

## Dr. Douglas C. Engelbart: Masterminding the Mouse

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In the early 1960s, the field of human-computer interaction (HCI) was as small as ... a mouse. In the times when computers were not ubiquitous among consumers and consisted of basic display and keyboard, Dr. Douglas Engelbart at the Stanford Research Institute tipped a single domino which would begin a chain of cascading innovations in how humans interact with computers.

While with hindsight the invention of the computer mouse may seem obvious, it ignited the idea that the keyboard and four arrow keys were not enough alone. The first version of the mouse, consisting of a wooden shell and two wheels, received a patent in 1986. It was described as an "X-Y position indicator for a display system."<sup>1</sup> In addition to being one of the founding fathers associated with HCI theory, this invention also continued to knock down "professional dominos" in Engelbart's career. After the invention of the mouse, he continued to spur innovation in his efforts towards using computers as a way of harnessing the "collective IQ" of the world. He was known for his uncanny insight into the future and raw idealism. In his later career, he joined forces with his daughter Christina Engelbart to found the Bootstrap Alliance, which aims to develop organizations which assist the society at large.<sup>2</sup>

The mouse opened the entire screen as real estate to interact with. Along with the concept of having application "windows" and a desktop with icons, the mouse began a trend in making computers more accessible for both the technical and non-technical community. As the mouse evolved and became standard among computer users everywhere, the industry began to further transform to include other forms of interaction such as the pointing stick seen on ThinkPad laptops, the stylus pen used with PDAs, and now multi-touch capacitive touchscreens on the Microsoft Surface and iPhone. As the industry continues to expand the definition of computers to include devices such as cell phones, media players, and electronic reading devices, the HCI field is now explosive with possibilities for innovation. Interaction now also has a broader definition and implementation; no-longer ruled by hand-held devices, "interaction" now also includes scenarios in natural language processing and human gesture analysis. Video game makers are also rapidly designing by going increasingly "hardwareless" in systems like Nintendo's Wii Fit and Microsoft's Project Natal.

It is an exciting time to design the new methods consumers will use to interact with the many computers of the world; much of the modern world has now been exposed to a traditional desktop computer and people are poised for paradigm shifts in HCI. Nevertheless, while large HCI dominos tip across the industry, we cannot forget one of the fathers who began the process over half a century ago by tipping one of the first. Dr. Douglas Engelbart began this movement with the invention of the mouse, opening opportunities for students like me to continue tipping dominos around the world.

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<sup>1</sup> "X-Y Position Controller." *Google Patents*. Web. 05 Apr. 2010.  
<http://www.google.com/patents/about?id=njsrAAAAEBAJ&dq=3541541>>.

<sup>2</sup> "A Lifetime Pursuit." *Doug Engelbart Institute*. Web. 05 Apr. 2010.  
<<http://www.dougenelbart.org/history/engelbart.html>>.