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CS 470 Final Reflection

<https://www.youtube.com/watch?v=X9F4lv4pQBA>

This course has helped me develop and refine many skills that will help me be a more marketable candidate in the computer science field. Specifically, this course has taught me about Docker and containerization, installing and using libraries to help build a full stack application, and finally uploading that application to the cloud using Amazon Warehouse Services. I have used frameworks plenty of times previously, but Docker and AWS was completely new to me, and it was a great experience to work with and learn about them. These skills will hopefully project an aura of an eagerness in continuing education and doing whatever I can to learn more and grow as a developer. One of my strengths as a developer is a complete and utter passion for building software solutions. Another strength that I have is complete commitment to projects and doing whatever it takes or learning anything I need to learn to be able to successfully complete projects. Among many other strengths, another is being able to actively engage the correct people or online resources to help when I am stuck. I am not arrogant to not seek help when I know I need help. We are all trying to produce great products, so we are always on the same team despite different skill levels. Finishing my degree and getting ready to compete in the professional realm has me prepared to prep for many new roles that I might be engaged with.

I am ready to learn anything that is needed to learn to become a professional software developer. For comprehensive proof of that concept, it is Monday in my final week in my final term of my bachelor's degree and I have already signed up for Amazon Skill Builders website to take online courses to pursue an AWS certification. My thirst for knowledge and growth is

unrivaled. The roles I am ready to assume are all in line with development whether it be front end, back end, or even full stack development. I enjoy all phases of development, and am prepared to write and test code, work in project management, or even data analytics. All I need is an opportunity and I will succeed even if it must be on sheer will. To iterate on that we can look at my most recent skill base of cloud services.

Cloud services are remarkable, and they make managing software easier than it has ever been. Looking at ways to scale our web application would be seamless when using AWS. Scaling the application would be simple enough if you were using AWS as a managed cloud service. It is as simple as a few button clicks and a revision to the cost of the services. Using AWS might be a little more expensive than running applications with containers, but with the extra support features it very well would still be worth it. Even when using containers, you would still have to pay for the container service, and you would also have to make sure you can scale if needed, since they would not auto-scale like AWS would. Predicting costs would be simple. First one would need to calculate how much throughput the application will need plus about 5% in some cases due to special circumstances. From there you would just need to calculate how much it would cost utilizing containers and local servers, or migrate it to the cloud and pay for their services. In some scenarios containers would be cheaper if you were running the same workload continuously. When you have dynamic loads that can change a lot or you have idle resources a lot, then serverless would be cheaper. Every project has a unique solution and many pros and cons that need to be weighed before making any decisions.

Considering expansion there would be several factors to contemplate when planning and initiating it. First, the cost involved to expand must be worth the investment to expand. Expanding frivolously would not be beneficial at all. Another con is the inconsistencies in

projecting sales or traffic. If you plan for a huge increase and spend a lot of capital expanding and don't get the return expected, then that project or business would be in trouble. The pros to expansion should outweigh the potential drawbacks. The pros could consist of expanded market share or space, greater returns on investments, and possibly even a better brand recognition through quality expansion and improvement. AWS makes some of weighing of these pros and cons easy. With how elastic AWS can be, one could theoretically expand multiple times incrementally since it is easy, vice doubling down on traditional ways to expand. The pay-for-service model eliminates the catastrophe of paying for services one might not use. So, if you greatly increase capacity, but the capacity isn't used until further down the road, you will only pay for what is used. All these considerations can't be taken too lightly when planning an expansion. Since there are multiple configurations of solutions available, it would not be too difficult to formulate and execute a great plan.