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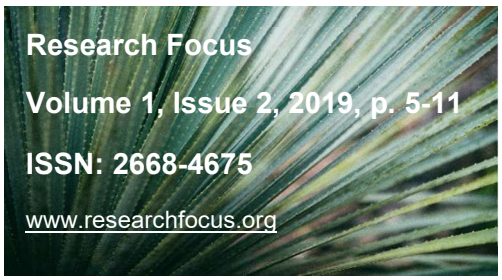

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Opinion

A Path to a Full-Stack Developer Position

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Abstract

The area of activity linked to programming (programmer, full-stack developer) grows continually and the demand for good developers is high. That is why I thought that it would be a good idea to share briefly my opinion. I assume that many of the persons that want to start this path or want to change their area of activity do not have too many ideas what this job requires and how to choose one of its particular style of doing things, because there are a lot of technologies and programming languages to choose from. In this area of activity, there are lots of ways to develop something, and each one of them has their pluses and minuses. I hope that my experience, my way of seeing things and my story would help in the process of giving this career a try, or in making the first steps on it.

Keywords: software development, programmer, developer

Introduction

Generally speaking, if you like computers, you will tend to know more about them. Some of the people that choose to take this path will shape their studies for computer science, starting from high school, college and masters and so on, but for what I do for a living, it is not necessary to have such a background. In this article, I will try to make you understand more about this career and what it requires and offers.

Find out if you are made for software development

This job requires certain skills. “Basically, a programmer is someone who writes code that tells a computer or some other device what to do” (King, 2018). Most of the skills can be achieved in time but there is a part that must be there from the start.

- *Willingness to learn*. You will have to learn a lot of things like programming languages, applications architectures, and programming techniques and this process will never come to an end because this industry is on continuous change.
- *Passion*. You should like in writing code and developing applications. This job requires sometimes to transform an idea to a software product, and you will put a mark in one way or another in this process.
- *A lot of o patience*. As I said above, from an idea to a product is a very long way sometimes. Facing with a client, a boss or a colleague can be challenging. Also, you will have to pass some difficulties in the development process.
- *Imagination*. Ideas and solutions are the keys to this job. I am using plural forms because there are plenty of ways in doing things and sometimes it does not count too much how you do it if it works well and it easy to understand and maintain by others.

You should be on point with these skills, otherwise, it will be difficult for you to evolve. In order to write code, you will have to learn some programming languages. There are some ways to accomplish this. Taking some courses and self-learning could be a start. Also, getting a job as a developer will help a lot because you will be connected with people that can help you grown: “there are two major factors in developing a skill: effective practice and support from senior developers” (Williams, 2018).

By working as a developer, you will face occasionally some situations where you will be on the pressure by deadlines, meetings and unexpected problems. If you feel that you can handle all these situations and you have the basic skills for this job, then I suggest thinking about this career. “Anyone can learn to code. The hardest part is getting started, so choose a free online course and dip your toes in today” (King, 2018).

How to determine what type of programming languages suits you

After you have decided to take this path, there are plenty of ways to develop yourself. Today, there are hundreds of programming languages and programming techniques, for all types of software platforms (mobile, desktop, or dedicated devices). “The direction you go in will depend in large part on why you want to learn to code in the first place and how much time you have to devote to learning” (Pinola, 2015). First, you should think about what your main skills are. By understanding your strongest points, you can shape your learning process for your desired career in software development. “Front end development manages everything that users visually see first in their browser or application. Front end developers are responsible for the look and feel of a site” (Stewart, 2019). For example, if you have a reach imagination, you should go for front-end development because in this filed, you can unleash your creative skills in building awesome web pages, application interfaces, and design frameworks. “Back end development refers to the server-side of an application and everything that communicates between the database and the browser” (Stewart, 2019). If you are a good logical and architectural thinking, and you like subjects like platforms, scalability and continuous improvement, then I suggest taking the back-end development path.

However, these two are not the only way to divide this area of activity. You can set your knowledge and skills by the platform that you choose to write code for. Web developer, applications developer for desktops with a specific operating system (Windows, Linux, Mac), mobile developer for specific devices (Android, IOS) or Cross-platform developer. Also, most of these operating systems have a certain way of writing code. Some of them require specific programming languages, and these causes you to focus on specific styles, rather than choosing on free will.

Most of the programmers stick to some style and they try to be better day by day at what they have to do. But there is a category of programmers that like to grow their skills in a manner that will give them the ability to develop an application form scratch, no matter what sort of style or type of component is needed. They are called “full-stack developers“. A person who is capable to work on the front-end and back-end of an application is known as a Full-Stack Developer. It is not mandatory that you should have strong knowledge in both Front-end and Back-end. It is enough to be able to work with technologies in front-end and back-end” (Subramanian, 2017). As a matter of fact, there are many people who choose to take this way of doing things (Figure 1).

