# FROM PEST TO PLASTIC

By Jorri Heil

# The Design History of the Computer Mouse

The thought of having a mouse in your house was something to cringe about. That is until the popularization of the computer mouse.

The rodent began its transformation from pest to plastic in the 1960's. In 1963, Dr. Douglas Engelbart and his Stanford Research Institute colleagues invented the first computer mouse. The group of young computer scientists and electrical engineers unveiled their invention in 1968.

### The First Mouse

Engelbart's initial design was a square, wooden box with one button. The wire came out of the rear side (the opposite side it comes out of today), giving it its mouse-like appearance and name. There were two wheels on the bottom so it could move forward, back, left, and right.

After undergoing its first design transformation, the mouse had three buttons on a plastic box. The body was improved by rounding off the back to make it fit the shape of a hand better, and the wire was moved to its present-day location. The buttons on this design were located at the top where the buttons appear today; however, they stuck up off of the body of the mouse.

A downfall of this three-button model was that it could only work in clean lab environments. Dust and dirt from use elsewhere quickly clogged the precise parts and ball edge to disassemble and fix the mouse. To commercialize the mouse, however, a more durable, affordable model was needed.

Initial attempts to commercialize the mouse were futile. A mouse could cost \$400 with another \$300 needed for

hardware to connect it to the computer, and the user had to be intelligent enough to install the mouse. Users could not just plug and play.

Finally in the 1980's, the mouse was popularized by Apple computers when a simple, inexpensive version was used as the primary input device on the Macintosh. Since becoming consumer



Engelbart's second design of the computer mouse.

friendly, the mouse has undergone more change.

#### Mice of Today

Originally designed for functionality, the mouse has become aesthetically pleasing. Mice now come in many colors and variations depending on what they are used for. The most

bearings. Since mice were initially used by computer scientists and researchers, the three-button model was suitable because they had the knowl-





common mouse has two buttons that are flush with the body and a scroll wheel, and it is ergonomically proportioned so it fits into users hands is a measure of its success. It's the product of a process whose final act was to erase all traces of itself, leaving behind something that was easy to

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comfortably. The buttons are even positioned where people's fingers naturally rest so little movement is needed to elicit a command.

Stanford researcher Alex Soojung-Kim Pang said, "the mouse is one of those technologies whose invisibility learn how to use, and seemed perfectly natural in the arrangement of its parts and operation."

#### **Design Changes**

One development to the mouse has

been with movement tracking. Instead of the standard ball at the bottom, optical mice, or those that use a laser, have become common. This new technology has changed the design because optical mice can be wireless.

Changes in appearance have also been triggered by new uses. Mice may have five or more buttons for forward and backward Web navigation, scrolling through a browser's history, or even mouse-related functions like changing the mouse's sensitivity. Mice for gaming have even more buttons. Also, scroll wheels were invented because of the need in businesses and schools to quickly navigate long documents.

The mouse has also changed society's understanding of the computer. Once the mouse was commercialized, computers were no longer just for scientists. Mice made the computer personal with on-screen interaction.

As society becomes more technological, the design changes to fit new needs. One social change—that of constant connection to others via the Internet—has popularized wireless Internet and laptops. Mice now come designed as miniatures for use on small surfaces, such as the laptop. They are even built into laptops as touch pads.

#### The Future of Mice

How will mice change? Microsoft invented and sold a mouse in the United Kingdom that has a scroll wheel that rolls as well as tilts eliminating the need for on-screen navigation bars. But no

> matter how technology changes the mouse, it is likely to remain simple and ergonomic because its current design has entered everyday use almost invisibly.

