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Three of the Top Ten Computer Science Careers in the World Today

In a world where computers have become such a large deal in today's society, many branches of careers have broken off from what use to be simply computing. Computers specialize in so many areas now such as engineering, software development, and even industrial machinery. Computers come in all varieties, namely: desktop computers, super computers, and even microcomputers. It's truly impressive how far computers have come, but they wouldn't be where they are today without the developments and practices by their creators, namely, those with computer science degrees. And as complex as computers have become, specialized fields have been developed to continue to improve technology. In this report, Software Engineering, Database Administration, and Web Development, three of the top ten computer science careers, will be described, compared, and evaluated, in respect to each of their specialized fields and requirements.

Software Engineer

If you have a creative mind and the logic to back it up, software engineering may be for you. Software engineers are those who "Analyze users' needs" ("About.com Careers") and "design, test, and develop software" ("About.com Careers") to meet the need of the people of whoever the engineer is creating his software for. Software engineers don't just meet needs, but also seek for ways to improve software. Have you ever wondered why so many versions of one program exists? That's because programs are always being updated and improved, and software engineers are the culprits. Some other tasks usually required of software engineers are:

- "Design each piece of an application or a system and plan how the pieces will work together
- Create a variety of models and diagrams (such as flowcharts) that instruct programmers how to write software code
- Ensure that a program continues to function normally through software maintenance and testing
- Document every aspect of an application or a system as a reference for future maintenance and upgrades

- Collaborate with other computer specialists to create optimum software”

("U.S. Bureau of Labor Statistics")

As you can see, software engineers can be metaphorically considered the backbone of the software. Without them, your computers wouldn't be able to do much. Making an average of **\$97,990 per year** or \$47.11 per hour, which is pretty good for a **master's degree!**

Database Administrator

Large companies have vast amounts of data that needs storing and organizing. Imagine the amounts that the government has. Luckily, there are people out there that can help. Here is where our next top-ten career nominee can help us, the Database Administrator, also regularly referred to as DBA. “Database Administrators analyze the data needs of users and develop data resources to store and retrieve critical information.” ("About.com Careers") Not just anybody can be a computer administrator. Often complex, problematic situations arise where serious contemplation may be required. Database administrators “need the problem solving skills of the computer science major in order to correct any malfunctions in databases and to modify systems as the needs of users evolve” ("About.com Careers") Other duties include:

- “Ensure that organizational data is secure
- Back-up and restore data to prevent data loss
- Identify user needs to create and administer databases
- Ensure that the database operates efficiently and without error
- Make and test modifications to the database structure when needed
- Maintain the database and update permissions
- Merge old databases into new ones”

("U.S. Bureau of Labor Statistics")

Primarily attending to the quality and easement of the database to the database-users, database administrators often work together with data analysts to help meet company demands. On average, a database administrator earns **\$80,280 per year**. It's not as much as a software engineer, but it's still a lot for only a **bachelor's degree!**

Web Developer

Every webpage you have ever been on must have been created by someone. Perhaps there are certain pages you prefer to go to, some that catch your attention more, some that are easily found by when searched for. Every webpage has had a developer, which introduces us to the career of a web developer! “Web developers assess the needs of users for information-based resources.” ("About.com Careers") Whenever you “like” something on Facebook, it's just been recorded into a band of information-based resource. Think twice the next time you “like”

something. Web developers also “create the technical structure for websites and ensure that web pages are accessible and easily downloaded through a variety of browsers and interfaces.” (“About.com Careers”) Other tasks that may be required of a web developer include:

- “Meet with clients or management to discuss the needs and design of a website
- Create and test applications for a website
- Write code for websites, using programming languages such as HTML or XML
- Work with other team members to determine what information the site will contain
- Work with graphics and other designers to determine the website’s layout
- Integrate graphics, audio, and video into the website
- Monitor website traffic”

(“U.S. Bureau of Labor Statistics”)

What good is a webpage if nobody can see it? The internet is huge nowadays and every view on a webpage counts. The more views, the more popular, the more money, etc. “Web developers structure sites to maximize the number of page views and visitors through search engine optimization. They must have the communication ability and creative insight to make sure the website meets its users’ needs.” (“About.com Careers”) **Annually making \$64,970**, which is \$31.23 per hour, and just from receiving an **associate’s degree**, it’s no wonder there is a 27% job outlook from 2014-2024.

Conclusion

Software Engineering, Database Administration, and Web Development are all excellent careers to pursue with a computer science degree. Typically, depending on your degree, the range of salaries will be different. Software engineers (master’s degree) will make more than database administrators (bachelor’s degree), and database administrators (associates degree) will make more than web developers. All three considered worthy to be members in the top ten computer science careers, all would be excellent choices in today’s world where each area of expertise is needed to further create and improve our predecessors.

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