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Independent Study Mentorship 2A

9 September 2019

Software Development: The Artists of Technology

Assessment 1 - Career Outlook

Date: 9 September 2019

Subject: Computer Science Outlook

Works Cited:

“Career: Software Developers.” *Become a Software Developer - Careers - The College Board*, 2018, bigfuture.collegeboard.org/careers/computers-math-software-developers.

“Software Developers: Occupational Outlook Handbook.” *U.S. Bureau of Labor Statistics*, U.S. Bureau of Labor Statistics, www.bls.gov/ooh/computer-and-information-technology/software-developers.htm.

Assessment:

The world around us is filled with pieces of technology ranging from electronic toothbrushes all the way to self-driving cars. This all possible due to the work of software developers. Despite the importance of software developers in everyday life, the path toward becoming one is rather challenging. To simply delve into the professional world of computer science, a bachelor’s degree is a minimum necessity. In addition, many companies prefer an applicant have work experience via internships at companies and even go to graduate school for a master’s degree. Most software developers are expected to have a degree in computer science,

informational technology, or a related field to even be considered an applicant for some companies.

Despite the intensive higher education required to become a software developer, the career itself is rather rewarding. In 2018, software developers had a median income of \$105,590 compared to the median of all occupations at \$38,640. This, in essence, means software developers will have some sense of financial security despite how low their incomes may become. Additionally, software development's job growth seems brighter than most other careers as it has a growth rate of 21% compared to 5% of all other jobs (Bureau of Labor Statistics).

In order for someone to reap the incentives of becoming a software developer, he/she must have a very specific skill set in order to be a valuable asset to the company as a whole. Software development often time takes shape in teams. Therefore, prospective software developers should focus on improving his/her communication and teamwork skills. Furthermore, software developers always have problems they must solve whether it be minor bugs or client demands. Due to this, software developers are required to be analytical, detail-oriented, and flexible (Bureau of Labor Statistics).

However, this skill set cannot be developed overnight. For instance, it is recommended that an aspiring software developer take higher-level mathematics such as Calculus III and IV along with a foreign language since math is used in computations in programming and when programming, languages come wide and diverse. Additionally, soft skills such as teamwork can often require large amounts of dedicated time working in groups. Finally, there is the art of programming itself. While programming may seem like writing a few lines of code, getting an

intuitive understanding of how programming works and refining programming skills can take years upon years. Starting early such as in high school better prepares aspiring software developers to gather the skills they need to delve into the professional world (Collegeboard, 2018).

One question still remains: What exactly do software developers do? As the name suggests, they develop software. However, developing software is significantly more sophisticated than it sounds. First and foremost, software developers must analyze the needs of clients. Then they must design the actual piece of software, ranging from the inner workings to the user interface. Following the design process is the actual programming where the bulk of the work lies. Lastly, they must tweak or redesign the software based on the client's demands. Collectively speaking, these steps make up the core of every software developer (Bureau of Labor Statistics).

The unparalleled growth and booming industry has allowed this to be an ideal career to pursue in the modern age of technology. The potential of this field has only started to take off and as it grows, it will make independent studies just that much more significant. Finding success in this competitive job sector may prove to be a difficult journey. However, with the correct preparation, my future shines vibrantly as I take the next steps to becoming a professional software developer.

Annotations:

<https://www.scribble.com/s/0wHSQ>

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