

|  |
| --- |
| JOHN CARMACK |
|  |
| SOFTWARE ENGINEERING CSU3301  Stephen Rowe - 14319662 |

One of the most high-profile and highly respected figures in game development and computer engineering today, John Carmack was born in 1970, and got his first taste of computing in his hometown of Shawnee, Kansas, where he took a course on the TRS-80 computer and quickly moved on to an obsession with the Apple II. A gifted student, Carmack excelled in school and was put in a gifted program, but struggled under the weight of his parents’ expectations, with his mother assuming his interest in computing would become a rigorous academic pursuit with the goal of landing a job in IBM. This contrasted with Carmack’s love for video games, as he spent his time reading source code for games like Ultima in order to create his own cheats and in online discussions through BBS. (Kushner, 2003) Carmack was entranced by the book *Hackers: Heroes of the Computer Revolution* and was a heavily contributing factor to his rebellious streak, adapting its hacker ethics and principles, and dreaming one day to be a held in the same esteem as the Steve Wozniaks and the Ken Russells he had read about. Carmack experimented with explosives in his backyard with his high-school friends, accumulating in a school heist where he and his friends applied thermite and Vaseline to a window of their school’s computer lab after sneaking on the grounds late one night, with the goal of stealing Apple IIs. This plan was foiled when one of them set off a silent alarm. For this, Carmack spend a year in a juvenile detention center, with a psychiatrist giving the assessment that “[the] Boy behaves like a walking brain with legs... no empathy for other human beings.”(Kushner, 2003)

After finishing high-school with a 4.0 GPA, Carmack spent just two semesters at the University of Missouri-Kansas City attending classes in Computing, but Carmack chose not to take the conventional path:

It was frustrating because I clearly knew what I wanted to be doing but it wasn’t available to me at the time. It was always: if you want to do computers you need to go to MIT then you go work at a corporation as an engineer and follow “the path”. But I dropped out of college and started my own company. (Althoff, n.d.)

Carmack became a freelance game developer, and sold his games to SoftDisk, a small company in Shreveport, Louisiana. The company quickly invited him for an interview after he submitted a trilogy of games called *Dark Designs* for Apple II which he also ported to PC within two weeks (Carmack, 2014). Carmack decided to take the job after he met John Romero, who Carmack felt an immediate connection with through their shared “nerdy” hobbies and Romero’s programming talent. He also met developers Tom Hall and Adrian Carmack, who would also later play a pivotal role in id Software. At SoftDisk, the group developed games for *Gamer’s Edge*, a monthly disk publication that was led by Romero. While still being employed by SoftDisk, the group would develop Commander Keen for Apogee Software, which was most notable for Carmack’s adaptive tile refresh technique. This allowed for the tracking of moved graphical elements and screen scrolling, and the innovation was forced by the limited graphical performance for games in IBM-compatible general-purpose computers at the time compared to gaming consoles. (Spectrum, 2002). Other games that the group develop

BACKBONE SECTION

an American [computer programmer](https://en.wikipedia.org/wiki/Computer_programmer), [video game developer](https://en.wikipedia.org/wiki/Video_game_developer) and [engineer](https://en.wikipedia.org/wiki/Engineer).

Carmack was born in [Shawnee Mission, Kansas](https://en.wikipedia.org/wiki/Shawnee_Mission,_Kansas),[[1]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-wired.com-1)

He cited [Shigeru Miyamoto](https://en.wikipedia.org/wiki/Shigeru_Miyamoto) as the game developer he most admired.[[4]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-4)

[Softdisk](https://en.wikipedia.org/wiki/Softdisk), a computer company in [Shreveport, Louisiana](https://en.wikipedia.org/wiki/Shreveport,_Louisiana), hired Carmack to work on [*Softdisk G-S*](https://en.wikipedia.org/wiki/Softdisk_(disk_magazine)) (an [Apple IIGS](https://en.wikipedia.org/wiki/Apple_IIGS) publication), introducing him to [John Romero](https://en.wikipedia.org/wiki/John_Romero)

bi-monthly game subscription product called *Gamer's Edge* for the IBM PC (DOS) platform.

In 1990, while still at Softdisk, Carmack, Romero, and others created the first of the [*Commander Keen*](https://en.wikipedia.org/wiki/Commander_Keen) games, a series that was published by [Apogee Software](https://en.wikipedia.org/wiki/3D_Realms), under the [shareware](https://en.wikipedia.org/wiki/Shareware) distribution model, from 1991 onwards. Afterwards, Carmack left Softdisk to co-found [id Software](https://en.wikipedia.org/wiki/Id_Software).

Carmack has pioneered or popularized the use of many techniques in computer graphics, including "[adaptive tile refresh](https://en.wikipedia.org/wiki/Adaptive_tile_refresh)" for *Commander Keen*, [ray casting](https://en.wikipedia.org/wiki/Ray_casting) for *Hovertank 3-D*, *Catacomb 3-D*, and *Wolfenstein 3-D*, [binary space partitioning](https://en.wikipedia.org/wiki/Binary_space_partitioning) which *Doom* became the first game to use, [surface caching](https://en.wikipedia.org/wiki/Quake_engine#Speeding_up_the_rendering,_and_rendering_order) which he invented for *Quake*, [Carmack's Reverse](https://en.wikipedia.org/wiki/Shadow_volume) (formally known as z-fail stencil shadows) which he devised for *Doom 3*, and [MegaTexture](https://en.wikipedia.org/wiki/Id_Tech_4#MegaTexture_rendering_technology) technology, first used in [*Enemy Territory: Quake Wars*](https://en.wikipedia.org/wiki/Enemy_Territory:_Quake_Wars).[[*citation needed*](https://en.wikipedia.org/wiki/Wikipedia:Citation_needed)]

Carmack's engines have also been licensed for use in other influential first-person shooters such as [*Half-Life*](https://en.wikipedia.org/wiki/Half-Life_(video_game)), [*Call of Duty*](https://en.wikipedia.org/wiki/Call_of_Duty) and [*Medal of Honor*](https://en.wikipedia.org/wiki/Medal_of_Honor_(1999_video_game)).

