

The History of IBM DOS

The software that we all know and love (or hate): Windows, Apple OS, and even others like Android could all have looked slightly or even vastly different if it weren't for some sneaky deals back in 1980. The earliest forms of the personal computer and its OS have a seemingly simple origin story; IBM developed and released IBM-DOS in conjunction with Microsoft to get the first computers into households and businesses worldwide. However, every story has a lesser-known side and this one is no different. Through my research, I asked myself the question: how did IBM and Microsoft come to develop the software known as IBM-DOS (or DOS in general, as the differences between various iterations were very small in the early days)? To put it bluntly, the code that was written for IBM-DOS had some strong similarities to code prior written (CP/M) by programmers at Digital Research. Digital Research was running behind in their schedule, so Seattle Computer Products took it upon themselves to create an OS, then IBM needed one, so they approached Microsoft and together went to Seattle Computer Products to work out a deal. The sources used to piece together this story include some secondary sources based on expert historian knowledge but also includes many primary sources such as an interview with some of the biggest names in the PC industry.

The International Business Machines Corporation (IBM) was one of the most influential players in the personal computing world, contributing energy and research to creating not only hardware but also the software for these systems¹. Over the years though, IBM has done a good job of not touting around how they first created DOS and shipped it with millions of computers. IBM took quite a bit of inspiration from an earlier OS, CP/M. Both Microsoft and IBM then marketed the OS as their own (MS-DOS and IBM-DOS respectively) for years.²

In 1974, a man named Gary Kildall working at Digital Research created Control Program/Monitor (then changed to Control Program for Microcomputers) also known as CP/M. It functioned on some of the earliest microcomputers created, the Intel 8080 and 8085³. Through

¹ Jim Edlin and David Bunnell, "IBM's New Personal Computer: Taking the Measure Part One," *PC Mag*, February-March 1982, https://books.google.com/books?id=w_OhaFDePS4C&lpg=RA2-PA18&pg=PA16#v=onepage&q&f=false.

² James Wallace and Jim Erickson, *Hard Drive: Bill Gates and the Making of the Microsoft Empire* (2020; repr., New York: Wiley, 1992).

³ Phil Lemmons, "Byte Magazine Volume 06 Number 10 - The IBM Personal Computer First Impressions," *Byte Magazine*, 2010, https://archive.org/stream/byte-magazine-1981-10/1981_10_BYTE_06-10_Local_Networks#page/n27/mode/2up.

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the remainder of the 1970s, it was updated several times and was widely used for business applications. At the same time, several other microcomputer companies were also working on similar projects or were just getting started (such as Microsoft⁴; later to come on them⁵). The age of the personal computer was just beginning and while most people didn't realize it, there was a fast race taking place to advance and take a foothold in an explosive market. Seattle Computer Products (SCP) is one such company. Similarly to Digital Research, they were one of the earliest manufacturers of the Intel 8086 computer but sold the hardware as a standalone product. They didn't provide any critical software (namely an OS) to go along with it. SCP wanted to ship an operating system with the computer and were originally going to work out a deal with Digital Research for CP/M-86, likely through licensure in which Digital Research would collect royalties. Unfortunately, Digital Research was running behind on production and wasn't sure when they would release it so instead, SCP hired a young programmer named Tim Patterson in April 1980. He read through a manual of an older iteration of CP/M and molded much of his software after it with the main differences being so that it worked on the 8086. His creation was dubbed 86-DOS or QDOS (Quick and Dirty DOS).

Meanwhile, as SCP was getting their software ready for Intel 8086 computers (soon to become obsolete), IBM was trying to get into this personal computer game. They realized they didn't have enough time to create a PC in their extremely bureaucratic company. Instead, they pieced together components and software from others. Bill Gates and his Microsoft were known to have the computer language (BASIC) but they also needed an OS. So, IBM first approached Gates, who then called up Gary Kildall and told IBM to talk to him; if Digital Research and IBM partnered up, Microsoft may not exist today. However, Kildall denied their requests and NDA's, plus a nice payment of \$250,000 to buy CP/M since he wanted it in the form of royalties⁶. IBM went back to Gates and he realized that the opportunity was too big to pass up (IBM at the time was like the hero of computing). Paul Allen, a friend of Gates' since high school, knew about Tim Patterson and his work with QDOS. Microsoft went to SCP and worked out a deal with

⁴ Wallace and Erickson

⁵ History.com Editors, "Microsoft Founded," HISTORY, October 9, 2015, <https://www.history.com/this-day-in-history/microsoft-founded>.

⁶ Paul Freiburger and Michael Swaine, *Fire in the Valley: The Making of the Personal Computer* (2020; repr., New York: McGraw-Hill, 2000), 332–33, https://archive.org/details/fireinvalleymaki00frei_0/.

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them to purchase full rights to QDOS for \$50,000⁷ ⁸. Microsoft then owned the rights and licensed it out to companies starting with IBM. IBM then modified it a bit and continued to update it but under their moniker IBM-DOS. In the following years, Gary Kildall tried to bring up points and even wrote a book about the similarities that DOS had to CP/M. Bill Gates refuted this many years before Kildall even brought anything up saying that while they're similar, it was more to allow users on older systems to have forward compatibility⁹. Tim Patterson has also denied every claim that it wasn't his own work but as Claude Stern, a Silicon Valley attorney puts it, "You are contaminated, you are dirty. You've seen the product that's the original work of authorship, you've seen the target product" and even Patterson said that he consulted a CP/M manual.¹⁰

All of this could have been a completely different story. Bill Gates practically handed the future multi-billion-dollar company to Digital Research and CP/M but due to some ineptitude and reservation at not wanting to take a risk, they lost it. Even SCP could have made a deal with IBM instead of Microsoft had IBM found them through some other way. All of this happened because some small background business meetings years ago created some of the largest companies and richest people in the world while squashing other businesses hopes at success; Seattle Computer Products and Digital Research succumbed to the other companies' wake.

⁷ Sam Albert et al., *Triumph of the Nerds*, interview by Robert Cringely, *PBS*, June 1996, <http://www.pbs.org/nerds/part2.html>.

⁸ Microsoft and Seattle Computer Products, "Agreement of Sale", July 27, 1981, <http://antitrust.slated.org/www.iowaconsumercase.org/011607/0000/PX00002.pdf>

⁹ David Bunnell, "A PC Exclusive Interview with Software Guru Bill Gates," *PC Mag*, February-March 1982, https://books.google.com/books?id=w_OhaFDePS4C&lpg=RA2-PA18&pg=PA16#v=onepage&q&f=false.

¹⁰ Sam Albert et al.