

## **Daniel Ek – A key software engineer.**

Produce a short (2-4 page) biography of a key software engineer, discussing the work and impact of the individual.

**“I’m not an inventor, I just want to make things better.”** – Daniel Ek

Daniel Ek is the CEO and cofounder of Spotify. Spotify is currently valued at \$46 billion and is expected to keep rising. Spotify plays a crucial role in a modern and fast-paced society by providing music streaming to its user’s at varying rates of quality. It boasts 320 million users with 144 million having a paid subscription.

### **Early Life:**

Daniel Ek was born 21 February 1983 in the Ragsved district of Stockholm, Sweden. His grandparents were musicians who influenced Ek and developed his initial interest in music. Ek was raised by his stepfather who worked in IT. Ek would write basic programming code while listening to music as one of his hobbies as a child.

### **Education:**

In high school at age 14, one could see the software engineering and business side shining through in Ek already. Ek was familiar with coding in C++ and had locals ask him to design a homepage for them. Ek charged his first client \$100, the second client \$200 and was soon charging \$5000 for his homepage designs. As the demand for his skills increased, Ek began to teach his classmates C++ so they could work on websites for Ek’s clients. Ek taught these students using his school’s computers. He saw a correlation between students who were good at mathematics were usually good at programming too. By 18, Ek had made \$50,000 and had a team of 25 class mates working for him.

After high school, Ek studied engineering at KTH Royal Institute of Technology but dropped out in first year to pursue a career in IT like his stepfather. This decision payed off as he would soon come up with a program that made him \$1.25 million.

## **Business Career:**

In Ek's early career, he worked for Stardoll, Tradera and µTorrent where µTorrent's founder Ludvig Strigeus would help Ek co found Spotify. Ek's first creation was Advertigo, similar to Craigslist or Adverts.ie . Ek would later sell this company for \$1.25 million in 2006 when he was only 23. After selling Advertigo, Ek had the idea of Spotify using Napstar as an inspiration but would avoid legal issues that Napstar had by relying on streaming technology and securing licensing deals with record companies.

## **Spotify:**

**"The value of a company is the sum of the problems you solve".**

These words by Daniel Ek ring true for Spotify. Spotify allows millions of songs to be streamed for free, with a premium plan at an affordable cost, the ability to share playlists with your friends, to download playlists and play them without needing an internet connection etc. Spotify boasts a range of features that were not common at the time of its creation. This explains why the value of Spotify is \$46 billion due to the amount of problems it solves.

The core programming language used for Spotify was C++, where we have seen Ek excel in this field before. Spotify was first launched on desktop in 2008 where C++ is applied for most of its components. Other languages are now incorporated into the design of Spotify, namely JavaScript and Python, to allow for Spotify to be developed as an app on the Apple Store and Android Play Store.

When Spotify launched in 2008 it originally ran on a peer-to-peer distribution model. However, in 2014, as Spotify continued to grow and grow, they switched to a server-client model and continue to do so to this day. In 2008, Spotify also agreed licensing deals with Universal Music Group, Sony BMG, Warner Music Group and more. This allowed Spotify to have an advantage over rival music streaming services from its first year of launch as it had access to all music produced by these music studio's.

Spotify caused music pirates to switch from illegally downloading music to a legal service that compensated the music industry. A positive for both sides. Spotify was successful due to the ease of access to new songs released from most major artists. Spotify had an easy to navigate GUI to listen to music unlike when pirating music and the issues that may arise. It also allowed users to join for free with the only inconvenience being having ads between songs and the inability to skip a song.

Spotify also made sure there could be no legal disputes between itself and a music studio by providing a fee toward that music studio for access to use and distribute songs that they own. The majority of artists are happy for their music to be put on Spotify provided they receive a fee, however some artists have chosen to be exclusive to other platforms thus their music is not on Spotify due to potential legal disputes.

Spotify generates income using advertisements for the free plan that are played in between song tracks. One of the benefits of a premium Spotify plan is that there are no advertisements, however this plan does come at a cost. Spotify makes money through all of its user base either through advertisements or subscription fees.

## **Impact of Ek:**

Today, we can see the impact of Ek as Spotify is the most popular music streaming service in the world. Despite competition such as Apple Music and Youtube Music, Spotify still boasts the largest user base. I believe this is down to the features Spotify offered early on such as the ability to stream many popular songs for free and being able to share playlists with friends through social media. I also believe Spotify has been able to retain its user base despite rivals entering the market due to the familiarity Spotify now has to its users and brand loyalty may also play a part.

Although in the future it is possible that there may be a new music streaming service that overtakes Spotify's position as number 1, there is no doubt that this new streaming service will take inspiration from Ek's innovative features and integrate them into their new application. This is why I believe Ek has had a major impact on the way we listen to music.

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