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mikelangberg

NEW IDEAS

Drag-and-Pop

With a click, you can attach the document to rubber band-like lines and have it snapped to the intended location without dragging the document all the way across the screen.

Newsbot

It can analyze incoming news stories from many sources, recognizing which stories cover the same topic and making a written summary of each group.

MediaFrame

As more people go digital with their photos, this program, among other things, analyzes the contents of an image. If you're looking at a picture of a sunset, you can click a button to quickly find every other picture in your photo library that shows a sunset.

Scientists share deep thoughts about computing

SOME OF GROUP'S PROJECTS ADDRESS SPECIFIC QUESTIONS

If you think computers make your life complicated today, just wait a few years.

How are you going to control your PC when the screen is 20 feet across instead of 20 inches? How are you going to find a favorite picture when your library of digital photos grows into the thousands? How can you keep on top of the news when hundreds of stories arrive every day from around the world?

Microsoft, you'll be relieved to know, is hard at work on answers to all these problems.

On Wednesday, the Redmond, Wash., company presented a "research road show" at its corporate campus in Mountain View to show what kind of deep thoughts it's possible to think when you have all the money in the world.

Microsoft is so rich that it supports a research group of 700 people, including 25 scientists in Mountain View and six in San Francisco.

The road show presented 10 projects these big brains are exploring. Here's some that caught my eye, keeping in mind that it will years, if ever, before these ideas become actual products:

■ **Big displays.** The whole point-and-click concept of controlling a computer desktop with a mouse, originally developed at Xerox's Palo Alto Research Center, only

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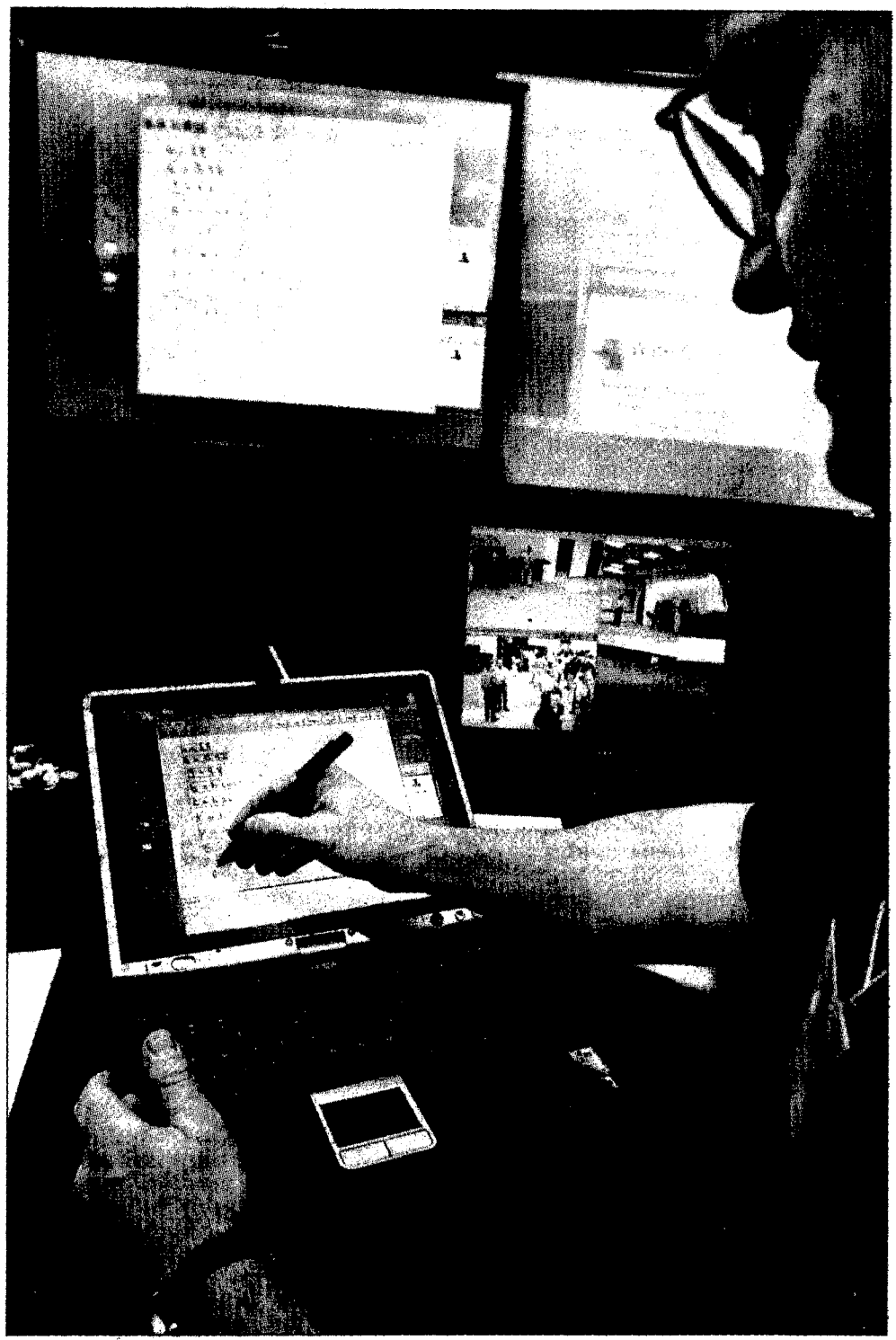
Microsoft's 'research road show' opens door to its vision of future



