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Building a Better Computer

PC makers are racing to ensure tomorrow's machines meet the increasing demand for information and entertainment anywhere, all the time

by [Catherine Holahan](#)

In the future, the "P" in personal computer could stand for portable. More than ever, computer designers are focused on liberating the PC from its perch in the home office. They're creating customizable devices that blend with any room in the house and travel wherever users want to go. Forget about a black box tethered to an electrical strip and even the traditional notebook resting on your lap. Personal computers of the future are all about freedom.

Want proof? Check out the latest wares from the likes of Apple Computer ([AAPL](#)) and Logitech International ([LOGI](#)), the latter of which specializes in wireless mice and keyboards. Both have developed devices that beam content from the PC—and, in Logitech's case, the Internet itself—straight to other electronic devices, such as televisions and speakers (see BusinessWeek.com, 9/13/06, "[Apple's iTV: Bridging the Big Divide](#)"). Logitech's keyboards and remote controls also include LCD screens to help users see and control music programs running on the PC, even when the computer is in another room.

And devices like those are but of a foretaste of PCs taking shape against the backdrop of burgeoning demand for all manner of online media content. As people use computers to download more music and movies, they will need computers to go far beyond the home office. More people want to watch the videos downloaded to their PC on the living room television and listen to MP3 files anywhere in the house. Some may even want PC content in the kitchen (to watch on-demand cooking videos or glance at recipes from Foodnetwork.com).

FASHIONABLE FITS

In the future, wires will become relics, says Steve Gluskoter, director of the experience design group at PC giant Dell ([DELL](#)). "If we look forward, there shouldn't be a need to have everything in your house connected by wires," says Gluskoter. Logitech VP of marketing Ashish Arora agrees: "People definitely don't want wires. They don't want to be tethered to a platform. It's a question of freedom, saying I can consume my content where I want, when I want."

Gluskoter and Ken Musgrave, another director of Dell's experience design group, say future PC users will be able to house data and computing power on a server tucked away in a closet or anywhere else in the house, but be able to access the server from wireless screens that fit with the decor of any room in the house, using a light, portable keyboard. "We think PCs are going to find new, interesting places to be," says Musgrave. "The living room is the more obvious place to go, but there will be PCs in the kitchen, on the back porch.... PCs will be reflective of your personality and designed to match your home."

And PCs won't be the only things undergoing transformation. Computers will increasingly influence the home's layout. Why fill spaces with bookcases, for example, when users can download hundreds of texts

from the Internet and store them on a single hard drive? In 2005, Scott Shim, an assistant professor of industrial design at Purdue University, designed a computerized "bookshelf" for that very purpose.

STITCHED IN

The modular PC unit, which won a Microsoft ([MSFT](#)) design competition earlier this year, includes a rail with removable book-like hard drives that each store content. For example, one book could contain a home's entire music library and related programs. Another could contain written books. The "books" could be removed from the shelf and plugged into any other bookshelf unit at any time, giving users access to libraries anywhere, at any time. "We were really investigating how people traditionally use books off of their bookshelf and the interaction they have with them," says Shim.

Not only will tomorrow's computers be wireless, but they'll increasingly be weightless. Some computers are already nearly as small as they're going to get, says Alistair Hamilton, vice-president of innovation and design at Symbol Technologies ([SBL](#)). Shrink a pocket PC much more, and you'll impair a users' ability to interact with the device. But personal computers can still be made lighter. "Your laptop could become as easy to carry around and as neutral as a pad of paper," says Hamilton.

The machine could even become as portable as a pair of sunglasses, says Tom Turner, CEO of Itronix, which is owned by General Dynamics ([GD](#)) and specializes in high-tech, rugged laptops. Through GD's work with the Defense Dept., Turner already sees computer manufacturers experimenting with lightweight computers embedded into service uniforms. "Today, that technology is fairly advanced and pretty costly," he says. "But it offers a whole new paradigm in terms of wearable computers."

COMING SOON

Five years from now, such technology could migrate into the mass consumer market, Turner reckons. He sees a future where computer screens could be projected onto walls via eyepieces or keyboards and computer speakers would become mere earplugs. Images could also be displayed, just for an individual user, via a projection screen located less than an inch from the eye. And why not? Such technology was already displayed at South Korean fashion shows and is quickly becoming more wearable and less cyborg-esque (see [BusinessWeek.com](#), 3/8/05, "[Wearable Computers You Can Slip Into](#)").

Whatever the future holds, computer designers are confident of one thing—it won't be that far off. Says Turner, "I think it's safe to say that in three to five years, while there may still be laptops, we will finally see what mobile computing is all about."

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