

How Apple and Microsoft revolutionized our world

Twins Who Made the Future

Despite the enormous scope of their ambitions, the titanic internet companies previously profiled in this series have all been singular entities. Each has largely been driven by a sole visionary who greatly profited from a lack of effective competition. But it took a pair of competing companies headed by two visionaries each to develop the personal computer that became the basis of individual internet access.

These two enterprises, Apple and Microsoft, have had a long and often contentious relationship. They have been allies, fierce rivals, occasional saviors, and each has highly influenced the other. Fueled by similar visions but very different philosophies, they have probably done more to change our daily lives than any pair of competing manufacturers in history.

Their stories are largely parallel and highly intertwined. Apple was founded by the egomaniacal but gifted **Steve Jobs** with the laid-back **Steve Wozniak**, while Microsoft was started by **Bill Gates** and **Paul Allen**, both who seem less imaginative than Jobs but with greater practicality and better people skills.

These personal differences shaped their firms' approach to computing and everything else from the design of the products to how they related to users and developers. These still govern the platforms and their attraction for different kinds of users.

In the beginning was Albuquerque

The idea of a **personal computer** – a small, cheap multipurpose machine that could be owned and used by anyone – was a long time coming. Before the 1980s, computers were huge **mainframes** housed in large, air-conditioned complexes. Communication was done via keyboards and monochrome monitors through complicated computer languages.

Most programs were punched into huge stacks of cards, while data storage required big reels of magnetic tape plus arrays of magnets on crossed wires. Many mainframes were devoted to science or military problems, like atomic bomb or missile designs. Users formed a small community of scientific nerds.

But things were changing as computers got smaller and more versatile. A turning point appeared on the cover of the January 1975 issue of *Popular Mechanics*, featuring one of the very first of these small devices. It was the **Altair 8800**. The interface was a row of switches for input and one of lights for output. It utilized a simple language aptly called **BASIC**.

The Altair came unassembled as a kit for under \$400, made by company called **MITS** right here in Albuquerque, founded by a couple of ex-military computer geeks from Kirtland. One such kit was built by the late Stan Webb, a close friend of several of us here at SWCP and the father of our present bookkeeper. It's now housed in the **Computer History Museum**.

Lacking a screen, mouse, and even a keyboard, the device was unimpressive, yet it was the beginning of a revolution. Out on the West Coast, the Steves, members of the **Homebrew Computer Club**, saw the article and were inspired to invent their own PC.

Meanwhile, Harvard student **Bill Gates**, who with his friend Paul Allen had been into computers since high school, also saw the article. Gates proposed writing BASIC interpreter software for the Altair to MITS, despite lacking a computer or a real product.

The gambit worked, leading to a long history of dubious tech product announcements. Yet Gates and Allen founded **their company** "Micro-Soft" **here in Albuquerque** on April 4, 1975. Supposedly unable to secure a loan, the company moved to Washington state in 1979, and so the Duke City **lost out again**.

From friends to enemies and back again

Back in California, Jobs and Wozniak started **Apple, Inc.**, so named by **frutarian** Jobs as it was non-threatening. He also bought BASIC software from Gates, and soon Microsoft became Apple's biggest contributor. Apple was the first place that **Microsoft Word** appeared. But even as that was being developed, Microsoft was slowly mutating into a rival company, as it was also selling software to IBM for its PCs.

The key developments in personal computing came from somewhere else entirely with the **GUI** (Graphical User Interface) which replaced the old black screens with green type and the complete reliance

Continued on back

on typed commands for everything with a real display screen and a **mouse**. These, the first computer to use them, along with jagged bitmap graphics (remember them?), Ethernet connections, laser printers, and more were invented at **Xerox PARC**, a West Coast research division of the copier company.

Xerox failed to capitalize on these innovations, but a group of Apple engineers led by Jobs, who visited twice in 1979, seized on them. He soon saw the potential and “**stole**” the GUI for the **Apple Lisa**, the first Macintosh, and Gates followed. This led to a **lawsuit** by Apple against Microsoft over the GUI.

Microsoft had meanwhile developed **DOS** (Disk Operating System), a command line interface to run IBM's hard drives, and adopted it as **MS-DOS**, for machines licensed by Microsoft. Its version of GUI, called **Windows**, initially ran under MS-DOS until it evolved into a full-fledged operating system.

The PC revolution was declared by Apple through the **most famous ad** in television history. Financed by Jobs after the Apple board refused, it was against IBM, and broadcast only once nationwide during the single biggest TV event of the year, the Superbowl.

“**1984**” showed a young athletic woman wearing a t-shirt with an Apple logo bravely hurling a hammer through a screen straight out of **Orwell's dark vision**. It announced that Apple would soon introduce Macintosh, “and you'll see why 1984 won't be like ‘1984.’” Few recall Superbowl 38 but that ad was shown repeatedly on news shows, instantly becoming iconic – a decade before the web even began.

Years before the web, Apple debuted **Hypercard**, stacks of user-made navigable pages with text and graphics, and most importantly, **hyperlinks**. Yet, as the program could not connect to other pages on remote machines, it never reached its full potential.

While Apple has always portrayed itself as a hip underdog for everyman (as another famous **series of ads** showed), it has always had an **elitist streak**. Their sleekly-designed, expensive machines are made to foil any attempts to physically open them and its operating system is even more locked down.

Macs, as the first to develop vector graphics, basically own **desktop publishing**. They became – and still are – the platform of choice for designers and artists in all disciplines, while unglamorous Windows serves as the dependable workhorse of business.

Apple decided it was a hardware company. So it sold an entire computing package, and wasn't as avid for user data as other tech companies. Microsoft, however, **licensed software** to developers from the start. Like other companies, it also bought up other products, cannibalizing them to integrate into its

platform. While this may have helped make Windows devices notoriously **less secure** than Apple's, it opened the device to many more developers with a huge diversity of new applications available.

These cultural differences really played out in feuds during the 1990s, largely between users. Steve Jobs, **never** an easy man to work for, was **fired** from Apple in 1985. He then began another computer company, **NeXT**, but while the workstation was too pricey for industry, the World Wide Web was invented on one. Apple owns that **browser** as NeXT was eventually bought by Apple to become the basis of Mac OS X.

In 1996, Steve Jobs funded a computer animation studio called **Pixar**, now one of Disney's crown jewels. However, his genius was not done yet. Jobs returned to lead Apple to its greatest triumphs with the **iPod** music player, the **iPad** tablet, and especially the world-changing **iPhone** in 2007, despite cancer.

Once back in charge, Jobs dropped the lawsuit against Microsoft. **Peace was declared** in 1997 as Bill Gates' financial support saved the company, much to the vocal dismay of true believers on either side. Yet this was not done out of charity: saving Apple saved Microsoft from itself being sued as a monopoly.

Apple and Microsoft are **still competing** to be the most valuable company. Yet Jobs and Gates **seemed friendly** until the former's death from pancreatic cancer. Gates has since personally devoted his vast wealth to **philanthropy**. Successors at both companies seem mainly concerned with their legacies. Distinctions between platforms look minor – even screen layouts are similar. Perhaps the main differences that remain are in expense and preferences.

WordPress Upgrade Info Screen

Have you noticed that whenever you update WordPress to a new version there is a nice introduction to what's new in this version, often with pointers to tutorials and/or a video? Then the next time you go to your dashboard it's vanished. No need to panic.

You can easily get back to this useful info at:

<your-wordpress-install>/wp-admin/about.php



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