Natural Pointing Techniques Using a Finger-Mounted Direct Pointing Device

John Sibert and Mehmet Gokturk
The George Washington University

Pointing with the index finger is a natural way to select an object, and if it can be incorporated into human-computer interaction technology, a significant benefit will be obtained for certain applications. This demonstration presents a prototype solution.

Based on an infrared signal power density weighing principle, a small infrared emitter on the user's finger and multiple receivers placed around the laptop screen generate data for a low-cost microprocessor system. The microprocessor sends its output to a laptop computer, where it is used to determine coordinates for the cursor location. The prototype is not only a proof of concept. It is also a tool for further research on human perfor-mance in pointing and further develop-ment of interactive techniques.

John Sibert
Department of Electrical Engineering and Computer Science
The George Washington University
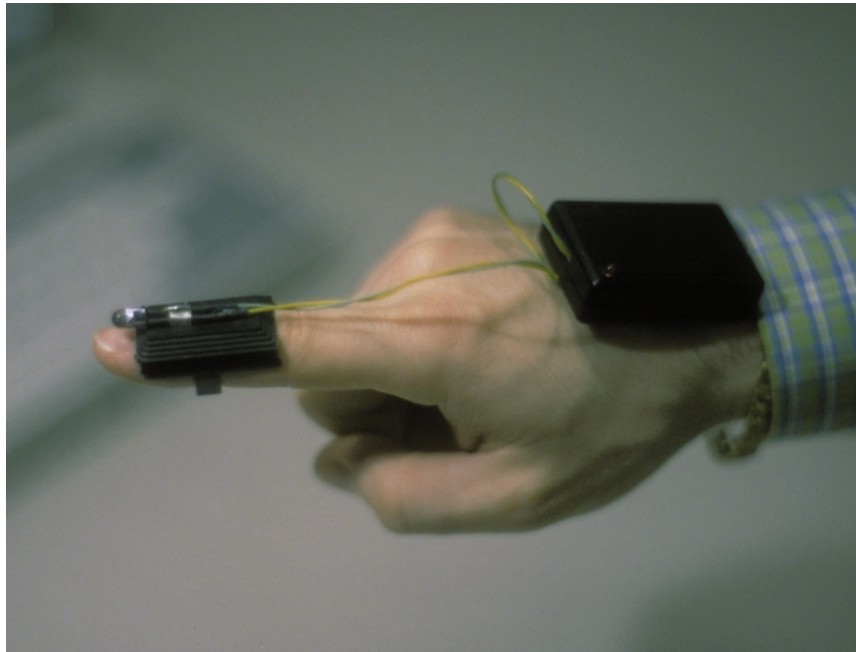Washington D.C. 20052 USA
sibert@seas.gwu.edu

Collaborators
John Sibert
Mehmet Gokturk
Robert Lindeman
Sang Yoon Lee

Wearing the finger-mounted emitter. (The black box on the wrist contains batteries and the modulator circuit.)

The prototype in use.