Joshua Guzman

Mrs. Silva

English 11 H

3 March 2023

<div align="center">The Vision of a Software Developer</div>

Introduction

My interest in technology began to blossom during my time at Computech Middle School from 2018-2020. I remember being captivated by the technology classes offered, especially Explo information technology, Explo engineer & design, and Explo careers. The various tools and equipment like 3D printers, laser cutters, PC's and Vex IQ - Ev3 Lego robotic kits piqued my curiosity and sparked my creativity. The process of designing and building robots using software or programs was an enjoyable challenge that I could not resist. Prior to this experience, I have never been interested in technology. My only exposure was limited to playing video games on my Nintendo Switch and Wii. But when my parents gifted me my first computer, I felt a rush of emotion and excitement. It was a turning point for me, as I was introduced to a whole new world. Although I was forced to switch to online school at JEYoung online high school during my sophomore year, my passion for technology continued to grow. I took web programming during my freshman year at Edison High School, where I learned to code HTML, CSS and JavaScript. While I did not have the opportunity to take any coding classes or electives during my sophomore year, I knew that I wanted to pursue a career in technology after high school. I am grateful for my parents advice to pursue something that I am interested in and a career field that provides job security. The demand for technology-related careers is only increasing, and the potential growth for this industry is immense. Smart Tv's, gaming consoles, phones, and other

forms of technology are becoming more prevalent, making this field an attractive option for anyone interested in a challenging and rewarding career. Overall, I highly recommend pursuing a career in technology, particularly software development. It offers a unique blend of creativity and problem solving, and it is a field that it is continuously growing and changing. After high school, I plan to major in computer science at Berkeley and obtain a bachelor's degree in this field to become a software developer.

Career Duties

It is not unusual for software developers to have various responsibilities in their daily lives. Analyzing the user needs is the main query for software developers as they develop solutions using software through using hard skills of math, programming and engineering *(IBM)*. They ensure the quality of their application through recommending frequent updates to fix major bugs and fixes. Most of the time, collaboration occurs in groups, with roles divided among the members *(United States Department of Labor)*. Software developers are intended to be involved in the entirety of the process of programming. Testing code and the functionality of the program is part of their job in order to check for potential defects or risks. In general the success of the program is determined by the functionality and how well the software works for the needs of the customer.

Work Environment

Software developers hold around 1.4 million jobs nationwide with the exception being that it is growing 25% in the upcoming years *(IBM)*. Their job is to contribute to making society more productive by calculating, designing, and coding successful software. It is usually needed to consult with the primary customers or other departments for proposals to improve the application. They apply fond skills like supervising information technology personnel and

statistical approaches to solve problems in their scientific field. The occupation for a software developer acquires a full time work schedule (O*Net Online). It is required for them to finish the project on time and with efficiency so more time will have to be allocated. The process of developing an application requires long nights due to its complexity.

Important Qualities

An individual who chooses to pursue this career must possess a variety of skills and qualities. Analytical skills are a huge process for their start in a project which is indispensable as they need to evaluate the user's needs and the functionality of the program *(United States Department of Labor)*. Communication skills are in part for them to communicate as a team and give clear instructions on each detailed task. Problem solving skills are the very obvious skill that is needed to solve problems that may arise through the entirety of the project *(IBM)*. These detailed work activities help to assess what the user wants and how to solve that problem in order to modify the program to its final and revised form.

Education/Experience Requirements

 An undergraduate degree in computer science or higher is the minimum education requirement for software developers *(IBM)*. Internships provide students with incredible experience while they are in college. Free online resources make it possible for many people to learn to program and improve their problem-solving skills on their own. It is required for them to stay in touch with programming languages as often to maintain technical proficiency in their knowledge. It is important to stay current with platform software programming, such as bootstrap, react, Vue.js, and Spring frameworks (O*Net Online). This experience is checked frequently from job employers as it is a high demand skill. Having a profound background in programming will ease the workload as they

tend to oftentimes keep up to date with many software applications. After obtaining the necessary education and heavy preparation, success is most likely to be achieved in this career.

Salaries

Software developers' salaries vary across the country and are influenced by a number of factors. Cost of living in California is through the roof but in other states or places the cost of living is cheaper *(O*Net Online)*. Salary can be incremented by the state of the cost in the fluctuation of the economy or cost of living. Software developer salaries are heavily influenced by education and experience, which determines where the salary cap should be placed. With increasing knowledge and experience, people are compensated more. Entering the workforce in the first year will give the entry level salary of a software developer starting at $64,470 *(United States Department of Labor)*. Through the years experience will be gained and the salary will increase to approximately the median salary of $98,220. Professionals that have 5-10 years of experience have already climbed the ladder and could earn the highest if they know how to manipulate their knowledge to their advantage and can earn them $168,750.

Job Outlook

An individual who is involved in software development can expect a bright future. It is a hot demand career that is expected to grow and expand more in the upcoming years *(United States Department of Labor)*. This is a career that won't go away and will stay in the market as more than ever there is a population of consumers relying on software applications. Smartphones, tablets, and computers all need new applications, and it's up to consumers who decide what they want. Software developers are responsible for all the products that use software and that are built for consumer electronics. It is estimated that by 2023 the growth for this occupation will

grow to 25% which is the highest than any other career or occupation *(O*Net Online)*. It's a never ending cycle that will be needed for generations to come because of its high usage and need for software applications.

Educational Institution Options

Students can become software developers by participating in certificate programs offered by educational institutions. The University of Berkeley offers an extension from their institution to provide a certificate program in Software Development and Programming *(Berkeley Extension)*. Students learn how to code and how to prepare and advance in their careers as software developers through 10 credits in the curriculum. A certificate program in software development is also offered by Saint Joseph's University to gain knowledge and build up a resume for future master's studies *(Saint Joseph's University)*. This course is five courses or 15 credits that can be completed online or on campus. It includes CSC 503 Java, CSC 550, and CSC 55, which are excellent courses to learn more about software development in depth.

Conclusion

To sum up, my experience at Computech Middle School sparked my interest in technology and software development. From there, I pursued web programming in my freshman year of high school, and despite the challenges that arose during my sophomore year, I am committed to pursuing a career in this field. The potential growth and innovation within the industry is vast, and I am excited to be a part of it. Therefore, I plan to major in computer science and obtain a bachelor's degree in software development to become a software developer.

Works Cited

U.S. Bureau of Labor Statistics. *United States Department of Labor*,

6 Feb. 2023,

bls.gov/ooh/computer-and-information-technology/software-developers.htm. Accessed 6

Mar. 2023.

O*Net Online. 6 Feb. 2023,

onetonline.org/link/summary/15-1252.00. Accessed 24 Feb. 2023.

"Certificate Program in Software Development and Programming." *Berkeley Extension*, *Destiny

One*,

extension.berkeley.edu/public/category/courseCategoryCertificateProfile.do?method=loa

d&certificateId=17558767. Accessed 24 Feb. 2023.

"Software Development Certificate." *Saint Joseph's University*,

sju.edu/degree-programs/software-development-certificate. Accessed 24 Feb. 2023.

"What is software development?" *IBM*, ibm.com/topics/software-development. Accessed 24 Feb.

2023.