

# 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 performance in pointing and further development 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

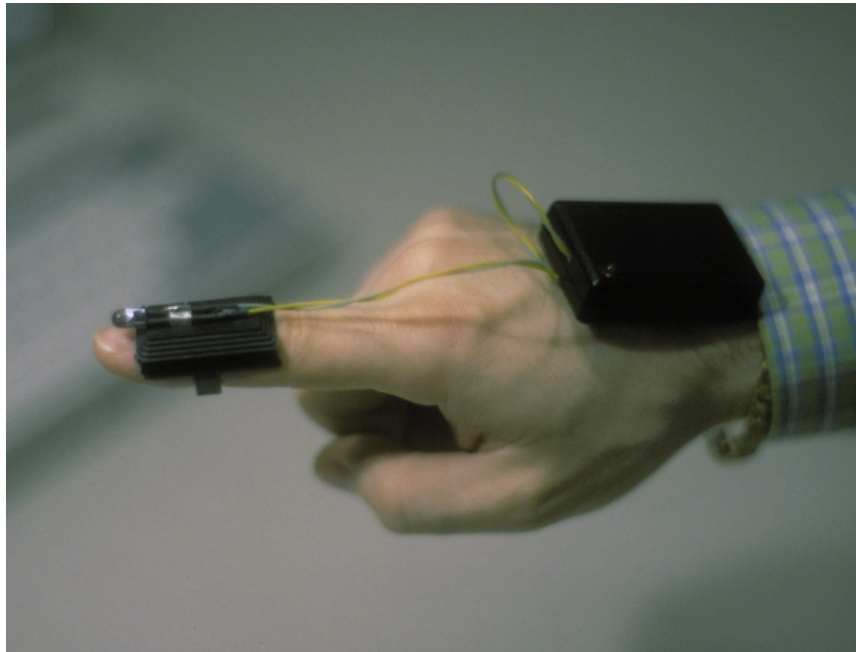
## Collaborators

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.