash, increased capital requirements, loss of control, and compromised productivity and quality due to lack of resources. The roles elasticity and pay-for-service play in decision making for planned future growth are huge. First, in a cloud-based environment, elasticity is the ability to automatically acquire resources as you need them and release them when you don’t. This means the application will only use resources it needs, and like a light switch, turn them off when they’re no longer needed. Two, AWS uses a pay-as-you-go model, which means you can adapt your business depending on need and not on forecasts, reducing the risk of overprovisioning or missing capacity. Two huge problems that have plagued developers for years!