Research Assignment #1

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The Career path I chose to follow is a full-stack developer. I chose this career path due to having some family in this career and I get excited and am fully invested in their day-to-day activities. Full stack developers typically develop and implement websites, web applications, application databases, and interactive web interfaces. They also evaluate code to ensure that it is properly structured, meets industry standards, and is compatible with browsers and devices. Not only that but they optimize website performance, scalability, and server-side code and processes. From time to time FSDs may develop website infrastructure and integrate websites with other computer applications. (U.S Bureau of Labor Statistics, 2023). Daily tasks of a full stack developer usually include website maintenance, troubleshooting website problems, updating backside of websites, etc.

Most full-stack developers possess four-year bachelor's degree. However, some professionals start with two-year associate degree before transferring to bachelor's programs. (Simmons, n.d.) Due to the broad tasks that these developers do, it is recommended to do a four-year bachelor’s degree. There are bootcamps that can be taken online that primary focus only on front-end or back-end development. These bootcamps give usually the necessary learning and not a full overall learning of being a full stack developer. There are several courses you can take here in UTRGV that can set you up into the full stack developer such as Database Design (CSCI 4333), Java (CSCI 3326) and the most important one Web Development (3342). (Degree Works). Database Design will help with the back-end development part of the job while Java will help with the front-end part of the job. I love that our school has a whole class dedicated to web development. This class basically goes over everything you will need to learn to be a FSD.

FSD require a lot of skills for the job. One of the most important skills is knowing Database user interface and query software (Ex: Airtable; Blackboard software; GraphQL, Transact-SQL). (Web Developer, n.d.). The Database is arguably the most important part of this job due to all the information that goes and comes into the business. Another essential part of this career is to know web platform development software such as Bootstrap, React, Spring Framework, Vue.js (onetonline.org, 2024). These softwares help build websites to the way the developer wants them to look. Operating system software like Bash, Google Android, Microsoft Windows Server, UNIX are often overlooked but also important. (onetonline.org, 2024). Imagine spending weeks making a beautiful website just to find out that you made it specifically for windows desktop? After someone tries to view it from an android phone the website is going to be all over the place and make no sense. The worst part is that you have only ever had an iPhone so you don’t know how to work an android phone. This is why it’s important to know all kinds of operating systems.

Although certificates are not required, they are certainly helpful. Not only do they help sharpen the skills you have learned while getting your bachelor’s degree, but they also help when you put them on your resume. Certifications like certified professional in full stack development from ISQI or Full Stack Web Developer from simplilearn are some good certifications to get if you are deciding to get into this career. (TealHQ.com, n.d.)

When reviewing salary expectations, I am going to take into consideration the US statistics versus the Texas statistics due to the fact that a lot of FSD work remotely from home which is what I will be looking for. On average a beginning FSD in the United States earn an average salary of $71,290.00 per year. (Glassdoor.com, 2024). The pay ranges from $53K - $100K/yr. (Glassdoor.com, 2024). These numbers do not include any additional pay such as bonuses. Going on to a little more experience (4-6 years) the average salary of $80,521 per year with the pay ranging from $60K - $113K/yr base pay (again not including any additional pay) (Glassdoor.com, 2024). After being in this business longer (15+ years) you can expect an average salary of $113,077 per year with the pay ranging from $85K - $158K/yr base pay (also not including any extra pay). (Glassdoor.com, 2024).

The overall employment of a web developer is projected to grow 8 percent from 2023 to 2033 according to USBLS (U.S Bureau of Labor Statistics, 2024). A FSD falls under the umbrella of a web developer but I feel like FSD do a lot more than just what a web dev does. On investigating a little more for specifically FSD some websites have it at a whopping 22% increase for the period of 2020-2030 (skillcrush.com, 2024). A search on Glassdoor.com pulled up over 50 openings for a full stack developer with pay all ranging with the numbers previously talked about (Glassdoor.com).

There isn’t really a particular region that is getting FSDs because the demand are all spread out. The five highest states that employ FSDs are California, New York, Washington, Texas and Florida (U.S Bureau of Labor Statistics, 2022). Looking geographically on these states is easy to see that they cover all over the United States from the east side to the west side. Almost every industry is in need of FSDs and the numbers show. Computer System Designs, software publishers and advertising are among the industries that are in need of FSDs the most (U.S Bureau of Labor Statistics, 2022).

Researching on career progression there are basically two different ways to enter into this career. One way is to get a bachelor’s degree in computer science and pick electives that you will be using in your career like the ones mentioned earlier. Even though you do not necessarily need a degree to learn and get hired it is highly recommended to have it. While looking at open opportunities almost every opening I saw required a bachelor's degree. The alternative way is to learn yourself and do courses online. I personally do not recommend this way for a few reasons. One is because most employers are looking for someone that has at least a bachelor’s degree. Another reason is because most courses/trainings are going to teach you the bare minimum to get the certificate. Going to school, you are learning from professors that have the knowledge and expertise of the programs you are going to be using on a daily basis at work.

Entry level position I would love to start in would be front-end developer. I believe this would be the best fit for me before tackling into the back-end. The knowledge I already have, I have more confidence in working with the front-end. In working with the front-end I can then start getting myself even more comfortable with the back-end side. The biggest way to advance in this field is just learning more about front and back-end technologies. Get certificates after getting your bachelor’s degree to show and prove to potential employers that not only you went to school but you also understand what you are doing. Also inform yourself more about new technologies coming up and how you can use them to advance even further in your field.

It would be a good idea to further continue your education with getting your master’s or certificates for career growth. It is not necessary, but I did see one or two job openings for a senior full stack developer to have a master’s degree (of course the pay was higher also). Certificates show the employers that you are actively keeping up with your studies even after graduating college. Certificates sometimes have a time limit when they expire so keeping them up to date shows your employer that you are serious about your career and could help your career growth.

I chose this career because one of my uncles is a senior full stack developer. I graduated with my bachelor’s degree in business management and used it to get into the oil and gas industry but I wasn’t too happy with it. I didn’t like that most of the jobs were out of town. When I had first started it was fine because I was single and moving wasn’t very hard. Now I have family and one of the biggest regrets I have learned from senior employees is that they missed their kids growing up. That is when I started talking to my uncle about his job because I really into technology even to the point of building my own computer. He spoke to me about how he got into being a full stack developer and the schooling he did. He gave me some resources to try out and told me if I liked it then it might be a good idea to go back to school. One of the resources was learning HTML and there is where I fell in love and decided to go back to school.

When I attended school for business management, we had a piece of paper with the path on how to graduate. The paper had something like boxes with the class name (MGMT 3333) and at the bottom of the page it would say MGMT 3333 is negotiations. It wouldn’t go into detail what the class was about. I am glad that now assist can tell you what classes are and a description of what the classes are about. I didn’t know this before the research paper but it helped me a lot in the electives I am going to take in the future. This information is going to help me with my future planning. Taking the three courses from earlier especially web design is what I plan to pursue for my career.

The Google developer student club is an interesting association that could help me during my studies. They do a little bit of everything from ethical hacking to web development. While the Google developer student club is more front-end, the data structures and algorithm architects can help with the back-end side. Being in these two clubs will only benefit me for the future.

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