On August 7, 2013, Carmack joined [Oculus VR](https://en.wikipedia.org/wiki/Oculus_Rift) as their [CTO](https://en.wikipedia.org/wiki/Chief_technology_officer).[[10]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-10) On November 22, 2013, he resigned from [id Software](https://en.wikipedia.org/wiki/Id_Software) to work full-time at Oculus VR.[[2]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-polygon-2)[[11]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-11) Carmack's reason for leaving was because id's parent company [ZeniMax Media](https://en.wikipedia.org/wiki/ZeniMax_Media) didn't want to support Oculus Rift.[[12]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-12) Carmack's role at both companies later became central to a ZeniMax [lawsuit](https://en.wikipedia.org/wiki/Lawsuit) against Oculus parent company [Facebook](https://en.wikipedia.org/wiki/Facebook), claiming that Oculus stole ZeniMax's virtual reality [intellectual property](https://en.wikipedia.org/wiki/Intellectual_property).[[13]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-13)[[14]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-14)[[15]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-15) The trial jury absolved Carmack of liability, though Oculus and other corporate officers were held liable for trademark, copyright, and contract violations.[[16]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-16)

On November 13, 2019, Carmack announced that he is stepping down from the Oculus CTO role to become a "Consulting CTO" in order to allocate more time to his work on [artificial general intelligence](https://en.wikipedia.org/wiki/Artificial_general_intelligence) (AGI).[[3]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-consultant-3)

Carmack is a well-known advocate of [open-source software](https://en.wikipedia.org/wiki/Open-source_software), and has repeatedly voiced his opposition to [software patents](https://en.wikipedia.org/wiki/Software_patent), equating them to robbery.[[23]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-23) He has also contributed to open source projects, such as starting the initial port of the [X Window System](https://en.wikipedia.org/wiki/X_Window_System) to [Mac OS X Server](https://en.wikipedia.org/wiki/Mac_OS_X_Server) and working to improve the OpenGL drivers for Linux through the [Utah GLX](https://en.wikipedia.org/wiki/Utah_GLX) project.

id Software has since publicly released the source code to *Quake*, *Quake 2*, *Quake 3* and lastly *Doom 3* (and later the *BFG Edition*), all under the [GNU General Public License](https://en.wikipedia.org/wiki/GNU_General_Public_License) (GPL). The *Doom* source code was also re-released under the GPL in 1999. The [id Tech 4](https://en.wikipedia.org/wiki/Id_Tech_4) engine, more commonly known as the "[Doom 3](https://en.wikipedia.org/wiki/Doom_3) engine", has also been released as [open-source license](https://en.wikipedia.org/wiki/Open-source_license) under the GPL.[[24]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-Doom_3_GPL_Source_Release-24)

As a game developer, Carmack differed from many of his contemporaries by avoiding commitment to a final release date for any game he was developing. Instead, when asked for a release date on a new title, Carmack would usually reply that the game would be released "when it's done."[[34]](https://en.wikipedia.org/wiki/John_Carmack#cite_note-34). In a 2019, as a guest on the Joe Rogan podcast Carmack stated that his beliefs have changed over time. "I largely recant from that now.".

<https://en.wikipedia.org/wiki/John_Carmack#Recognition>

<https://en.wikipedia.org/wiki/Masters_of_Doom>

He describes Carmack and Romero as the driving forces of id Software, but with very different personalities: Romero is presented as having unbridled creativity and considerable skill, but he loses focus when the spectacular success of the games allows him to adopt a rock star-like public persona. Carmack, on the other hand, is depicted as an introvert, whose unparalleled programming skills are the backbone of id Software, enabling the company to create extremely sophisticated games. However, he has little interest in – or even understanding of – the social niceties that enable people to enjoy working together.

Much of the book concentrates on this dynamic. While the two men initially complement each other well, eventually conflicts develop, leading Romero to be fired from the company. Carmack, the skilled creator of the complicated and fast [game engines](https://en.wikipedia.org/wiki/Game_engine) the company's products use, is repeatedly referred to as the only person in the company who isn't expendable, and this gives him a great degree of authority and influence. However, this influence transforms id Software into a considerably less pleasant and fun place to work and causes the company's games to become increasingly repetitive, despite their technological sophistication.

Sources:

<https://en.wikipedia.org/wiki/John_Carmack>

https://peoplepill.com/people/john-carmack/

<https://en.wikipedia.org/wiki/John_Carmack#Recognition>

https://selftaught.blog/300-pages-interviews-john-carmack/#more-170

# References

Althoff, C. (n.d.). *selftaught.blog*. Retrieved from https://selftaught.blog/300-pages-interviews-john-carmack/#more-170

Carmack, J. (2014, Jan 17). Retrieved from Twitter: https://twitter.com/id\_aa\_carmack/status/424280173437919232?lang=en

Kushner, D. (2003). Masters of Doom. In D. Kushner, *Masters of Doom* (p. 352).

Romero, J. (2006, May 15). Retrieved from http://legacy.3drealms.com/news/2006/05/the\_apogee\_legacy\_19.html

Spectrum. (2002, Aug 1). Retrieved from https://spectrum.ieee.org/consumer-electronics/gaming/the-video-game-software-wizardry-of-id