CS3012: SOFTWARE ENGINEERING

Prof. Stephen Barrett

Biography of an influential software engineer:

Mark Andreesson

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Overview

Mark Andreesson is a famous software engineer and entrepreneur. He is most well known for being the co-author of the first widespread web browser, Mosaic. After this he also went on to found Netscape, an internet software company that developed a commercial web browser, Netscape Navigator. His work is often credited with igniting the internet boom of the 1990's.

Biography

He was born on July 9, 1971 in Cedar Falls, Iowa to parents Patricia and Lowell Andreessen. From an early age, he expressed a keen interest for software and computers. While still in secondary school he taught himself the programming language BASIC so that he could write and play his own computer games. It is said that not long after he designed a program to do his maths homework for him!

He went on to study computer science at the University of Illinois at Urbana–Champaign. While there he landed a part-time job at the school's computer labs, the NCSA (National Centre for Supercomputer Applications), where he quickly became extremely familiar with Tim Berners-Lee's standards for the World Wide Web and also where himself and his co-worker, Eric Bina, created the Mosaic web browser bringing the world wide web to an accessible level for anyone. It was released free-of-charge and within a year it hit two million downloads, which was staggering at the time.

In 1993, he graduated from the University of Illinois with a bachelor's degree in computer science and moved to Silicon Valley and found work in a small tech company developing security products. He wasn't there long however as shortly after he was contacted by James Clark, founder of the Silicon Graphics Inc. who had ambitions to build on and commercialise the success of Andreesson's Mosaic. Together in April of 1994, they founded the Mosaic Communications Corporation and set out to build the new commercial-quality web browser they dubbed, 'Mozilla' (Mosaic-killer).

In October 1994, just under eight months since founding the company, their browser was released online. Commercially launched as 'Netscape Navigator', it was an instant success. The use of a 'try-before-you-buy' release model had them see over eight

million downloads in under 12 months and by mid-1996 it possessed over 75% of the market share. In the first quarter of 1996, Netscape Communications posted earnings of over 55 million dollars.

Andreesson soon became the poster boy for the internet bubble, featuring on Time magazine and many other publications and worth millions if not billions, practically overnight. He no doubt inspired many of today's up-and-coming software engineers and is indirectly responsible for countless breakthroughs in computer technology. This success also attracted attention from some larger organisations at the time.

The University of Illinois, who had previously trademarked Mosaic and where Andreesson had studied, initiated a legal argument which resulted in an out of court settlement and the renaming of 'Mosaic Communications Corporation' to 'Netscape Communications'.

Microsoft also saw the potential of what Netscape had accomplished and caused them to purchase the source code of Mosaic, which Andreesson had written in college, from Spyglass, Inc (a child company of the University of Illinois) which they then turned into the browser you and I know today, Internet Explorer.

This sparked what is known as, "the browser wars", a battle for market share between Internet Explorer and Netscape Navigator, alongside a few smaller browsers that were beginning to show up following Navigators success. However, with Microsoft's influence over the personal computing world through Windows OS it wasn't long before Netscape's market share began to decline. By the time Microsoft started bundling Internet Explorer with Windows OS, Netscape was in a downwards spiral.

Netscape was purchased by America Online Inc. (AOL) in 1998 and while they did make Andreesson CTO of AOL it wasn't long before he left to found LoudCloud, which was later bought by Hewlett-Packard in 2007 for 1.6 billion dollars

He finally went on to found a venture capital firm, Andreesson Horowitz alongside LoudCloud business partner Ben Horowitz. They were extremely successful, investing in many of today's successful tech and social media companies including, Facebook, Twitter, GitHub, Pinterest and Skype.

He is now in an extremely influential position towards todays big internet companies, he is an advisor to Mark Zuckerberg of Facebook and Mark Pincus of Zynga among others, as well as frequently giving talks and key-note speeches at Silicon Valley tech conferences.

The influence of his work.

Mosaic, and its child browser Navigator, was a turning point for web technology and by far Andreesson's most influential software. Rather than the complicated UNIX OS line commands the web had been accessed by until this point, Mosaic brought a user-friendly graphical interface to the web. It offered a simple point-and-click system with colourful icons and allowed users to find, view and download data from the web. This may not seem like a huge development in software engineering but it was the start of the web-browser revolution and a critical moment for the development of the Internet. Much like how Apple and Microsoft popularised computing with the world by releasing user-friendly OS's with GUI's, the release of Mosaic made the internet accessible, for the first time, to an audience far beyond the colleges and academic institutions it was limited to before.

I think there's a lot that can be learned from this as computer scientists. We can create the most revolutionary technology and yet the benefits of such creations are only realised when they are made simple and usable to a wider audience. Here for instance, Tim Berners-Lee's world wide web was the real game changer, and yet it wasn't until the release of Mosaic that the potential of his creation truly begun to be realised.

His work sparked the internet boom of the 90's and changed the way we live our lives today.