A CAREER IN COMPUTER SCIENCE

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ENGL 227

June 26, 2014

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**A CAREER IN COMPUTER SCIENCE**

**INTRODUCTION**

The Information Technology industry has ballooned over the past decade. The coming decade promises to even further this growth, with employment in all computer occupations expected to increase by 22 percent through 2020 (Huffman, 2012). It’s no surprise that this makes a career in the field a respectable one to pursue. The specific career you choose to pursue within this field largely depends on the focus of your studies. Many of these IT careers require a specialized skill set or knowledge of particular systems or software, so it is very important to first study the scope of this field and the work involved before one commits to calling it a career.

A degree or certification in a computer science may lead to work in a variety of similar, but uniquely varying IT-related fields. Like any career, more experience generally results in higher earning potential. One thing is constant, though, when starting down your potential career path; we all have to get started somewhere in order to move higher up. The choices of study are narrow, and a student of information technologies generally chooses to broadly learn the field by studying computer science as a whole, or specializes in either the software or hardware side of IT. The general paths of study, therefore, include: Computer Information Science, Computer Programming, and Computer Engineering.

The purpose of this report is to compare and contrast two potential career options from these collective specializations of study, make an educated and professional recommendation as to why one career is a better option, and highlight the scope of work and benefits that apply to the chosen career. This report will present facts, figures, and suggestions that analyze the decision in depth as well as help illustrate why the recommendation is appropriate and valid.

Using information and data compiled by well respected and professionally-trusted sources such as the U.S. Bureau of Labor Statistics, this report will be able to compare relevant and important statistics amongst the two career options. Because of the nature of job outlook and projections figures, some of these numbers will merely be estimated. Generally speaking, however, estimates from these types of reliable sources hold fairly true. Another promising note regarding estimates is that the growth of this industry over the past 10 years, and the advancement of our world into this modern age of technology, serves as a template of where the field is heading.

**COMPARING COMPUTER SUPPORT SPECIALIST AND COMPUTER PROGRAMMER**

While these career choices are greatly varied in specialization and on-the-job functions, the path to obtaining a career in each of these fields is varying. Therefore the annual salary of these two careers is ultimately determined by the path chosen, which will be detailed in a later section. Often, these fields generally suit a certain type of person better than they would suit another due to the nature of the work – support specialist provides more customer service while computer programmer is more technical in nature. Job outlook for the coming decade puts support specialist at 17 percent growth and computer programmers at 8 percent (U.S. Bureau of Labor, 2014), so it is important to consider the scope of opportunities available.

**How to Get Started**

The training required to obtain either one of these careers can be vastly different, or sometimes the same degree can potentially lead to employment in either field. In the case of computer programmer, the parameters of training are more stringent. Becoming a programmer generally requires at least a bachelor’s degree in a computer science, with many schools offering specific game and/or simulation programming degrees. Studying to become a computer support specialist is a little more wide-open, and sometimes just having certifications or an associate’s degree are enough to get a start in the field. Please note that the amount of education and training involved with pursuing one of these careers is largely the deciding factor in beginning annual salary. Because computer support specialists require less overall training upfront, their median annual wages across all subfields is $48,900 per year compared to $74,280 per year for computer programmers (U.S. Bureau of Labor Statistics, 2014). Overall, the responsibilities of computer programmers are more detailed and require more overall training while computer specialists generally start out with more simple problems and have opportunities for advancement as they learn more about the software and equipment they support (U.S. Bureau of Labor Statistics, 2014).

**Who Are These Jobs For?**

Selecting a sustainable career is a good criterion to follow when selecting a career. The fact that both of these careers have a positive growth outlook over the next decade can help you feel assured that either choice can be a lasting choice. Another important and often undervalued aspect of selecting a career is the concept of knowing yourself (Huffman, 2012). Certain careers simply cater to certain types of people. Some people are technical, while others love to provide service. It is clear which career here fits which connotation of person, so it is important to know the details involved in the work and which “type” of person fits best into each career choice. According to the U.S. Bureau of Labor Statistics (2014), important qualities of computer support specialists include: customer-service skills, listening skills, problem-solving skills, speaking skills and writing skills; whereas important qualities of computer programmers include: analytical skills, concentration, being detailed oriented and troubleshooting skills.

