



## Computers? That's So 20th Century!

The introduction of the desktop computer and the graphical user interface was the single most important contribution to the field we now call interaction design in the 20th century. It was created at the Xerox PARC research lab in the mid-'70s, and had a clear mission: to make interaction with digital documents easier, in anticipation of the "paperless office" of the future.

Today's desktop computer is very close to what the engineers at Xerox tried to create with the technology available to them at the time. For tasks like database processing, document creation, network management and so on, the "WIMP" (windows, icons, menus, pointers) interface seems to be almost optimal. Yet since then, many researchers have introduced new interface paradigms in the hope of making computers easier to use. But do new input and output mechanisms actually help solve any important problems?

At a film festival recently, I had the opportunity to talk to film director John Landis. When I mentioned I work with computers, he told me a funny anecdote about his movie *The Blues Brothers*, which premiered in 1980 (coincidentally a year before Xerox launched the first commercial computer with a graphical user interface).

During the filming, someone came up with an idea for a gag: What if the police car that was chasing the Blues Brothers had a *computer* onboard? And what if the policemen could look up the criminal records of the owners of the cars they were chasing by entering the license number? Everyone on the set thought it was hilarious—a computer in a car! In 1980,

everybody knew that computers were big, bulky, and could only be handled by experts. It was decided to have the gag in the movie, and the set decorator built a prop with a fake text display. The gag was filmed; after a chase, the policemen check the

license plate of the Brothers' car in *SCMODS*—the State County Municipal Offender Data System!

For today's audiences the gag doesn't seem at all funny. The technology for *SCMODS* already exists, and Landis joked to me that he should have patented the idea when he had the chance. But the fact that we would not be at all surprised to see a computer in a car is both an indication of how far we have come, and how little has really happened in the last 25 years.

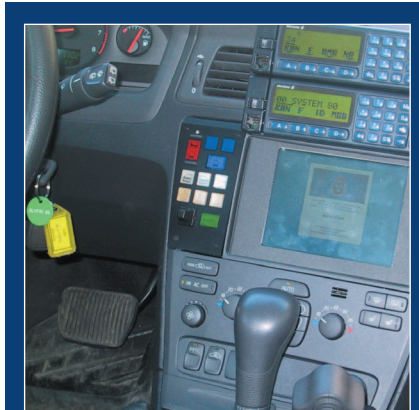
In the Public Safety group at the Viktoria Institute, researchers are studying how policemen work in the field. They found that while it is technically possible for the police to install a computer in a patrol car—much like Landis imagined in 1980—the policemen are not very likely to use it. Why? Because what is currently offered to the police is just that—a *computer!* The manufacturer

ported the applications that are used in a desktop system, and put them on a minuscule screen on the dashboard. For policemen in the field, it simply does not make sense to interact with a desktop workstation. Very few Swedish police cars have such a sys-

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**ABOUT THE AUTHOR** Lars Erik Holmquist is leader of the Future Institute in Goteborg, Sweden. Before this, he founded and led the PLAY research group from 1997 to 2001. He is interested in innovative interactive technology, including tangible interfaces, informative art, mobile media and autonomous systems. He was general chair of UbiComp 2002, the international conference on ubiquitous computing and is an associate editor of the journal Personal and Ubiquitous Computing.



A commercial police-car computer—expensive and rarely used.



The policemen's own IT solution—a small piece of plastic for taking temporary notes.

Urban NuIdén

done in the context of a market that increasingly expects enterprise software to have the same polish and panache as consumer-oriented software.

“Software in general is becoming much more consumer-oriented,” Ashley points out. “For example, Google has set the standard for search. Why can’t we search the same way in enterprise applications? Standards are continually being set in terms of what users expect from the user experience. Enterprise software is not immune from this trend.”

My advice for dealing with the complexity? I’m feeling philosophical today. Accept the fact that it’s a chaotic world we live in, and we only have limited control. Embrace the confusion, look for and leverage design patterns when you can, push for open standards and interoperability, and put your hard-won design experience to use in the fight against entropy. ◆

## ON THE EDGE

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tem installed, and those that exist do not see much use.

An interaction designer or researcher might now start thinking about how we could make that on-board computer easier to use by replacing the interface with something more suitable. But a better solution might be to take a step back and try to figure out what it is that the policemen really *need* in the car. Do they want to do the same things that they can do at the desktop? Or perhaps they are looking for something else entirely?

In fact, many policemen have installed their own piece of information technology: a small cut-out piece of whiteboard-like material that goes on the dashboard, in the

same place where the computer screen would have been. They use this to scribble important information when they are sent on an assignment, to take notes when talking to a colleague on the radio, to write down orders for pizza, and to pass information along to the next team that is going to have the car. When the information has been used, it is easily wiped off. None of this functionality is available in the in-car computer.

It seems the people who made the police-car system were fixated on the idea of a *computer*, whereas the policemen just have a job that needs to be done. And it is not at all clear to me that any new computer interface would actually make that job easier. Perhaps the policemen do not need a computer at all; they just need some way of taking notes and passing information along to each other. If so, a small piece of whiteboard could be the best—and certainly cheapest—solution.

Only by looking at what people are actually doing can we figure out what they really need. Research in new interaction techniques will never be of much use unless we have some problems to solve in the first place. Whereas the desktop interface came out of a specific need—making interaction with digital documents easier for the non-expert—many recent ideas seem to be solutions in search of a problem. By trying so hard to break out of the computer box, we might just be building another set of boxes to be confined in.

In the 20th century, it seemed like a funny idea to put a computer in a car. In the 21st century, it is still a funny idea, but for different reasons. As long as we think computer first, and problem second, it doesn’t matter how we interact with it. Perhaps it is time to try to leave the very *idea* of a computer behind and concentrate on figuring

out how digital technology can solve real problems—no matter what the interface looks like. ◆

**URLS** *The Blues Brothers*. 1980. Directed by John Landis, starring John Belushi and Dan Aykroyd. [www.imdb.com/title/tt0080455](http://www.imdb.com/title/tt0080455)  
*The Public Safety research group at the Viktoria Institute* [ww.viktoria.se/groups/ps](http://ww.viktoria.se/groups/ps)

## FAST FORWARD

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ies of users in different countries, differences of attitudes toward color and imagery, and different techniques used to gain user feedback. Among memorable presentations was Apala Lahiri Chavan’s, Human Factors International, Mumbai, which discussed the value of adding “Bollywood characteristics” to spice up use scenarios to make them more attractive and involving for Indian users.

## CONCLUSIONS, AND LOOKING TOWARD BEIJING

HCI 2005 was an impressive success in many ways. Although it suffered some logistics problems, the success of the HCI 2005 conference should give CHI 2006 planners something to think about. The continuity of the organizers of HCI conferences during the past two decades means that inherited wisdom of things done right, and avoidance of past mistakes, can be retained in organizational memory, unlike the annual leadership transplants that take place every year at CHI. As CHI and *<interactions>* rethink themselves, the operations and content of a successful conference like HCI 2005 should provide important evidence and trend information that could benefit the CHI community. HCI’s 2007 conference in Beijing promises to be an attractive alternative to world CHI/HCI/UI/UX events. ◆