

### John Carmack

John Carmack is one of the most important figures in game development industry of the late 20<sup>th</sup> century. John played a key role in the development of such legendary franchises as Doom, Wolfenstein and Quake. His cutting edge 3D engines, as well as his pioneering work on multiplayer games paved the way for modern AAA titles, defining the video game industry of today. In addition to that he remains an ardent proponent of open source software, with the original Doom becoming one of the most popular and commonly modded games of its time.

Carmack made his first popular game (Commander Keen) in collaboration with a few of colleagues in *Softdisk*, before setting up his own company *id software* together with John Romero. Romero would later describe their early collaboration there as 'Turbo Mode', as their team of 10 developers in less than 6 years created 28 games. Many of them became and are now considered cult classics, especially in the First Person Shooter genre, which *id software* under Carmack and Romero dominated in the 1990s.

In that time Carmack developed and popularised various algorithms like *Adaptive tile refresh* or *Binary space partitioning*. They were instrumental in making the already brilliantly designed games like Doom immersive, stunning their contemporaries with their realistic graphics. *Id software's* success could be attributed to the combination of a revolutionary approach to level design of *id software* creative team and their visually stunning implementation for which Carmack was responsible. Later biographies would describe him as the only person in the company who was not expendable due to his polymath expertise in game development. While his interpersonal skills were somewhat lacking – he was described as an introverted, closed off, sometimes even difficult to work with person, Carmack was an excellent programmer. Many of his projects were licensed to other game development firms, appearing in other genre-defining titles like *Half Life*.

Another interesting contribution was his involvement in the development of Quake. While the idea of the multiplayer mode was not his, as the lead programmer he oversaw and did much of the development on it. Thus many of his ideas found their way into the finished game and, through the profound impact of Quake on the video game industry as a whole, into the games that are commonly played today. One such example is the frag limit on the duration of the game. Two of Carmack's coworkers shared the same office with him and were avid 'pre-alpha testers' of early Quake, apparently spending much of the day playing it and making loud noises. Annoyed at that Carmack sneaked a hard coded frag limit in the next version of the game, eventually leading it to becoming one of the typical customisable settings in later games.

Carmack's contributions to the open source are also hard to underestimate. He insisted the source code for all entries to such franchises as *Doom*, *Wolfenstein* and *Quake* be released under *GNU General Public License*. This allowed the games to develop and maintain a large community of players who were able to customise the games to their liking, in a way laying the foundation for the current phenomenon of video games with dedicated following and often entire sub-cultures. Additionally Carmack ensured all the engines *id software* developed would be released or re-released in the same open source manner. This allowed for those unable to afford building an engine from scratch – smaller developers, individual programmers, to create video games by themselves, contributing to the rise of indie games. Interestingly since his departure *id software* has stopped the practice of releasing their source code, with the last three remaining strictly proprietary.

To conclude Carmack was without a doubt one of the most prolific developers of the 90s and his impact on the industry is tremendous. He was the right man in the right place and time, riding the zeitgeist of video game innovations and pushing it yet further by moving the boundaries of what people expected from a video game. Carmack is currently the CTO of Oculus, for which he left *id software* in 2013. While many of the original founders of *id software* have largely faded in obscurity John Carmack remains relevant as ever, working on projects involving augmented and virtual realities in one of the dominant companies in the market. His nearly thirty year long career and the lasting impact he left on the industry are a true testament to his importance as a developer and innovator.

## References

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