

Insanely Great

Along with about 200 other NeXT, Inc., alumni, I traveled to Redwood City, California, in late October to celebrate Steve Jobs' life. NeXT was the company Steve founded after his exile from Apple in 1985. Although most histories mention his time at NeXT, it was far more important than many people realize. While the company struggled to reinvent computing from the ground up, its contributions to the industry were unparalleled at the time.

The product ideas first commercialized at NeXT ultimately led to iTunes, HTML, seamless networking, single-board computers, integrated sound, multi-media mail and the use of objects in the development of software, just to name a few. NeXT also proved that UNIX based systems, which until that time were reserved for a technical audience, were also viable for consumers.

Remembering Steve Jobs and the NeXT big thing.

NeXT also provided Steve with a chance to mature and better understand the importance of building a great management team. Many of the key employees at NeXT returned to Apple with him and were instrumental in the development of Mac OS X and the outstanding hardware products in use today.

That NeXT was not a commercial success was no great surprise, for the company had the misfortune of building the world's finest workstation while the market was pursuing the cheapest computer. Even though many employees and investors saw financial gains when it was sold to Apple in 1995, NeXT's legacy to this day is underappreciated.

I joined NeXT in 1991, during its second wave, after the company had launched the NeXT cube and

was preparing the launch of the NeXT workstation. The company had about 400 employees at the time and while I wasn't part of Steve's inner circle, I remember well some of what he and the senior team did that made great things happen.

Small is beautiful. Steve believed that NeXT had to be small to be successful. In his view, more people meant more opinions, and more opinions meant longer decision timeframes. In the early days, Steve personally interviewed every candidate, and this "come to Steve" meeting was the last hurdle to join the company. Many were called and even fewer were chosen. The result is that we all had larger workloads, but interestingly enough, the quality of work was also better.

Hire only the best. Only the top engineers were hired at NeXT, and the hiring process was made more difficult by the challenge of finding the best talent and getting them through the hiring process, which at time resembled a fraternity pledge process. Even sales and marketing personnel were required to be interviewed by representatives from the engineering teams, which led to some interesting exchanges (*e.g.*, "so... you're a *sales guy*").

During the Redwood City remembrance, Rich Page, one of the founders at NeXT, re-told a story about Steve interviewing an engineer from HP, then a major source of engineers in the Valley. Steve, per his usual candor, asked the candidate if he was the "best engineer at HP." The candidate thought a moment and replied that, no, he wouldn't describe himself as the best engineer there. Steve proceeded to take out pen and paper and said, "Then tell me who they are."

Set the bar high and make your vision clear. If there was one thing that could be said about Steve's leadership at NeXT it was this: He set a vision in place that was so detailed that any changes—from the color of the company van to the boxes used to ship products—was reviewed and re-done many times over until he was satisfied.

Manufacturing equipment was returned if the paint didn't match Steve's specifications, and the factory had to be laid out so that visitors would have an easier time watching the machines being built. His standard of aesthetic perfection drove every aspect of the company, and he made sure that he had a hand in all of it. To this day, few companies have the focus that we had at NeXT.

Make better what is good; make great what sucks. When he started NeXT, Steve's mission was to build a workstation-powered machine that would re-set the status quo. At that time, the computing power needed for academic research was found only in very expensive CAD systems. Manufacturing affordable workstations still posed substantial challenges to designers and engineers. Decisions involving chip selection, power supplies, displays, RAM and graphics chips were limited due to the nascent state of the industry. On the software side, there were only a handful of operating systems to choose from.

Steve's vision for a workstation-class computer with a user interface design for the consumer was a major breakthrough. Typically, potential employees were given a demo of the machine, which was kept under wraps until Steve appeared personally to sell both the product and the organization. In one meeting, one of the engineers challenged Steve on the use of Adobe's Postscript standard as the display engine. "Steve," the engineer said, "everybody knows that Postscript sucks!" Without missing a beat, Steve replied, "that's why we are hiring you to fix it!"

The technical team pulled off nothing short of miracles in creating the NeXT cube and follow-on workstations. Not only did Steve insist on designing state-of-the art hardware, but NeXT engineers also had to build a factory to assemble the machines.

Innovation in design. On the hardware side, NeXT brought to market and proved the viability of high-resolution displays, multi-processing and multi-threading processors, the use of digital signal processing for sound, Ethernet, SCSI and serial peripheral ports. Even more impressive was their incorporation into a single motherboard.

NeXT's crown jewel was its operating system and development environment. The original operating system featured a UNIX derivative with a simple user interface featuring a dock for parking commonly used applications, Postscript display, and multi-media mail. The web's creator, Tim Berners-Lee, was so enthralled

with making use of a NeXT machine that he developed a research proposal to justify its purchase. His project involved the development of a hypertext system for sharing and viewing documents, referred to now as the World Wide Web.

On a personal note. When I started at NeXT, I was given a letter, signed by Steve, that contained this last sentence, just above the acceptance line: "I accept this insanely great offer!" For everyone at NeXT, it was insane and great. Although I was not one of the insiders, Steve meant a lot to me. The senior team at NeXT was without a doubt a collection of the most talented and honorable people I have ever worked with.

Steve was so very big in life, and he always cast a long shadow in dark times at the company. While I never felt his wrath personally, I knew what the expectations were. We all did. What came of our labor was the most beautiful machine and software ever built in the late '80s and early '90s.

Steve was so very deep in his dedication to making things great. He was acutely aware of the things that make people happy in life: art, music, and literature. How do you not like a boss who loved Bob Dylan, Yo-Yo Ma *and* the B52's? Or one who shipped the works of Shakespeare on every machine? Much of his contempt was saved for people and companies that made really bad products, and they, in turn, disparaged Steve and NeXT at every opportunity.

A lot of time has been spent trying to place Steve on some "historic genius" scale. As much as he might have liked the comparisons, the conversation misses the point. Steve saw the industry and the world in crystal-clear terms. He appreciated and sought out beauty in design and found ways to make us love the simplicity of sophisticated products. He was far, far ahead of his time, able to see things we couldn't, sometimes wrong but never in doubt.

What a life. What a leader. He knew what he was doing, and in the end, he did the right things. For me, that's more than enough. I will miss him. ■



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