Climbing Big Blue's peaks

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Research

IF Ted Selker's brain could be compared to a car, it would be a bright red Ferrari.

His mind races at more than a hundred kilometres an hour, pausing only momentarily before whizzing off in a new direction.

Dr Selker is no mad professor, but he carries all the hallmarks of a genius, revelling in the invention of new technology but exiding frustration when mere mortals miss the point.

He lives in a world of intelligent couches, virtual coffee tables, computerised fitness trainers, and computer cameras that track the movements of your eyes.

For someone who is on the payroll of staid, old IBM, Selker is out there — right out there.

"My two theses were on brain theory," he says. "I want to understand the way people think. That's my forte. I have to create function out of mechanical things."

He enunciates the words like one second off that time.

Selker says he has been inventing since he was two. The big difference, today, is that he gets paid for it.
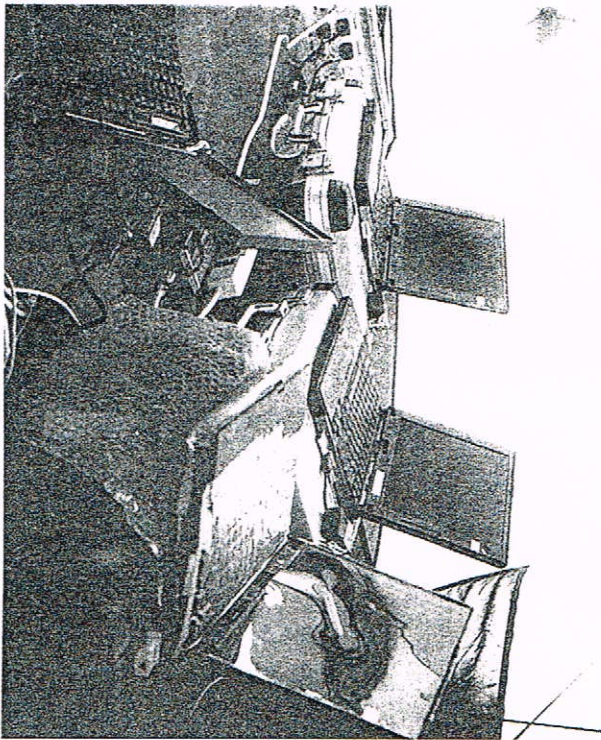
As an IBM Fellow he has an allowance with no strings attached. His brief is simple: keep coming up with ideas.

Together with his 27-strong team of developers, he is not idle. In the past year he has registered 12 patents, and three projects have gone into production.

"I matched how a computer works with how your brain works," Selker says. "Others tried to copy it, but they were never as good. In the end, IBM licensed the Track Point technology to other companies."

His best idea, and his claim to fame, is Track Point — that little dot of a mouse that sits in the keyboard of most notebooks, nestled between the G, H and B keys.

Selker invented Track Point with a legendary IT research figure, the 76-year-old Joe Rutledge.

It took seven years for the concept to appear in a commercial computer. Selker says one and three-quarter seconds to go from the keyboard to the mouse. The Track Point takes one second off that time.

"But, that is not enough to convince a company like IBM that this should be implemented into all notebooks.

Selker researched eye and finger co-ordination using a computer. He wrote an algorithm to match how fast the cursor compared with the amount of pressure exerted by a finger.

"In our research we found users express preference we found track of mountaineers' physical product even if it is only 5 per cent better than the alternatives. Track Point is 20 per cent more efficient."

Today, Selker is developing a Track Point that pushes back when an error is made, or provides a special effect if required. It provides the similar jarring feeling that is provided by a Rumble pack in a Nintendo 64.

Track Point relies on a copper wire wrapped around its PC, based on the ThinkPad 560.

Selker is also behind the mysterious blue-striped bar on the new IBM ThinkPad 770s. It is designed for Internet browsing. Click on it and the notebook will scroll down a page on the screen.

Innovation: IBM computers used to track mountaineers' physical condition on Mt Everest

mercial computer. Selker says the development time was 10,000 man-hours.

"After we produced Track Point, many people could not believe the result," he says.

"In our research we found users express preference we found track of mountaineers' physical cal condition.

Computers have a problem at high altitudes.

"There are many problems, such as glacial dust and temperature," he says.

At high altitudes the disc of a computer does not spin high enough.

It took Selker, his team and engineers at IBM's Fujisawa plant in Japan just three days to build a wearable, functional PC, based on the ThinkPad 560.

And Selker has more than just the next generation of IBM ThinkPads on his whiteboard.

A second blue bar is on the way, designed to magnify the text and graphics for the visually impaired.

A keen mountain climber, Selker has helped to build wearable computers that keep track of mountaineers' physical condition.

"If you glance at a link, which takes 10 milliseconds, the computer does nothing. But if you gaze at it, for 40 milliseconds, then the computer will do something," he says.

He has an interesting intellectual perspective on this invention, declaring: "It always surprises me that things don't happen when I think of them. Why shouldn't they?"

But there are limits: "You wouldn't want pictures of beautiful women popping up on your screen at any time of the day just because you think of them. That would be embarrassing."

A lecturer at Stanford University and Massachusets Institute of Technology (MIT), Selker runs a 27-strong team dedicated to launching an unsuspecting world into a new era of technology.

One of his projects is code-named Room With A View. Essentially, this is an office that can be replicated anywhere via a worldwide network.

Selker paints a vision of glass tablets on coffee tables that can project information on to a wall, or even an interactive coffee table.

His team has also devised an "intelligent couch" with a RF (radio frequency) transmitter.

It is supposed to log into your "wearable computer" — a device unveiled by IBM in Tokyo two week ago — and read your itinerary for the day. If you're running late, the couch will let you know.

Selker says his team has built this couch — and it works! But it is unclear what happens if you ignore it.

Another project in the IBM labs is a computer that will click on Web links just because you looked at them.

The Selker team has built a camera that sits on top of a monitor and watches your eye movements.

If you look long enough at a link, or an advertisement, the camera sends a signal to the hard drive to click through.

More information:
www.almaden.ibm.com/cs/selker