Evolutions

BY MICHAEL NORTON

Obscure Genius

Last month, I introduced you to one of the most influential and oddly anonymous figures in the evolution of the personal computer, Douglas Engelbart. While this generation has elevated Steve Jobs, Bill Gates, Scott Case and Marc Andreesen to icon status, the inventor of the mouse, graphical user interfaces (GIUs) and hyperlinks lives in virtual obscurity. Only recently have his contributions begun to be recognized — last year he won the equivalent of the Nobel Prize for computer scientists, the Turing Award. And he never really cashed in on his inventions — he was paid a $10,000 bonus for the mouse.

The prevailing myth is that the mouse was invented at XEROX's Palo Alto Research Center. The fact behind this fiction is Steve Jobs' legendary PARC tour in 1979, where he discovered Engelbart's invention. The mouse, GUI, and a number of other ideas did not originate at PARC, but at SRI (Stanford Research Institute), where Engelbart worked. These ideas migrated with researchers from SRI who left SRI for PARC in the early '70s.

Jobs wanted to move beyond the consumer and hobbyist early Apple lineup, the Apple I, IIe, IIc, and III, and was ready to make revolutionary changes to interest corporations in the fledgling PC. Although the Apple Lisa is universally regarded as a commercial failure, in no small part due to its $9,000 price tag, the Lisa foreshadowed the Macintosh, and ultimately Windows, since Jobs was determined to include two of Engelbart's inventions — the mouse and GUI — in its design.

It is a delightful irony that one of the seemingly eternally irresolvable problems that has plagued mankind throughout history — how any man with such remarkable achievements can pass into obscurity — has been at least partially solved by one of his own inventions.

MISSING THE FUNDAMENTAL TECHNOLOGY

Almost a decade and a half after Engelbart introduced the mouse to the world at the renowned 1968 Joint Computer Conference in San Francisco, Jobs met with Engelbart to tout Apple's successor to the Lisa, the Macintosh. Engelbart was not impressed, telling Jobs "It is terribly limited. It has no access to anyone else's documents, to email, to common repositories of information." In a statement eerily reminiscent of the infamous Gates' quote "640k ought to be enough for anybody," Jobs responded that "All the computing power you need will be on your desk top." Engelbart felt both Apple and Microsoft were missing the fundamental technology of his computer revolution: networking.

In late 1967, the Advanced Research Projects Agency contracted SRI to develop specifications for connecting host computers via phone lines, and ultimately SRI was one of the first hosts of the ARPANET, forerunner to the Internet. Although Engelbart was not directly involved in the project at SRI, he was certainly aware of it and the highlight of the 1968 Joint Computer Conference demo was the world premiere of video conferencing. One of Engelbart's colleagues, 30 miles away, appeared on the computer screen surrounded by text, which they both proceeded to work on conjointly, alternatively controlling the computer and cursor in what was the first demonstration of groupware.

Engelbart was possessed with the notion that computers could be used to augment society's collective intelligence through collaboration, which led him to name his system Augment. The Augment system dramatically improved the usability of the early ARPANET. While the Joint Computer Conference demonstration opened up the government coffers to fund Engelbart's research, by 1977 the well had run dry and SRI sold the system to a phone networking company, Tymshare. Just one block from Apple Computer headquarters, Engelbart, the last remaining member of the research team, was provided a small cubicle and no money for research.

The next few years were not kind to Engelbart as he watched the PC revolution he helped to generate ignore him. Many times he considered giving up, but continued his work with the passion of a prophet. For Engelbart, "every year sooner" the world learns to collaborate to solve problems increases the chances the world can overcome the complex problems that threaten our whole society.

By 1984, when McDonnell Douglas acquired Tymshare, the inventor of much of our modern computing world was viewed "as a strange coding advisor." He attempted to sell the new management on an internal computer network — essentially what we know today as an intranet — to streamline engineering design work and improve customer support. Although his ideas were greeted with some enthusiasm, upper management canceled the project. Shortly thereafter Engelbart was diagnosed with lymphoma.

Engelbart's battle with cancer proved to be something of a blessing. He retired from McDonnell Douglas and founded the Bootstrap Institute with the mission "to help organizations transform into high-performance organizations...bootstrapping organizations into the 21st century." Working out of offices donated by Logitech International, which profited greatly from Engelbart's mouse, Engelbart and his daughter Christina are building the Bootstrap Alliance of corporations, organizations, government institutions, universities and other entities with the common goal of forging computers into instruments to aid mankind in solving the world's complex problems. Although the Bootstrap Institute is incorporated, it is run like a non-profit organization, which is characteristic of Engelbart eschewing financial rewards for his work. "How much money can you give to a guy who's just doing his job?" he responds to queries about how he felt about others becoming fabulously wealthy from his inventions. One of those luminaries, Marc Andreessen, the re-inventor of the browser (remember, Engelbart's Augment system included a hypertext browser), notes that "The biggest difference in innovators like Doug is that the human impact was foremost in their minds, a social idealism that isn't there today."

A DELIGHTFUL IRONY

History will be kind to Doug Engelbart. I discovered his work while browsing the web, a grandchild of Engelbart's ideas. Most of the research for this and the previous column was possible because I could access the works of others who've recognized Engelbart's contributions. It is a delightful irony that one of the seemingly eternally irresolvable problems that has plagued mankind throughout history — how any man with such remarkable achievements can pass into obscurity — has been at least partially solved by one of his own inventions.

Michael Norton is the network administrator at SofTouch Systems, Oklahoma City, Okla., which provides both mainframe and PC software solutions. He has written mainframe manuals in addition to articles for a number of publications. Michael can be contacted at norton@softouch.com.