An Inspired Computer Genius I Never Knew: What Can We Learn From His Life?

By Dr. Richard Kelley

I became a bit nostalgic this week as I read of the recent death of Doug Engelbart. I did not have a chance to meet him, but for a few years, I lived not far from him. More importantly, he was involved in the development of products that have had – and continue having – a tremendous impact on our lives decades after he developed them.

To put Engelbart’s story into perspective, let me first give a bit of my own history.

I was only seven years old when I watched the December 7, 1941, bombing of Pearl Harbor from a fourth floor patio in Waikīkī and felt the concussion when an explosion tore up the intersection of Kuhio Avenue and Lewers Street, just two blocks away.

During the years of World War II, Hawai‘i was jammed with U.S. servicemen and -women preparing to go to the battlefields of the western Pacific. When World War II ended in 1945, Hawai‘i’s economy wound down. By the time I left Hawai‘i to enter Stanford University in 1951, Waikīkī was enjoying a few visitors, some of whom stayed at Roy and Estelle Kelley’s new five-story walk-up hotel, The Islander, but the neighbor islands were losing population to O‘ahu, and it would be years before tourists “discovered” them.

At Stanford, I found myself going to school with a large number of World War II veterans attending college thanks to the financial help of a federal program commonly known as the G.I. Bill. I was 17 years old, and in any class I might be seated between a guy who had landed on the beaches of Iwo Jima and another who fought in the Battle of the Bulge.

One year, I lived in a barracks-style building on an old military base a few miles from the campus that also was headquarters for the fledgling Stanford Research Institute. The bright people who worked at SRI tried to convert scientific research into products and processes that might make people’s lives better in areas such as the biomedical sciences, chemistry, materials, earth and space systems, economic development, education, energy, the environment, security and national defense.

At the same time I was at Stanford, across San Francisco Bay, a former U.S. Navy radar technician named Douglas Engelbart from Portland, Oregon, who had served in the Philippines, was getting his master’s and doctoral degrees in electrical engineering at the University of California, Berkeley, probably taking advantage of the G.I. Bill’s benefits.

Shortly after graduation, Engelbart came to SRI. During his time there and later, when he worked at the nearby Xerox Palo Alto Research Center (PARC), he inspired the development of many of the functions of a computer that we take for granted today.

It was a time when the early computers, such as the UNIVAC, were monsters, composed of thousands of vacuum tubes and miles of wiring, occupying large rooms, and needing to be fed stacks of punch cards with encoded information and data as their input. Yet, according to Time magazine, “Engelbart saw computers as a way for ordinary human beings to augment their intellect. Then he set about building the necessary tools to make that not just possible but easy.”
Engelbart is generally given credit as the inventor of the computer control apparatus now known as a “mouse.” But he also spearheaded groundbreaking work on many other functions we take for granted today such as computer “windows,” hypertext, hyperlinks, graphical user interfaces (GUI), video conferencing and networking.

On December 9, 1968, one year after the Outrigger Waikiki Hotel opened (with the assistance of a primitive NCR hotel cash register/accounting machine), Engelbart demonstrated some of his new computer concepts to an amazed audience in San Francisco. They watched as he sat at a console on stage and used the mouse to alter text on screen. According to The Economist, “A grocery list came up; he added and deleted items, and rearranged it. In another text, he created hyperlinks, jumping to other documents. Most astonishing of all, Bill Paxton at Menlo Park, 30 miles away, appeared beside him on the screen and they moved the text around together.”

Today, 45 years later, we are all doing this and far more on computer mainframes, desktop computers, tablets and smartphones 24 hours a day. Yet, this may be the first time most of us know whom to thank for an important part of the technology involved.

Engelbart never focused on making a lot of money from his work. SRI held a patent on the mouse, and Engelbart received no royalties for its invention. According to writer Andrew Maisel, the mouse patent was licensed to Apple for “something like $40,000.” The Doug Engelbart Institute in Menlo Park, Calif. (www.dougengelbart.org), is carrying on his history and research, with his daughter, Christina Engelbart, serving as its executive director.

Stanford University notes that Engelbart was honored with many prestigious awards over his career, including the Lemelson-MIT Prize, the most lucrative award for American inventors. He also received the National Medal of Technology from former President Bill Clinton “for creating the foundations of personal computing.”

Engelbart’s death in Atherton, Calif., on July 2 at age 88 was related to kidney failure and a long battle with Alzheimer’s disease.

I am saddened by Doug Engelbart’s death, much as I was by the loss of Apple Computer founder and driving force Steve Jobs on October 5, 2011.

At times like this, I wonder if people like Doug Engelbart and Steve Jobs are dying off faster than they are being replaced by following generations. Are there similar leaders, inventors and entrepreneurs out there? What is our nation doing to provide the very, very best educational opportunities for young men and women, particularly in the areas of science, technology, engineering and mathematics (STEM)?

Sadly, the answer to the second question is, “Nowhere near enough!” The Eli and Edythe Broad Foundation (http://broadeducation.org) and many other sources report the state of education in the United States is declining, disappointing and embarrassing. Our country now ranks 17th in a group of 50 industrialized nations, behind Finland, Korea, Hong Kong, Japan, Singapore, UK, the Netherlands, New Zealand, Switzerland, Canada, Ireland, Denmark, Australia, Poland, Germany and Belgium, as reported this week by International Business Times (http://tinyurl.com/apvarwe).

It’s worth thinking about that and asking yourself what you can do to help reverse this situation and pave the way for new men and women with the skills, dedication and work ethic of Doug Engelbart, Steve Jobs and the many others who have brought us to where we are today. At the very least, I believe, we should all take an interest in the quality of education being offered by the public schools in our communities, and we should speak up and speak out if we find it disappointing, as it has long been here in Hawai‘i. 🇯🇵