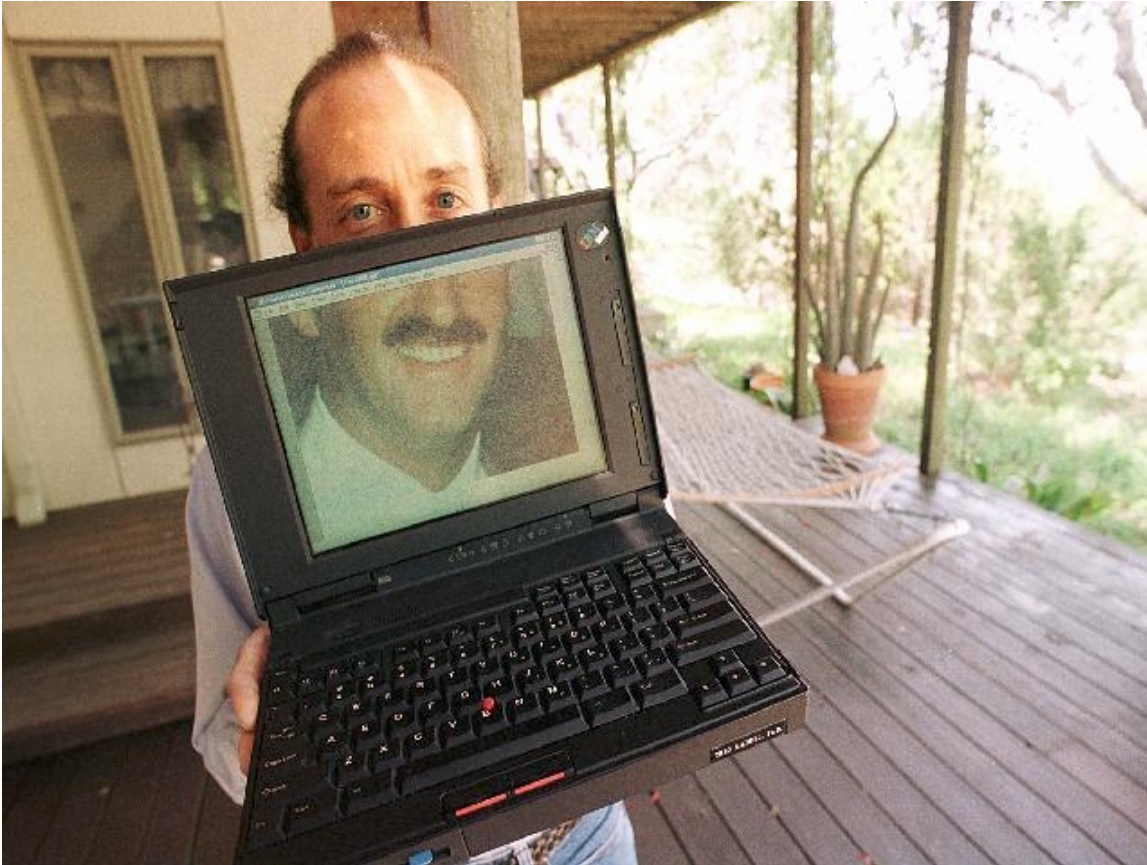


## Simplifying Software: Austinite on a mission to make programs easier to use



Bringing computers and their users closer together: Theo Mandel studies how people use computers in order to help programmers create software that doesn't totally baffle the average person. Fancy programs don't necessarily mean everyone can magically use them, says Mandel, pictured at home.

Sung Park/AA-S

### Theo Mandel

- **Job:** Helps software companies make user-friendly software
- **Age:** 45
- **Education:** Bachelor's degree in psychology, Miami University; master's degree and doctorate in cognitive psychology, University of Colorado
- **Web site:** [www.interface-design.net](http://www.interface-design.net)
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### Mandel's three rules

Mandel has three rules for software developers:

- **Give users control.** Mandel advocates giving users choices. Example: Let users decide whether to use the keyboard or mouse rather than designing software to only use a mouse.
- **Reduce memory.** Reduce what users have to remember, that is. Software often requires users to enter more information than is necessary. Example: Car rental agencies usually ask for a credit card number twice in taking a reservation. "It's the software's fault," Mandel says.
- **Be consistent.** "There should be standard ways for copying and pasting, but then someone thinks he has a better way, and it just confuses people," Mandel says. Example: Computer games. Players aim the same way, shoot the same, and move things around the same way.

### BY LORI HAWKINS, American-Statesman Staff

The little trashcan that appears on the screen of Lotus Corp.'s Organizer software really annoys Theo Mandel.

