

Accessibility Seminar Persons with Disabilities

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Tentative Schedule

- 9/30/09. Richard E. Ladner, CSE. Persons with disabilities.
- 10/07/09. Richard E. Ladner, CSE. Accessibility technology and research.
- 10/14/09. Richard Mander, Entrepreneur in Residence University of Washington. Assistive Technology Industry with and emphasis on mobile accessibility.
- 10/21/09. Maria Kelley, UW Center for Technology and Disability Studies, Washington Assistive Technology Act Program. Assistive Technology Services.
- 10/28/09. Alan Boring, CSE. One-bus-Away.
- 11/04/09. Shaun Kane, ISchool. Survey on mobile devices used by persons with disabilities.
- 11/18/09. Bruce Visser, Lighthouse for the Blind. Technology for blind and deaf-blind people.
- 11/25/09. Shari Jayant, CSE. MobileAccessibility Project.
- 12/02/09. Anindya "Bapin" Bhattacharyya. Helen Keller National Center for Deaf-Blind Youths and Adults. Mobile technology for deaf-blind people.
- 12/09/09. Shiri Azenkot, CSE. iPhone Accessibility Applications.

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What We'll Do Today

- Examples of Mobile Accessible Technology
- MobileAccessibility Project
- Other Research

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K-NFB Reader Mobile

- Optical Character Recognition
- Focalization
- GPS
- Cell Phone



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Bar Code Reader



SCAN GOSPEECH (MODEL SC100)



i.d. Mate II

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Braille Notetakers



BrailleNote



Braille Sense



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Brailnote with GPS



7

Pacmate



Pocket PC functionality

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DeafBlind Communicator



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MorseSMS for Deaf-Blind

- The program "reads" out incoming SMS in morse code for blind/deaf-blind people by vibrating
- Sending of SMS by typing in the letters in morse code (Dit/Dah)



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Vibrators



Alarm Clock



Fire Alarm

Multipurpose Vibrator

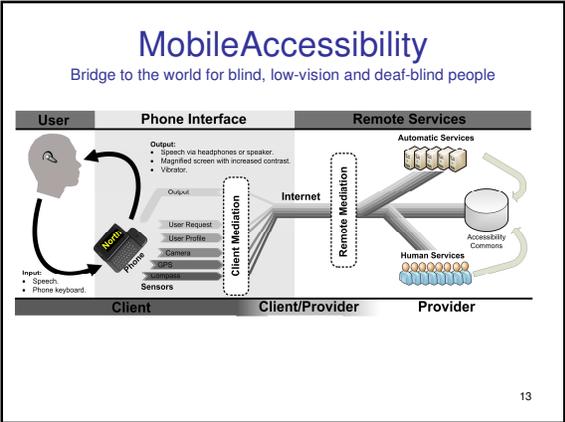


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What We'll Do Today

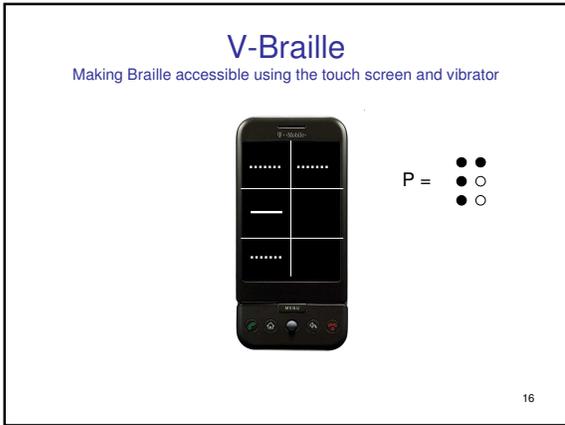
- Examples of Mobile Accessible Technology
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- ## Platform
- Video camera
 - Microphone
 - GPS
 - Compass
 - Accelerometer
 - Human input
 - Keyboard
 - Touch screen
 - speech
-
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- ## Infrastructure
- Text to Speech API
 - Eyes Free Shell
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- ## What We'll Do Today
- Examples of Mobile Accessible Technology
 - MobileAccessibility Project
 - Other Research
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CHI "Disability" Search

Year	Number
• 1982 – 85	0
• 1986 – 90	10 (4%)
• 1990 – 95	15 (5%)
• 1996 – 00	20 (6%)
• 2001 – 05	90 (23%)
• 2006 – 08	71 (17%) (3 years)

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Earliest CHI Papers - 1987

- “A case example of human factors in product definition: needs finding for a voice output workstation for the blind”
 - Richard M. Kane, Matthew Yuschik
- “A user interface for deaf-blind people”
 - Richard Ladner, Randy Day, Dennis Gentry, Karin Meyer, Scott Rose
- “Towards universality of access: interfacing physically disabled students to the Icon educational microcomputer”
 - Gerbrand Verburg, Debbie Field, Francois St. Pierre, Stephen Naumann

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Other Conferences

- ASSETS
 - ACM
- ICCHP
 - Europe
- CSUN
 - Cal State Northridge
- ATIA
 - Industry Conference
- W4A
 - Collocated with WWW

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VoiceDraw

2007-8 National Scholar Award for Workplace Innovation & Design, 2nd place



Susumu Harada, Jeff Bilmes, James Landay

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WebAnywhere

- Andrew W. Mellon Foundation Award for Technology Collaboration (2008)
- Microsoft Imagine Cup Accessible Technology Award (2008)
- W4A Accessibility Challenge Delegate's Award (2008)

WebAnywhere Browser Frame
Replicates browser functionality and provides a screen reading interface to both web content and browser functions.

WebAnywhere Content Frame
Loads web content via proxy server. Browser frame speaks the web content loaded here.

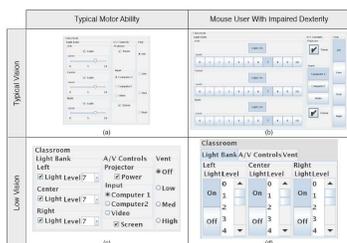


Jeff Bigham

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Supple

CHI 2008 Best Paper Award



Krzysztof Z Gajos, Jacob O. Wobbrock and Daniel S. Weld.

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ANATOMICALLY CORRECT TESTBED ROBOTIC HAND



Yoky Matsuoka
MacArthur Foundation Award 2007



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MobileASL

Best Student Paper
ASSETS 2006

A mobile video phone for sign language users

Eve Riskin
Sheila Hemami*
Jake Wobbrock
Anna Cavender
Neva Cherniavsky
Rahul Vanham
Jaehong Chon
RL
Many undergrads





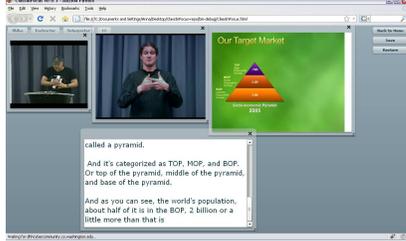
Video



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ClassInFocus

Making education more accessible to deaf students



Anna Cavender
Kathryn Sullivan
Bill Clymer*
RL



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ASL-STEM Forum

Enabling sign language to grow in science



Anna Cavender
Jeff Bigham
Daniel Otero
Caroline Solomon*
RL



Web site

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Open Problem

- Visual CAPTCHA (for sighted people)



- Audio CAPTCHA (for blind people)



- Text CAPTCHA? (for deaf-blind people)

"what is the sum of 2 and 4?"

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Concepts in HCI

- User Centered Design
 - Involve the user at every step
- Universal Design
 - Design for all users, if possible
- Design for User Empowerment
 - Design to enable people to solve their own accessibility problems, if possible

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Discussion

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