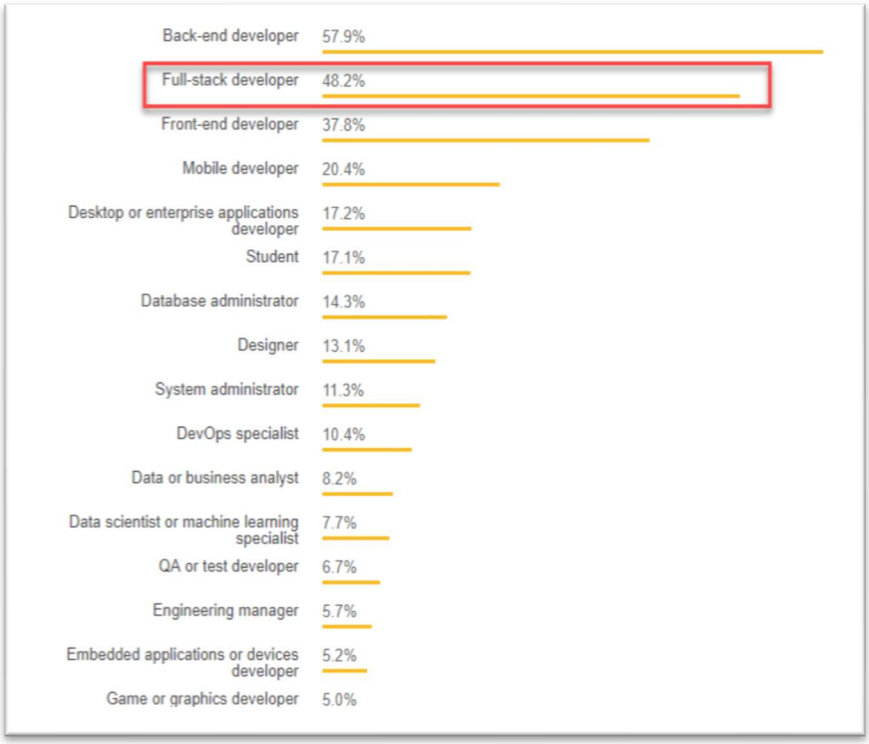

Figure 1. Developer profiles

(Source: (Guru99, n.d.))

Stewart (2019) considers that “a full stack developer is a bit of a generalist” (Stewart, 2019). This type of programming requires more knowledge about programming languages. The strongest points needed here are architectural thinking because you must take into consideration all the sides of the application, starting from the database and applications modularization and ending with the design and user interface. According to literature data, “a big advantage of full-stack developers is their ability to see the big picture and work well with different teams” (Mundine, 2018). Also, “full-stack developer has become one of the most

sought-after positions in the technology domain" (Roussey, 2018). Even if the level of desire for this job is high, it is not for everybody because a part of the people that are writing code does not have the courage to step forward into more than a few programming languages.

If you want to be a polyglot programmer, capable of doing all sort of applications and platforms, by knowing how to interconnect different technologies, this is the path you should take into consideration.

How I have managed to find my path in software development

Since I was in high school, I have wanted to be a successful programmer, but I was not sure what this job requires and if I will be able to face all the challenges on this road. My first lines of code were written in C++, and I had to focus more on the algorithm thinking, but I understand that a computer can do a lot of thinks extremely fast, but you have to know how to tell it what to do in order to obtain the desired results. I choose a computer science profile in college and I have tried in my first two years a lot of programming languages, starting from easiest ones (HTML, CSS), then PHP, C#, MySQL and Java. I have worked a bit for some friends but the turning point for me, was the time when I had my practice period at the end of the second year, I was Intern at Microsoft Romania for two months. There I have implemented an application format that "provides real-time data related to a person's status by connecting to an external service that analyzes facial expression." (Jora, 2019) In this point, I decided to go with C# as my main programing language and with the Microsoft development style platforms. After this experience, I have applied for a job as a full-stack .NET developer and I got one. It was a hard road at the start because I had to learn a lot of things by myself but after three months of hard learning and practicing, I have managed to pass my on-board period being familiar with programming languages like HTML, CSS, Bootstrap, JavaScript, jQuery, AJAX, C# and SQL.

I worked there a year and 3 months. I have learned, bit by bit, things that grow my knowledge like new frameworks, programming techniques, code extensions, task management and how to develop a software product, from a simple scratch to a released product. Some of my senior colleagues helped me with a part of things that I have learned, but most of the things I have tried to understand and solve by myself. Also, I used one of my projects developed at work, as

my bachelor's degree project for my final year of college. After that, I changed my job, and now I work in a more serious and challenging environment.

Conclusions

In my opinion, the most important things in this career are to never stop learning and to be always open to new technology and programming languages. “Successful computer programmers embrace lifelong learning” (Lane, 2018). Also, having a bit of help from a senior developer is welcomed because can easily guide you through an application, explain why things had been done in specific ways, the parts that had caused problems, and the aspects that might end up changing in the future (Ryder, 2018).

I tend to believe that in a few years, the area of programming activities will change and probably I will end up being in a position where I will not have to write code. Probably, I will have to guide others in the development process, being more an application architect, rather than a code worker.

In conclusion, if you have any aspirations for the programming career, I suggest you should start thinking very well about what you want to do exactly and what programming languages and styles suit you. Even if, you will probably learn more than you have set in your plans, or you find out that some things that you are afraid of or you do not like are very useful and suits your skills, a proper starting plan, and some goals will help you step forward to this path, maybe to a full-stack path.

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