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Designers need to demystify user interfaces

LIVING in Silicon Valley is great for humility. I got a healthy dose recently, filling in the low end of the intelligence bell curve at IBM's Almaden Research Center in San Jose, where I listened as some of the smartest people in technology pondered the way humans use computers.

They were looking at new "paradigms" (awful word) for using these machines. They came back, again and again, to dazzling variations on a tried-and-true theme: common sense.

For product designers, "life is simpler when you understand the user," observed David M. Kelley, president of IDEO Product Development in Palo Alto, a design and development company.

These weren't industry analysts (or, ahem, journalists) who make extravagant predictions and hope no one double-checks their accuracy a few years later. These were the people who actually make things happen, who created many of the things we take for granted. They know, as one participant noted, that "if you want to predict the future, the best way is to invent it."

That was Marvin Minsky, co-founder of the Artificial Intelligence Laboratory at the Massachusetts Institute of Technology. Like others at Almaden that day, he was not satisfied with the place where the human meets the machine, the user interface.

("My favorite user interface is the Wet Nap," Kelley said; the package says, "Open and Use.")

MICE, keyboards, graphical operating systems — they're devices that help translate our thoughts into language the computer can work with. And, Minsky said, they're lousy substitutes for "the real thing: some kind of supercomputer in your brain" connected to other super-charged brains.

Short of that, we need translation devices and computers that make the machines "increasingly smarter, so the user can become increasingly dumber."

That's what happened with cars, in a sense. When the automobile first arrived on the scene, it was far too complex for most people. You had to know a lot about mechanical devices, or you were likely to have trouble keeping your vehicle on the road. As cars did more under the hood, they became easier to use.

Digital networks, too, have been an impossibly complicated system for average people. Much of the workshop focused on the emergence of the computer-based communications — not just the Internet — into a global web. We're launching the age when it will be trivially simple for just about anyone to communicate electronically with any other person or group of people. It's the dawn of an age in which we may be able to raise humankind's collective IQ, noted Douglas Engelbart, one of computing's true pioneers.

EARLY Internauts needed to understand arcane Unix commands to navigate. Now we have the World Wide Web — the most important medium in a long time, I'm convinced — and easy-to-use browsing tools. Browsing is just a hint of where it's headed, though.

Easily the most interesting new development on the Web is Sun Microsystems' Java/HotJava Web programming language and browser. As described by Sun's James Gosling, the project's lead engineer, your computer isn't just reading static hypertext "pages." It's actually capturing little programs from distant sources, and then running them to accomplish subtle or large tasks. I'm not sure I can begin to understand the implications of this, but "new paradigm" doesn't seem too far off.

Of course, what's coming will undoubtedly be a surprise. "What's natural to use 10 or 15 years from now will not be what's considered natural to use today," said Engelbart, among whose inventions was the computer mouse.

It makes you wonder what will happen when supercomputers are plugged into human brains, doesn't it? Then again, mused MIT's Minsky, when you get to that point "it's not clear what you have people for."