Biography of an Influential Software Engineer: Andy Rubin

Without a doubt Andy Rubin, the mind behind Android is one of the most influential and successful software engineers in the industry. There are now over 2 billion monthly active devices running android and it is one of the main sources of user growth and therefor revenue for Google. Andy Rubin shows many of the attributes that are common to many great software engineers. He is technically skilled, able to develop solutions at huge scale and capable of adapting as product requirements change in an agile way. He also has a commitment to fostering open source which I believe is very important.

Andrew "Android" Rubin was born in 1963 and grew up in Chappaqua, New York, just north of New York City. His first interest in computer science and robotics may have started from being surrounded by new electronic gadgets and technology that his father had in his house as he ran his direct-marketing company. He graduated with a BS in Computer Science from Utica College in 1985. After graduating Andy initially moved to Switzerland to work for a robotics company working on the communications systems between devices. He claims that he would have stayed working there in Switzerland if it wasn't for a chance encounter with an Apple Engineer while on holidays in the Cayman islands. The engineer, Bill Caswell had been kicked out of his holiday home by his girlfriend after a fight. He found him sleeping on the beach by Andy and offered him a place to stay and in return Bill offered him a job at Apple.

Initially at apple Andy worked as a manufacturing engineer before quickly transferring to an R&D software engineering role working on developing the OS for the Mac Quadra Desktop and on efforts to create a software modem. It was while at apple that he gained the nickname "Android" as his interest in robotics continued after his previous work and made many robots quirky that he was famous around the office for.

In 1992 Andy Rubin moved to General Magic a spin-off from Apple specialising in communications devices and prototyping handheld devices. He worked on an innovative new mobile operating system called Magic Cap to be used in smartphones PDAs and other handheld smartphones. The OS he developed there was like nothing that had came before it in the mobile computing space but sadly it was developed at least ten years before the hardware was ready for smart-phones

to be practical. Nevertheless General Magic went public although it was never a real commercial success. Rubin then joined Web TV which developed an adapter for connecting a tv to the internet to browse the web. In 1997 it was acquired by Microsoft.

In 1999 Andy founded Danger. Inc a company which specialised in hardware software and services for mobile computing devices. The main product Rubin developed was the Sidekick, an early smartphone beloved by both teenagers and those in the tech industry. Key software innovations in the product included an app marketplace and a focus on cloud based technology. Users could even store their phone data on the cloud if they ran out of storage.

In 2003 left Danger Inc. after the board decided to replace him as CEO. He soon founded Android to create a new smartphone OS leveraging location based technology and increasing wireless network availability to make mobile devices "that are more aware of its owner's location and preferences". Larry Page one of the co-founders of Google organised a meeting with Andy when he heard of Andy's new company after already being a personal fan of his Sidekick phone. Shortly afterwards Google acquired Android in 2005.

Early on Rubin decided to make Android an open-source operating system. He also decided to build Android on top of the Linux Kernel. This is one of the key reasons that he has had such an impact as a software engineer. Companies and individuals we able to tweak and build on top of Android including CyanogenMod and the Ouya games console for example. By open-sourcing the OS Rubin helped to attract the software developer community and that later helped the platform grow by supplying the manpower necessary to populate the android marketplace with apps early on.

Another aspect that shows Andy Rubin's skill as a software engineer is his willingness and ability to pivot quickly and work with an agile approach. Originally Android was going to closer to a Blackberry in design with a keyboard as the primary way to interact with the OS and no touchscreen. That all changed on on the day of the iphone launch. Andy was being driven to a meeting when he watched a stream of the Iphone being unveiled. It became immediately obvious that the future of smartphone interaction was the touchscreen. He had to ask the driver to stop the car as he realised he needed to redesign the OS fundamentally to use touch rather than a physical keyboard. It was then clear to him that their current planned launch could not happen. It is testament to his skill as an engineer that he was able to architect the drastic changes needed to the operating system so the first Android phones could try to match the iPhone.

Since then Andy Rubin has lead the development of Android to where it is today as by far the most popular mobile operating system. Today over 85% of phones are

running Android. Real proof of his engineering ability is the fact that Android can run well on so many different sort of mobile devices with different hardware.

Ín 2014 Rubin moved from Android to get back to working on his true passion, heading he robotics division at Google which at the time included Boston Dynamics. In 2014 he started Playground a startup incubator that provides resources and mentorship and funding to promising companies. Once again leveraging his experience as an engineer to have impact on the industry by fostering the next generation of entrepreneurial engineers. In 2015 he left Google to start a new phone company Essential which released the Essential Phone in August 2017.

It is clear that Andy Rubin is and will continue to be one of the software engineers who has had the most impact due to the number of users of his software has reached. Lets not forget, it is his operating system has enabled tens of millions of people around the world to access the internet and connect with the world.

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