Key Software Engineer - Gabe Newell

INTRODUCTION

I have chosen to write this report on Gabe Newell, former Programmer at Microsoft, and co-founder and current President of Valve Corporation. Under the influence of Gabe Newell, Valve Corporation revolutionised how video games are developed, distributed and maintained in the online world. With their flagship product, 'Steam', the creation of a video game, from its initial conception by its creators, to when it is first launched by its consumers, and the maintenance of that connection for the duration of its life-cycle has been vastly simplified. These tools are given to the major industry leaders that generate millions in profit each year, and to the amateurs who want to share their passion project with the world. A small evolution took place in video game development and Gabe Newell was at the heart of this.

EARLY LIFE

Gabe Newell was born in Seattle, Washington in 1962, at an early age he had an interest in solving puzzles, video games and technology. After graduating from High School, Gabe furthered his education in Harvard University, pursuing a degree in Computer Science. However, after being convinced by Steve Ballmer, a former Head of Sales at Microsoft, he dropped out before graduating to work for his first employer, Bill Gates. At Microsoft, Gabe worked heavily on the first three releases of Windows and became one of the "Microsoft Millionaires" – a person who has earned over a million dollars while working there – over the period of thirteen years. Gabe Newell has a somewhat renowned quote emphasising the value of the skills he learned as a software engineer at Microsoft in three months, as compared to what he learned the whole time he spent at Harvard.

FOUNDING OF VALVE AND HALF-LIFE

In 1996 Newell and a colleague of his at Microsoft, Mike Harrington, left the company under the inspiration of former coworker, Michael Abrash. Together, they founded Valve L.L.C and funded the creation of their first video game product, Half-Life, over the period of two years. Half-Life would end up being a critical and commercial success, praised for its innovative story-telling, immersive gameplay and environment. Half-Life would be the inspiration for the FPS genre for years to come. From a programmer's perspective, it was renowned for its advanced AI, quality of animation and 3D support, it was simply years ahead of its time. However, the icing on the cake was the release of the Half-Life SDK, written in C and C++. Now gamers were given the tools to make their own content; levels, mods, and even complete overhauls. This would ensure the longevity the game and would be its biggest contribution to the industry itself, creating endless opportunities for the development of video games.

STEAM

Once Half-Life was released, Gabe shifted his focus to the development of 'Steam', an online marketplace and digital distribution platform for video games. The main reasons for this were to provide a faster option for people with high-speed internet to get content and to improve the functionality of online games. By providing a way for users to automatically update their games and by implementing stronger Digital Right Management (DRM) measures and anti-cheat software, the online gaming experience would be improved tremendously.

Steam was released on September 11th, 2003, to a shaky start. At launch, the system was unable to cope with thousands of players using it simultaneously, however this improved over time as Valve iterated upon and expanded it. As Valve added more functionality to Steam and began providing tools and services to its consumers and developers, millions of users would be drawn to it. To this day, Steam has over 30 million daily active users and Valve has generated billions of dollars in revenue because of this. Initially envisioned as being a tool for updating video games, Steam would evolve to have its own ecosystem, a thriving community, and a large chunk of the market share of online video game distribution.

The release of the Steamworks API in 2008 would be another major influence on the PC gaming industry. This free middleware provided simpler options to developers when implementing common features to video games. With Steamworks, the DRM of games sold on the platform is handled by Steam, rather than leaving it up to every individual publisher to worry about (this has some exceptions). Users only had to log into Steam once to authenticate that the game was a legitimate copy before playing. The API also provides a cloud service, where users can save game data (game saves etc.) to Valve's server and have the same experience on any machine that had the Steam client installed. Steamworks would ease the process of creating online multiplayer, and other QOL features such as achievements and the installation of user-created mods from the Steam Workshop. In short, programmers could put more focus and time into the technical aspects of video game development that mattered, thus crafting the best possible products for the consumer.

THE SOURCE ENGINE

The Source engine is a video game engine written in C++ and developed by Valve, it serves as a tool to provide important technical components to video games, such as; graphical rendering, in-game physics, animations, and artificial intelligence. At the time of its release, the Source engine was renowned for its advanced graphical capabilities and physics engine, both famously featured in Half-Life 2. One notable feature of the Source Engine is its modularity. Unlike its competitors at the time, Valve followed a more incremental approach to upgrading the engine, as technology improved, individual components of the engine would be changed to reflect this. Despite this, the Source Engine would still have the major software releases considered typical of the time.

With the Source engine released, Valve set upon putting tools they used into the hands of developers. This was accomplished with the Source SDK. Small Programmers began to develop mods for Valve games using their assets. These often came in the form of large overhauls, which often branched out to become their own individual video games. In many cases, the development teams of these mods were offered jobs at Valve to continue working on these games, with funding from the company itself, and they would be released as a product of Valve's. Famous examples of this include Left 4 Dead and Portal, where Gabe Newell hired the entire developer team after a presentation of an early version.

Conclusion and Legacy

It is undeniable that Gabe Newell has had a huge influence on video game development. Since the founding of Valve, Gabe has followed the philosophy of creating and distributing tools to video game developers to simplify the process of software engineering. The Half-Life SDK, Source Engine and Steamworks API would go on to inspire and propagate forward a generation of software engineers working in the video game industry. Gabe Newell has not just created these technologies, but also a growing community dedicated to crafting their own masterpieces.