**WHY YOU SHOULD CHOOSE COMPUTER SUPPORT SPECIALIST**

Being that these careers are similar, yet different in nature makes the decision on which to select a difficult and carefully considered one. Each career has specific benefits and strong points, but it is the freedom of choice and selection associated with computer support specialist that leads me to recommend it as the preferred choice of the two. Because computer support specialists have a relatively easy start-up into the field, you invest less into training and education. This can be beneficial because it allows you to start the actual field work sooner than if you are training to become a computer programmer. Having hands-on experience is key in advancing any career, so being able to get real-world experience started sooner is a huge advantage. Although the median salary for these two careers is significantly different, computer support specialists are able to move far up from a starting position into a number of different, specialized fields if they choose and can ultimately match the salary of programmers. The Bureau of Labor Statistics also indicates that programming jobs aren’t expected to grow as much as support specialists because of offshoring and the increasing ability of users to write their own programs (Taylor, 2010). The availability of options and jobs is just too wide-ranging to not select computer support specialist as your choice of career.

**Scope of Work**

According to the U.S. Bureau of Labor Statistics (2014), computer support specialists “provide help and advice to people and organizations using computer software or equipment.” They are not necessarily limited to only one area of focus or expertise, but rather have a general understanding of many different components and systems of information technology. The U.S. Bureau of Labor Statistics (2014) lists the following as typical job tasks of a user-oriented computer support specialist:

* Pay attention to customers when they describe their computer problems
* Ask customers questions to properly diagnose the problem
* Walk customers through the recommended problem-solving steps
* Set up or repair computer equipment and related devices
* Train users to work with new computer hardware or software, such as printers, word-processing software, and email
* Assist users in installing software
* Provide others in the organization with information about what gives customers the most trouble and about other concerns customers have

**Range of Options and Flexibility**

Computer support specialists have many options when it comes to the type of work they do or what specialization (if any) they may end up choosing to pursue in the field. While it is true that most support specialists get their start as general “user”-oriented support specialists, there are other types of support specialists. Primarily, user support specialists assist non-IT users who are having computer problems. The other main type of support specialist is called a “network” support specialist and they usually focus on providing support to other IT employees within their organization (U.S. Bureau of Labor Statistics, 2014). Furthermore, support specialists of all types are needed among all types of industries as well. According to the U.S. Bureau of Labor Statistics (2014), some of the primary fields in which computer support specialists work in are computer systems design, telecommunications, finance and insurance and educational services. Another unique note about support specialists is that that many do not work typical 9-to-5 jobs because businesses often require support around the clock (U.S. Bureau of Labor Statistics, 2014).

**THE FUTURE OF SUPPORT SPECIALISTS**

Not only is it important to pursue a career with growth potential in terms of number of job openings, but it is equally important to select a career with potential for personal growth and career advancement. The field of computer support specialist provides both of these opportunities, and again the recurring theme of freedom and choice takes precedence in regards to the future of the industry, and the futures of its workers. Possessing a technical knowledge of computer systems is quickly becoming such a crucial and sought-after skill. The fact that our modern world is so dependent on computer systems bodes well with connecting this skill-set across all facets of business and industries, so the door is only opening wider to capitalize and make a career out of possessing and practicing this skill-set.

**Growth and Advancement**

A 2006 study of the computer support specialist occupation projected a 13 percent growth of the field from 2006 to 2016 (Computer Support Specialists and Systems Administrators, 2008). So far that has held true, and by doing so has helped lend credibility to the U.S Bureau of Labor’s (2014) current projections that the field will increase by 17 percent through the year 2022. Due to the evolution of technology it is no surprise that any IT-related field has done well and should continue to do so as more advancement of technology occurs. Computer system structures have become an integral part of all modern businesses and there will simply always be a necessity for workers to service and provide support for these systems.

Because of the integration of computer systems into all modern businesses, support specialists find themselves with opportunities to work in multiple types of fields as was detailed in a previous section. Support specialists generally start with providing customer and in-house support, but their experience can eventually lead them to advance up to, and beyond, management positions. Their experience and skills developed on-the-job can help propel them to other areas of the organization or can help serve as a platform for them to pursue other fields altogether.

**CONCLUSIONS AND RECOMMENDATIONS**

The availability of positions and ease of entering the field are highlights in selecting this occupation specifically. The ability to enter the field with minimal training is of course in addition to the option of earning a bachelor’s degree which could potentially net a higher starting salary, and once again demonstrates the flexibility this particular career offers. Ultimately, a career as a computer support specialist promises to always offer a wide variety of advancement opportunities which is what helps differentiate it from computer programming. If having a career that presents fresh challenges and opportunities to refine skills across many areas appeals to you, a career as a computer support specialist would serve you well.

In order to take advantage of the current and future job market, it is a vastly more wise decision to choose a career in the computer support specialist occupation. Pursuing a career with a positive job-growth outlook is always an educated decision; pursuing a career that allows you the freedom to personally grow and truly enjoy what you do is a decision that will ultimately impact your self-respect as well as earn you the respect of customers and co-workers alike.

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