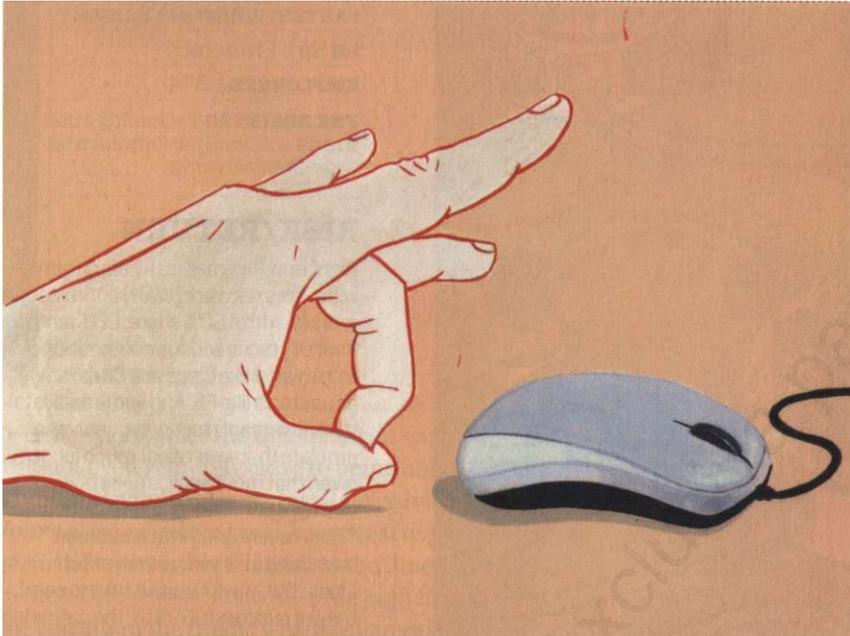


Replacing the Mouse

first

THE COMMUNICATION GAP BETWEEN MAN AND MACHINE JUST CLOSED WELCOME TO THE ERA OF THE GESTURE INTERFACE, *by JP Mangalindan*



OR MORE THAN YEARS the mouse has been a blunt tool for communication with our computers. We grasp, we click, we awkwardly move a cursor around a screen. Then, four years ago, smartphones arrived en masse, followed by touch tablets, and the communication gap between man and machine narrowed (and very young children became savvy computer users). Touch is good: We naturally communicate with our hands, so what better human quality to translate into a

stream of zeros and ones for computers to process? But touch is along a two-dimensional plane. Untethered from a flat screen, our hands, moving through the air and seen through gesture-recognition hardware, approach the man-

machine communication gap and smash right through it.

As scientist and entrepreneur John Underkoffler puts it, "Gesture is the richest possible digital input that we, as humans, can deliver." Underkoffler's early work in gesture recognition remains the platform's most iconic. His futuristic interface designs were used in the 2002 sci-fi

film *Minority Report*, when Tom Cruise moved between screens with a hand wave. Today Underkoffler's Los Angeles-based startup, called Oblong Industries, is making those same interfaces a reality. Except now they're even better than in the movies. His "spatial operating environments" for clients such as Boeing, used for global collaboration, are sensitive enough

to pick up movements as slight as a quivering finger.

While Oblong customizes its products for different office environments, Microsoft launched a revolution of its own when it introduced the Kinect, a motion-sensing controller for the Xbox 360 that cost just \$150 and could "see" human movement in three dimensions. More than 19 million Kinects have been sold in the year and a half since its launch, and more than 350 companies, including Toyota, Coca-Cola, and Siemens, have signed up to use the hardware. When Nissan wanted to unveil its Pathfinder 2013 at the Chicago Auto Show last February but had no vehicle to show, it used a Kinect to build an interactive model. Attendees could shift side to side to view different angles, walk around the vehicle's exterior, and crouch to examine the SUVs detailing. Navigating from menu panel to menu panel no longer meant a flick of the controller joystick and the press of a button, but a wave of the hand.

The next generation of gesture-recognition hardware is due this winter. Called the Leap, it has 100 times the accuracy of the Kinect and costs just \$70. The Leap is small—about as big as a fun-size candy bar—and compatible with Macs and PCs. Those of us sitting in front of a computer screen all day (more than 100 million in the U.S.) will be able to perform everyday tasks more adroitly and collaborate with each other as we would in person. Soon the mouse will no longer feel like a throwback—it will simply be obsolete.