Motivation is more important than knowledge

Tom Coughlin
President, Coughlin Associates, Inc.
IEEE Senior Member and 2017 Candidate for IEEE USA President

On Sunday March 19 at the Computer History Museum in Mountain View the IEEE Engineering Milestone for "The Mother of All Demos" was unveiled. This event, attended by many folks who worked at SRI or at companies that used or were inspired by the work of Douglas Engelbart at his Augmentation Research Lab at SRI International in Palo Alto. Douglas and his laboratory created the technologies that was demonstrated in San Francisco on December 9, 1968 at the ACM/IEEE Computer Society Joint Fall Computer Conference.

The technologies shown in this 90-minute demonstration included the computer mouse, bit-mapped displays, hypertext, video conferencing, word processing, dynamic file linking, revision control and a collaborative real-time editor. This demonstration helped launch the vision of what personal computers could do when they became reality in the early 1970's.

According to John Markoff, author of What the Doormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry, Doug Engelbart had a driving dream to augment humans with technology that began during his overseas assignment at the end of the second world war. He was inspired by Vannevar

Bush's article on the concept of the Memex (a technological enhanced associative encyclopedia), from Bush's essay, "As We May Think." Engelbart's work at the Augmentation Research Laboratory at SRI and afterwards at the Bootstrap Instute was driven by a life-long dream to use technology to enhance the power, insights and efficiency of humans. For Engelbart, his motivation to make life better led him create technologies that are commonplace today but were visionary when he first demonstrated them in 1968.

At the IEEE TechIgnite Conference put on by the IEEE Computer Society Apple Computer co-founder Steve Wozniak had a keynote (Fireside Chat) on the history and future of computing and his experiences at the early Apple Computer company, among other topics. During his talk he made a comment that "Motivation is more important than knowledge."

Indeed, Wozniak's own history was a drive to learn about things that interested him but that he didn't yet understand. This is what let him to design on paper mini-computers even though he didn't have the actual hardware to build such devices. This is also what let him to always seek the minimum technology that could accomplish a task, whether that was driving bit mapped color displays directly out of memory on the Apple II computer board or building a floppy drive for the Apple II without an expensive floppy controller.

Douglas Engelbart and Steve Wozniak had the motivation that drove them to learn and excel in their endeavors. This is something that we should keep in mind in our own careers. It is not enough to simply know about something. You must also have a driving need (a fire in your belly) to make something that is new and that will make a difference.

As IEEE members we need to embrace the rebels, the innovators with wild ideas, the smart alecs and pranksters. These are the future heros and we want to have them be part of who we are. If you are such a visionary we need you in our number. If you are connected with young minds, cultivate the natural inclination of these people to change the world and make it a better place. We must represent and promote the joy and fun of changing the world and making the future.

If you are truly motivated, you will get the knowledge that you need to create your dreams!