

A Robotic Fingerspelling Hand

David L. Jaffe, MS

Introduction

- Educational background
- Employment background
- What I do now:
 - projects
 - tools used
 - colleagues

Human Fingerspelling



Human fingerspelling (:27)

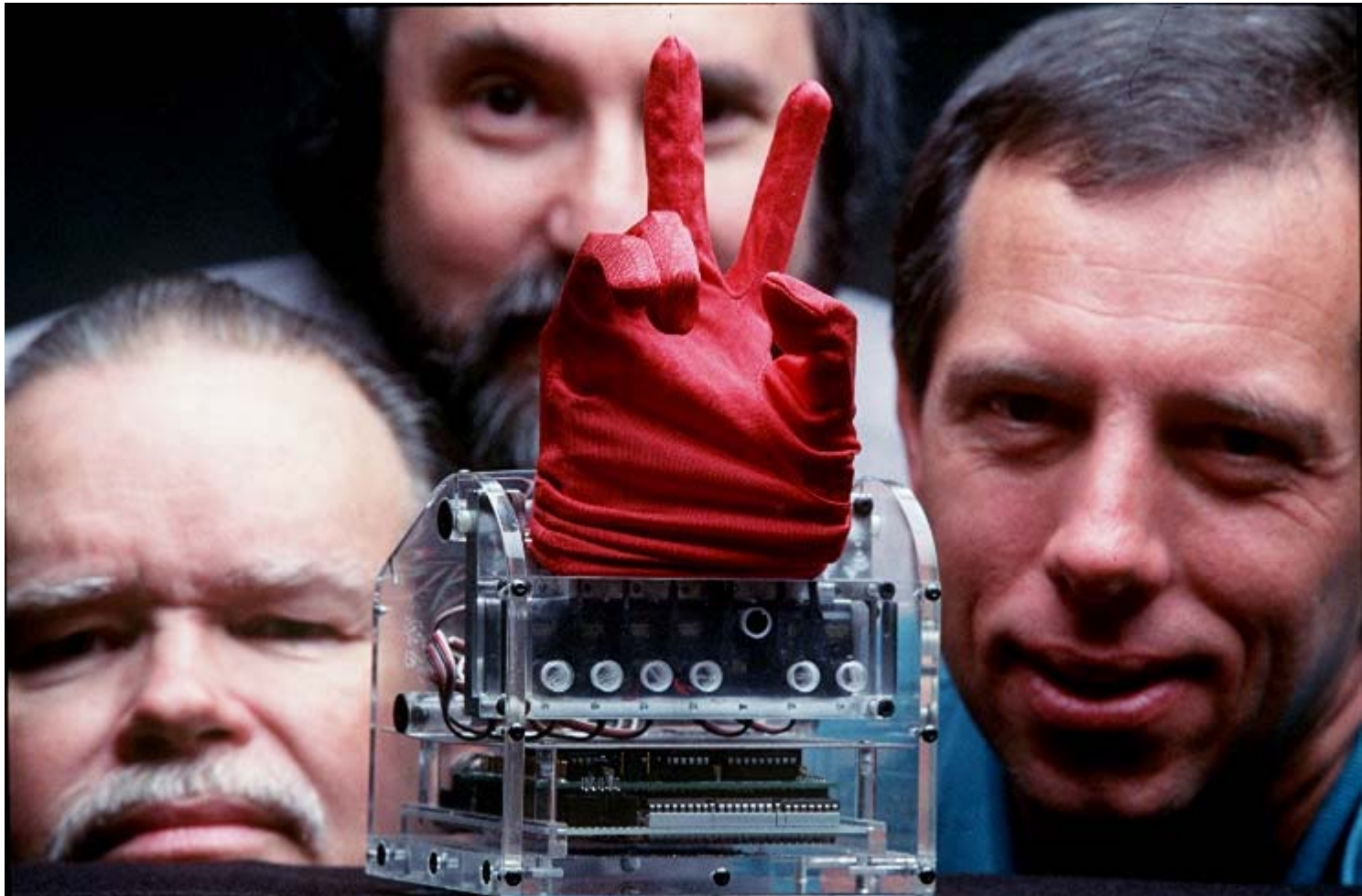
Videos:

- First Design – Dexter I
- Next Design – Dexter II
- Feeling Dexter II
- Discover the World of Science

Gallaudet Hand



Colleagues



Jim Anderson, Dave Jaffe, and Doug Schwandt with Ralph.
Photo/article: Bob Frost, "Helping Hand," *West Magazine*, *San Jose Mercury News*, May 2, 1999.

Investigator:
David L. Jaffe, MS

Design/Fabrication:
Douglas Schwandt, MS
James Anderson, JEM
David L. Jaffe, MS

Ralph (Robotic alphabet) Fingerspelling Hand



- *Features*
 - translation of serial ASCII to fingerspelling gestures
 - acts as a display device
 - works with letter pairs
 - eight degrees of freedom
- *Applications*
 - communication to people who are deaf/blind
 - prosthetic mechanical or myoelectric hand
 - robotic end-effector
 - exo-skeleton hand exerciser
 - VR use with position / force feedback
- *Commercialization Effort*
 - working with companies on fingerspelling application product

Ralph with Leslie Stahl



Ralph on 60 Minutes (:43)

Benefits

- Access to additional information sources:
 - Computer
 - TV
 - Closed captioning
- Privacy
- Independence
- Portability