PROGRAMMING IN VIDEOGAME INDUSTRY

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Nowadays it is practically impossible to imagine our life without numerous computing devices. We use computers everyday: should it be a complex engineering task or any simple common activity like checking out a weather forecast. It is known that we can also use some significant processing power to produce mostly informal, entertaining experience, especially when it comes to making extensive interactive systems, such as videogames.

What lies beneath the wonders of any computer program? Generally, there is nothing special about telling the computer how to perform a meaningful task. People use some form of special “alphabet” called programming language. The simplicity of putting down a few lines of code could be later evolved into something massive and spectacular. If you are treated as software engineer, there are chances you make this impressive transition happen.

So, despite there are many applications for software engineering skills, a lot of talented programmers tend to choose a career in entertainment fields. It is a common misconception that game developers are spending their time playing games effortlessly. In fact, every videogame is a very complex system of variables and events, so a decent amount of knowledge should be involved into the process.

It is fascinating to be a game programmer, not even in terms of fun or prestige, but in terms of discovering your own creativity and imagination. And, in fact, people were really imaginative, in the time when a new computing era was going to arouse. The first “critically acclaimed” electronic videogame was shown on graphical display in 1958. It was called “Tennis for Two”, and it captured an essence of playing on a tennis court by showing a “ball” bouncing off the “ground” in a small oscilloscope screen. Despite being very poor graphically wise, hundreds of people lined up to try it out on Brookhaven National Laboratory exhibition. William Higinbotham, the creator of “Tennis for Two”, spent a couple of weeks working with his colleagues to cure the boredom of visitors after he had realized he could make a game based on technology used for scientific purposes. The instruction book that came with the computer described how to plot trajectories and bouncing shapes for research. And, "Hell, this would make a good game.’ William would have probably recalled.

Today’s videogames are far more wide scale and sophisticated. Computers have a lot more processing capabilities nowadays, thus making interactive experience more realistic and engaging. It is possible here to create truly comprehensive, unique worlds or scenarios and make a direct impact on someone’s feelings and emotions like no other art form can do. What if the

player should find a way to survive in a desolated desert or even make a very reasonable choice about the future of humanity? There is a countless amount of narrative possibilities, which are possible with videogames.

From a technical standpoint, videogames immensely rely on various mathematical concepts and equations, so everything from linear algebra to discrete mathematics should be applied. This sounds a bit frightening, but there are some basic essentials. For example, we all know about coordinate systems, because everything can be measured with one, two or three axes, practically called X,Y and Z. We could say: “I am five miles away from the house” or “This carpet is 10 feet long and 5 feet wide”, and these are domestic examples of using coordinates in our life. We are basically choosing dimensions and measurement units to tell some useful information about object placement and its scale. And so we can tell the computer about various positions, boundaries and directions of any object placed on a screen. There is a lot of advanced entities based on coordinate systems, like gravity vectors, lightning rays, vertices, shaders and polygons, animation curves, etc., but everything starts with a simple definition in our mind. And that is how we can transcribe mathematics into something visual, like character movement or spectacular video effect.

Speaking of ways to simplify tedious mathematical tasks, programmers often use special software “frameworks” called game engines. They are designed to make a development process far easier. A typical game engine consists of various prebuilt features like light casting, physics handling, scene rendering, particle systems, etc. With the help of such engines, companies are capable of producing high-quality products for a relatively short amount of time. Also due to reduced architecture complexity, gamers are enabled to expand game experience themselves by creating a custom content for their favourite title.

It is worth mentioning software engineers are mostly limited to their scope of activity. So, when it comes to making games, programmers are often surrounded by people with different skill sets. An average game development team usually consists of artists, 3D modellers, sound designers and other members. Therefore, communicability, openness and enthusiasm are highly appreciated if you have decided to take part in this area.

Videogame industry is a relatively modern, actively developing creative field. Games offer a lot of unique experience and gather more and more social attention every day, both positive and negative. On the bright side, there are many great examples of succesful projects deserved to be called artistic masterpieces. But there are also some gloomy aspects related to entertainment part of videogames.Games oriented on mature audiences are often presented with disturbing content, such as uncovered violence, obscene language, drug-related scenes and so on. An endless number ofdebates has been awakening since a huge commercial growth of interactive

media. Also because of a venturous nature of videogames, they may be overly addicting to the point of mental disease.

But, despite of many ethic and moral issues, videogames are firstly valued for the ability to present our inner thoughts and feelings in a new exciting way. Now it is possible to create a decent looking adventure with a small team of two or three people (and often, even a single person is capable of creating a spectacular game). So, if you have always be dreaming about making games, there are no obstacles to go ahead and give it a try.

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