Biography of a Software Engineer

Alexey Pajitnov

CSU33012 Assignment

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1 Introduction

What is software engineering? Software engineering is "the process of analysing user needs and designing, constructing, and testing end-user applications that will satisfy these needs through the use of software programming languages" (Techopedia, 2020). The "term software engineering" first came to life in the 1960's by Margaret Hamilton. Hamilton felt that "software developers earned the right to be called engineers" (Reactor, 2019). Nowadays, there are hundreds of thousands of software engineers. A notable example is a man by the name of Alexey Pajitnov.

2 Early Life & Education

Alexey Pajitnov is a Russian-American video game designer and computer engineer, born in Moscow, Soviet Union, on April 16th 1955. Both of Pajitnov's parents were writers, and at the young age of 11, Pajitnov's parents divorced. Up until the age of 17, Pajitnov lived with his mother in a one-bedroom apartment owned by the state. At 17, they moved into a private apartment.

Pajitnov showed signs of being Mathematically inclined at a very young age, enjoying puzzles and solving complex problems. He proceeded to study at the Moscow Institute of Aviation, where he received a Master's degree in Applied Mathematics (Tetris, n.d.). During his time at the Moscow Institute of Aviation, Pajitnov worked as a summer intern at the Soviet Academy of Sciences. Upon completion of his degree, Pajitnov was offered, and accepted, a job here, where he worked on speech recognition at the Academy's Dorodnitsyn Computing Centre (Wikipedia, n.d.). Here, from time to time, Pajitnov and his colleagues were sent hardware, where they had to assess how powerful it was. Pajitnov's solution to testing the hardware's power was to write a basic program, which ignited his passion for game development – it "became my excuse for making games" (Hoad, 2014).

3 Career's Work

3.1 Tetris:

Pajitnov's most famous work is creating the popular game Tetris. Tetris debuted in 1984. Tetris exploded in popularity and was an instant success. Part of the reason for this success is the fact that the game was so simple – "[Tetris] was deceptively simple: clear lines of tiles by fitting the falling shapes, known as Tetriminos, together to make a continuous horizontal line"(Times, 2014). The fact that the game is very addictive also played a central role in its success – "I pretended I was debugging my program, but in truth I just couldn't stop playing it" (Hoad, 2014).

The amount of positive feedback Tetris received is truly astonishing. The widespread addiction that was playing Tetris arose because Tetris "slotted itself into every possible platform" (Price, 2018). Tetris brought about an element of inclusion with its release, because it "was so abstract – that was its great quality. It appealed to everybody" (Journal, 2016).

Tetris was a massive success, but interestingly, Pajitnov did not receive much in terms of loyalties for his creation at the time because he worked for the USSR, "I didn't make much money at first, but I was happy, because my main priority was to see people enjoying my game" (Hoad, 2014).

An interesting point is that, as mentioned earlier, Pajitnov enjoyed playing pentominoes as a past time when he was a young boy, and from this he got his inspiration for Tetris; he found it difficult putting the pieces back into their box, and thus his basis for Tetris had been established!

3.2 Welltris:

Since Tetris was such a hit success, Pajitnov decided to create a sequel – Welltris. Pajitnov created Welltris alongside Andrei Sgenov. Welltris follows the same gameplay as Tetris, except Welltris was made 3 dimensional, where the board is viewed from above, whereas Tetris was 2 dimensional.

3.3 Pandora's Box:

In 1999, Pajitnov invented the game Pandora's Box. A brief description is that "players must travel around the world to different cities solving various kinds of puzzles to capture the seven "tricksters" - Maui, Puck, Eris, Coyote, Monkey, Anansi and Raven" (Wikipedia, n.d.).

Like all of Pajitnov's creations, Pandora's Box was a hit success. Here are some examples of this success:

- It won GameSpot's "Puzzles and Classics Game of the Year" award,
- Runner-up for Computer Games Strategy Plus' 1999 "Classic Game of the Year" award,

- Named the best computer puzzle game of 1999 by The Electric Playground
- It was PC Data's top-selling puzzle game for 6 weeks.

3.4 Freedom!

In 1996, Pajitnov and his colleague Vladimir Pokhilko moved to the United States. 5 years later, in 1996, they founded the Tetris Company, with Henk Rogers. This time round, Pajitnov and his co-workers could finally collect royalties from their world-wide creation, since the Soviet Union's 10-year ownership of Tetris had expired (McFerran, 2018).

4 Impact

By creating Tetris, and by Tetris exploding in popularity, Pajitnov "essentially founded the casual puzzle genre", and he "made dropping-block puzzles a staple of game design" (Nutt, 2010). Pajitnov's creation of Tetris itself has had the impact of "[spawning] numerous puzzle games", all of whom "try to emulate its success" (Times, 2014).

By creating and allowing the Soviet Union to publish Tetris, Tetris became one of the "first pieces of software exported by the Soviet Union" (Hoad, 2014). This illustrates how Pajitnov had the impact of essentially putting the Soviet Union on the map in terms of Software Engineering. Even though Tetris was created 35 years ago, Pajitnov still has an impact on today's game, since "the majority of smartphone games today follow the same format" (Journal, 2016).

5 Awards

Listed below are some of the many miraculous achievements Pajitnov has received over his career:

- 2015 – Pajitnov won the Bizkaia Award at the Fun & Serious Game Festival.
- 2012 – Listed as one of the 5 most memorable video game industry one-hit wonders by IGN, where they called him "the ultimate video game one-hit wonder".
- 2009 – Received the honorary award at the LARA – Der Deutsche Games Award in Cologne, Germany.
- 2009 – Tetris was named the #2 Top Console Game of all time by the Guinness Book of World Records.
- 2007 – The International Game Developers Choice Awards First Penguin Award
- 1996 – Named as the 4th most influential computer game developer of all time by GameSpot.

6 Conclusion

With his creations, Pajitnov shone a light on how to achieve success for future game developers. Adapting his simplistic, abstract approach, the majority of smartphone games today follow the same format. The achievements and accolades Pajitnov has accumulated over his lifetime to date are incredible, and truly noteworthy. Pajitnov put the Soviet Union on the map in terms of Software Engineering, and this, along with his many, many accolades are why his name will go down in history, at least in my opinion, as a key, and one of the greatest, software engineers of all time.

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