How Programming Has Spread To Other Fields

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Introduction

In the last few decades, programming has become very popular. It has started to spread to other non-programming-related fields such as medicine and finance as well, which has been very beneficial.

In this presentation I will cover four fields that have implemented programming. These four fields are:

- Finance
- Medicine
- Entertainment
- Transportation

Finance

The financial field is the field relating to exchanges and money management, so it includes personal finance, corporate finance, and government finance, as well as things like buying and selling stocks.

Programming is mainly used in this field for predictions and decisions about the best places for companies and banks to invest money. Programs are usually much more accurate than humans at this task because humans can only give an estimation, whereas computers can give a much more accurate prediction, hence why they are used so much in this field nowadays.

The programmers that code these programs are called financial software developers. The requirements for this job are harder than a lot of other coding-related jobs, as you usually need a bachelor's degree in a computer science or math related subject. However, the pay is very good (about $100,000 a year on average).

Many companies offer financial software developer positions, some examples being:

- AccessPay
- OpenGov
- Clearwater Analytics.

These companies develop and sell financial software, so they need to hire financial software developers to successfully do that.

If you have a good understanding of both programming and the economy, this job may be a good fit for you!

Here is what a day in the life looks like for a financial software developer, in the form of a journal entry.

Today, I woke up at 7:00 AM and got ready for work. I left my house by 8:00 and arrived at work at 9:00. I work as a finance software developer, so my job is to code programs that predict changes in the stock market. I program a few other things occasionally, but mostly the stock market prediction program Today I did some debugging and made some performance-improving changes. It went well. I mostly debugged a part of the program which caused errors relating to how the program handled large amounts of data. At the beginning of the day, it didn't run at all, and now not only does it run, but it also runs quite smoothly! I left work at 6:00 PM and got home at 7:00 PM.

Medicine

The medical field is the field relating to medical research, disease prevention, vaccine development, pretty much anything relating to health.

It requires programming to complete certain tasks, and it needs people to do the programming, so I will go over some information about being a medical programmer.

In most cases, you need a postsecondary certificate, and sometimes an associate's degree in a subject relevant to the job to qualify for a medical programmer position. The average salary of a medical programmer is around $40,000. However, this isn't the only coding-related job in the medical field. Being a medical software developer is a more difficult job but pays around $80,000 a year.

Most medical companies are looking for medical programmers. Some even let you work from home! Some examples are:

- CVS
- UnitedHealth
- Aviacode.

If you are experienced with programming and have a decent amount of knowledge about the medical field, a medical coding career is a good choice!

Here is what a day in the life looks like for a medical programmer!

I woke up at 7:15 AM and got ready for work, leaving the house at 8:05 AM and arriving at work at 8:30 AM. My job is to make sure that patient data is accurate. So, I do that for most of the day. I find a few minor errors and can fix them quickly. I leave at 6:00 PM and get home at 7:00 PM, due to traffic.

Entertainment

The entertainment field covers TV shows, movies, video games, etc. It appears a lot around the Internet, whether in a funny video or movie trailer.

Programming is quite popular in the entertainment field. In fact, a lot of the industry relies on it. Most movies use some form of CGI. Platforms like Netflix use an AI to recommend shows/movies to people. Those are only a few examples. Keep in mind that video games are part of the entertainment field, and they are made entirely of code!

There are many coding-related jobs in the entertainment field. For example, being a game developer or CGI artist for a movie. These jobs are offered by any company that develops games or any company that makes movies. So, for example, companies like EA, Ubisoft, and Nintendo hire game developers, and companies like Marvel, Universal Pictures, and Warner Bros. hire CGI artists.

In order to work as a game developer at a company like EA, Ubisoft or Nintendo, you need a bachelor's degree in a computer-related subject and at least five years of experience with programming games. Employers look for creative and artistic people, so if you're interested in a game developer career, keep that in mind.

Similar requirements apply to work as a CGI artist. You need a bachelor's degree in a computer-related subject. Like for game development, employers look for creative and artistic qualities.

The reason the requirements are so similar is because both share one big similarity: they use programming. To be a programmer, you need experience, and you need to be creative and artistic. If you don't have experience, you won't understand how to code, and if you're not creative, you won't be able to produce any outstanding ideas.

As for salary, game developers get paid around $70,000 and CGI artists get paid around $65,000 a year.

Keep in mind that for the game developer position, you can be self-employed. This will be a bumpier route but if you don't like the requirements and still want to be a game developer, being self-employed is always an option.

Here is what a day in the life looks like for a game developer!

I woke up at 6:45 AM and got ready, leaving the house at 7:45 AM and arriving at work at 8:45 AM. My job is to work on a game's assets, so that's what I did. We are supposed to use blender to create the game's assets. I spent most of the day modelling a few specific assets and then creating some animations. I left work at 6:00 and got home at 7:00.

Transportation

The field of transportation covers cars, airplanes, boats, etc. Recently, self-driving cars have become increasingly popular, and with them, new jobs for programmers.

Programming has become very important in the transportation field. With airplanes almost able to fly themselves at this point, and self-driving cars being developed, a lot of transportation vehicles certainly rely on programming, and that number is likely going to increase.

A few companies like Google and Tesla are working on self-driving cars. They have pretty much fully developed them, but that doesn't mean that there won't be more programming. Bug fixes and quality of life improvements are sure to come, and Tesla vehicles have already received a few updates! There's a lot of potential for features in self-driving cars, and although it may seem that most companies developing self-driving cars have already added most of those features, there will almost certainly be updates, especially as companies try to compete to have the fanciest software.

Many companies are developing self-driving cars, and all of them are hiring developers. Some of these companies include:

- Aurora
- Tesla
- Google

The requirements for such a job are a bachelor's or master's degree in an engineering or robotics related field, as well as coding experience, and the salary is about $70,000 a year.

If you're an experienced programmer and interested in transportation, then this is a good job option!

Here is what a day in the life looks like for a self-driving car engineer!

I woke up at 7:00 AM and got ready for work, leaving the house at 8:30 AM and arriving at 9:00 AM. The company I am working for has already developed their self-driving cars, so right now our job is to fix bugs. There is an issue with the car confusing the moon with a yellow light and slowing down, so we did some coding to fix that. We haven't released the new version yet as there are still some bugs to fix, but it should be released in the next week. I left work at 6:00 and got home at 6:30.