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NEWS FOR AND ABOUT IBM CHARLOTTE EMPLOYEES

Special Edition, Summer 1999

12th Annual Charlotte Technical Symposium Another Great Event



John Patrick
Page 2

Laura Pedersen
Page 4



Cary Phillips
Page 6

Elaine Marshall
Page 8



Alan Zimmerman
Page 9

Ted Selker
Page 10



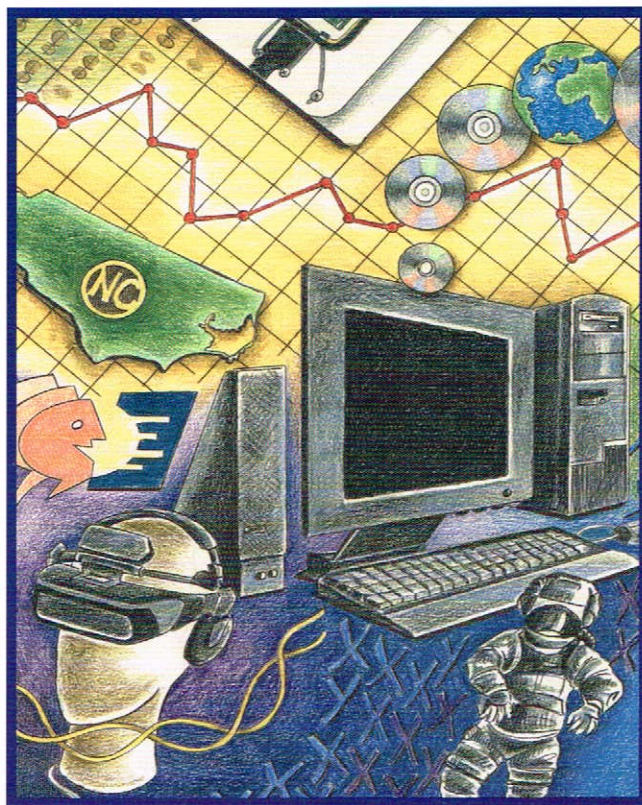
Stimulating topics presented by some of the leading experts of the day made the 12th Annual

Charlotte Technical Symposium another great success. More than 990 IBM attendees evaluated this year's Symposium with the highest ratings in its history for the best topics ever.

Inspiring innovative thinking and vision for the future of scientific research, technology, and business is what the Symposium offered at its best. Leading the way with his exciting vision for the future of the Internet, John Patrick, IBM vice president, Internet Technology, presented the key note sessions to an audience of more than 200.

"The evaluations were excellent again this year," says John Barnshaw, consulting education specialist, who has coordinated 11 of the years that the Charlotte Technical Symposium has been held.

"The outstanding reviews we received from attendees gave the presentations the second highest



rating in all of the 12 years IBM Charlotte has held symposiums."

New York Times financial columnist Laura Pedersen received an amazing 1.04 evaluation rating which is the highest of all speakers this year — that's with one being the very best on a scale of one to five. Pedersen's topic was "What the World Economic Flu Means to Business and the Individual Investors in the US".

Continued on back page



The Future Feel of Tools and Brands

By Mike Gates

What if a computer was smart and tough? What if it was aware, anticipating your needs so you didn't have to tell it everything? What if it was small and rugged so you could easily carry it where ever you go — even to the brutal climate of Mount Everest?

Dr. Ted Selker, IBM Fellow, pervasive computing visionary and mountain climber, posed many of these questions in his Technical Symposium presentation: the Future Feel of Tools and Brands. Asking "what if" is part of his job. Selker is responsible for the User Systems Ergonomics Research (USER) lab at IBM's Almaden Research center. There he and his team strive to bridge the gap between human and machine by developing cognitive, graphical and physical interfaces, as well as

agent intermediaries.

One of Selker's most famous human/machine gap-bridging inventions is the TrackPoint, a keyboard pointing device specially designed for the ThinkPad. "How important is an input device," Selker asked playfully, running a video clip of the highly enthusiastic reaction of a US astronaut using TrackPoint during a Space Shuttle mission? In addition to astronauts, he says doctors love TrackPoint for surgery to control cameras and tools with the same hand. And blind people like it because it stays in one place.

"Joy sticks had never been easy to use as positioning devices because the overshoot," says Selker. "The micro code for the TrackPoint has thousands of hours of human factors testing." According to Selker, TrackPoint was designed for accuracy by making the stick harder to push. "They found you can't be accurate when you move faster than your eyes can track."

Selker recently served as technical expert for a scientific expedition to Mt. Everest to study telemedicine in extreme conditions. A group at MIT's Media Lab developed a special wearable computer network to

automatically monitor a climber's condition. Selker helped debug it, and programmed four ThinkPad 560 notebook computers to record and analyze the information collected. Before the expedition, his team had to modify the ThinkPads to handle the rugged conditions.

"In addition to astronauts, surgeons love TrackPoint™ for surgery to control camera and tools with the same hand"



One big challenge was the disk drive, because disk heads fly close to the disk surface.

"We decided to use a hyperbaric (low-pressure) chamber to learn how to keep the heads from crashing on the disk in the rarefied mountain air," Selker said. The team found some disk drives with high-flying heads, and used solar power and mini heaters to make the machines ready for the job. Selker kept the computers working, and ran the experimental, remote telemedicine hospital from the base camp. The expedition was successful, and the four ThinkPads are still up on the side of Mt. Everest collecting data from a Global Positioning System (GPS) receiver.

"Up until now, computers have been about cataloging, organizing information, putting it together, keeping it together, integrating things," continued Selker. "But we're changing. All technology eventually is either abandoned or used for social purposes.

Either it's helpful to people for their social lives, or it goes away."

Selker discussed the social awkwardness of wearable computers and head mounted displays. "Have you ever tried talking to someone with a cellular phone in their ear? It's awkward; you just don't know your role." Some of his team's results show that people react more positively to wearable computers in a social situation when they can both look at the screen — like at a checkout counter where the customer can see what the cashier sees.

Selker asked what if computers were aware and could recognize our needs? "Airport faucets are smarter than our computers," he says, "They turn on and off automatically (so we don't have to touch the contaminated faucet handle). We have to get to the point where we understand what kind of awareness we can put into our computers so they can do reasonably valued functions without us having to continuously tell them.

"Here's a scenario..." says Selker.

"In five years, you walk into a mall and look down on your Mall Computer display and you can see where your kids are, send them an e-mail on when and where to meet for lunch. You have a shopping list that interacts with the mall. The stores bid on the items on your list. Your size interacts with the room so you could know what fits you. The store is now in the position to give you personalized service.

"The future feel of tools has to be a place where you feel capable and unencumbered, like a well-equipped mountain climber," Selker concluded. "User interface is taking the tools out of the task. We push forward to make it be of service to our social needs — regardless of our company's role in services, client, server or infrastructure. That's why pervasive computing is so important, regardless of what role we play."