People who are new computer users assume the computer icon will act just like a real trash can, he says. Using a computer mouse, they drag files they don't need into can it to throw them away.

"And then the wastebasket goes up in flames," said Mandel, a software consultant who works from his Austin home. "Some software developer thought it would be really neat to add fire. But for the user, it doesn't make sense. Why would the wastebasket start blazing when all you're trying to do is delete a file?"

Mandel, who has written two books on people and computers for programmers, doesn't like surprises when it comes to the way software looks and works.

The burning trashcan is harmless, but for Mandel it points to the larger problem of software developed for the programmer, not the user. What wows the developer in the next cubicle doesn't necessarily make good software.

"It's a pretty radical concept, making software that's usable," says Mandel, 45. "Software firms think if they build really good code, people will magically know how to use it. It doesn't work that way."

Making it easier for people to use computers can have far-ranging impact, especially for the corporations Mandel advises. Easier-to-use software requires less training on computer systems and allows more productivity.

(Over)

Even software giant Microsoft, which has progressed from DOS to Windows 95, is making easier-to-use software a top priority this year.

Microsoft is expected to double its \$2 billion annual spending on research and development this year in hopes of creating friendlier, more natural software. Bill Gates, Microsoft's chief executive, said recently that advanced research is needed not just to make software faster, but to make computers easier to use.

Mandel, who is not a programmer, makes the case for better-designed software in his new book, *The Elements of User Interface Design*. He dedicated the book, published by Wiley Computer Publishing, to confused and frustrated computer users.

Mandel, who wears his long hair in a ponytail, began studying how people use tools while working as a tennis racket tester during graduate school at University of Colorado. He was working on his Ph.D. in cognitive psychology, the study of how people think, remember and learn.

Still an expert in the human-tennis racket interface—he is ranked No. 1 doubles and mixed doubles in Texas—Mandel shifted his professional focus from tennis equipment to computer equipment after an internship at IBM in 1982.

"There was all this great technology being created, but no one was really worrying about how people would use it," Mandel says.

Mandel spent the next 11 years at IBM-Austin, working with developers to make software more usable. He left in 1993 to work on his own and write books on interface design.

His ideas are attracting attention from software companies and programmers.

"He's popularizing this movement," says John Tibbetts, a San Francisco computer systems architecture consultant. "He's getting developers to think more about how people use computers and how to make the computers work for them."

Programmers, who are sometimes skeptical of Mandel's ideas at first, are applying ideas from his latest book to their work. William Louth, a developer at Logica Corp. in Holland, got the OK to redesign interfaces of two of his company's software programs. "Since reading your book, I have regained the hunger that I lost through constantly developing and designing applications that I felt always lacked something," Louth wrote in a recent e-mail message to Mandel.

Mandel consults with businesses on how they can make their software easier to use. He has:

- Helped Nynex improve the software its customer service department uses to process claims.
- Set up guidelines for software developers for interface design at the Swiss Bank Corp., where he also worked with developers to design the software used by tellers.
- Worked with developers at USAA Insurance Co. in San Antonio to create in-house customer service software that was easier to use.



### Watching work

To figure out how people use computers, Mandel puts people in front of computers and watches them work. "They'll be working away and suddenly they hit a roadblock and they're just staring at the screen," he says. "Usually it's because the developers assumed the user will know what to do next, and they have no idea."

Developers are always shocked. "They're saying, 'Boy that person is dumb. If he just hit the X key, it would work.' Eventually it sinks in that maybe it's not the user who is dumb, it's the software."

Thinking these steps through sometimes takes extra time, and sometimes, more money to develop. But in Mandel's mind, companies that create software that requires a computer science degree to understand don't survive.

Stuart Greenfield, an analyst for the state comptroller, called on Mandel to help the agency in its efforts to put tax information on Texas companies online.

The comptroller gets about 12,000 calls a month requesting information on Texas companies, and the idea is to steer those requests to the World Wide Web.

Greenfield wanted to do it right. "We didn't want 12,000 people calling to get help figuring out the Web site," he says.

After working with Mandel, they began looking at the design in a different way. "We realized that just because we have a pretty interface, if it doesn't provide the information people need, it's worthless."

Mandel recommended providing more information at the beginning of the site, so users could get an idea of what to expect. Everyday language instead of government acronyms made it easier to move back and forth between Web pages.

"It's easy to get wrapped up in all the flashy things you can do," Greenfield says. "Now we're asking ourselves, 'How will people use this? How will they figure it out?'"

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