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Microsoft researcher Dennis Fetterly demonstrates Conference XP, which supports the development of real-time collaboration and videoconferencing applications

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works well when you're sitting two feet from a relatively small screen.

Giant flat-panel displays will eventually become affordable and will be very useful, making it practical to have numerous windows open at once. But mouse movements will have to be much more efficient to cope.

Drag-and-Pop is a Microsoft idea to create lines resembling rubber bands on the screen whenever you move an icon toward a distant object. If you start sliding a document icon toward the recycle bin, for example, the Drag-and-Pop rubber band appears immediately. With a click, you can attach the document to the rubber band and have it snapped into the recycle bin — without dragging the document all the way across the screen.

■ **Automatic news summaries.** One of the most elusive goals of computer science is "natural language processing," teaching a computer to understand what humans mean when we talk or write.

Microsoft is working on a "newsbot" that can analyze incoming news stories from many sources, recognizing which stories cover the same topic and making a written summary of each group.

When a big news event happens now, online newsbots will stuff your inbox with a dozen stories delivering the same information. With natural language processing, newsbots could tell you the news once and limit subsequent stories to those providing new or different information.

■ **Photo indexing.** With all the time in the world, we could carefully index every digital photo we shoot, listing who's in the picture and where it was taken. In real life, the only information we have is the time and date stamp created by the camera.

MediaFrame is a Microsoft project that, among other things, analyzes the contents of an image. If you're looking at a picture of a sunset, you can click a button to quickly find every other picture in your photo library that shows a sunset. The software can distinguish with a fair degree of accuracy between pictures taken outdoors as opposed to indoors, and can find pictures that have faces in them.

JOANNE HOYOUNG LEE — MERCURY NEWS

Microsoft researcher Patrick Baudisch describes his VIBE project (Visualization and Interaction for Business and Entertainment).

■ **Shortest-route calculations.** I've come to depend on services such as Mapquest and Yahoo Maps to tell me how to drive from Point A to Point B. Figuring out driving directions currently takes a huge amount of computing horsepower, too much for handheld devices such as personal digital assistants and mobile phones to do the job themselves.

Microsoft researchers have figured out a shortcut. By precalculating distances between a small number of fixed points, mapping software does much less work to find shortest routes. So your PDA or cell phone may soon know which way to go.

■ **TerraServer.** It's not true that Microsoft has more money than the U.S. government, but that doesn't keep Microsoft from lending a hand to Uncle Sam.

For six years, Microsoft has provided software and hardware to the U.S. Geologic Survey for TerraServer (**www.terraserver-usa.com**), a free Web site with black-and-white aerial photographs covering almost the entire nation. The database is now being upgraded to present most populated areas in color, with 1-foot resolution — small enough to pick out people on sidewalks. Microsoft sees TerraServer as a demonstration of how to manage a large database; the expanded aerial photo library is 21 terabytes, equal to 21 million megabytes.

Color photos of the Bay Area should be posted on the site in about a month.

Contact Mike Langberg at mike@langberg.com or (408) 920-5084. Past columns may be read at www.langberg.com.