

Accessibility Capstone Introduction to Disability

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What We'll Do Today

- Introductions
- Goals of Accessibility Capstone
- Disabilities
- MobileAccessibility Project
- Other Mobile Projects
- Ideas for Projects (Discussion)

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Goals of Capstone

- Design, build, and test accessibility applications on the Android platform.
- Present results.
 - Code in the open source MobileAccessibility repository or other repository
 - Short paper
 - Poster
 - Short Video

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Design Process

- Work will be done in teams.
- Each team has a mentor.
- Weekly review sessions
- Project Proposal – preliminary design and mockup
- Review with users
- Prototype implementation based on input from users
- Test with users
- Final implementation based on input from users
- Final Project Presentation
 - Paper
 - Video
 - Poster session open to the public

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Past Seminars

- [2010 Website](#)
- [KOMO TV Story](#)
- [2011 Website](#)
- [TapBeats Video](#)

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Criteria for Projects

- **Functionality**
 - Does it actually work as intended
- **Quality of the code**
 - Can the code be adopted by others as part of an open source effort
- **Innovation**
 - Is the application novel
- **Impact**
 - Does the application have impact on the lives of people with disabilities
- **Quality of products**
 - written report, poster, video
- **Effort**
 - Was the student's effort proportional to the overall team effort (A team is expected to have equal effort from all members)

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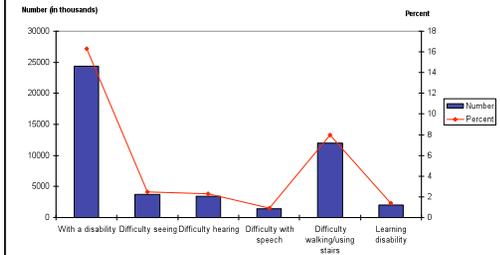
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Basic Data

- 650 million people world-wide are disabled
- 16% of US population to ages 15 to 64 is disabled.
- 10% of the workforce is disabled
- 5% of the STEM workforce is disabled
- 1% of PhDs in STEM are disabled

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Demographics US Population



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2002

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Disabilities

- Vision
 - Blind
 - Low-Vision
 - Color Blind
- Hearing
 - Deaf
 - Hard of Hearing
- Speech
 - Ability to speak
 - Stuttering
- Mobility
 - Ability to walk
 - Ability to use hands/arms
- Cognition
 - Dyslexia
 - Short-term memory loss
 - Dementia
- Multiple
 - Deaf-blindness

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Models of Disability

- **Medical Model**
 - Disabled people are patients who need treatment and/or cure.
- **Education Model**
 - Disabled youth need special education.
- **Rehabilitation Model**
 - Disabled people need assistive technology and training for employment and everyday life.
- **Legal Model**
 - Disabled people are citizens who have rights and responsibilities like other citizens. Access to public buildings, voting, television, telephone, and education are some of those rights.
- **Social Model**
 - Disabled people are part of the diversity of life, not necessarily in need of treatment and cure. They do need access when possible.

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Platform

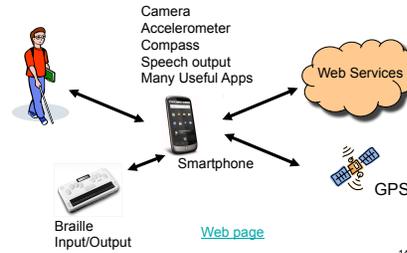
- Sensors
 - Video camera
 - Microphone
 - GPS
 - Compass
 - Accelerometer
- Human input
 - Keyboard
 - Touch screen
 - Speech
- Output
 - Speech
 - Audio
 - Visual
 - Vibration



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MobileAccessibility Project

bridge to the world for blind, low-vision and deaf-blind people



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Ideal Group



<http://ideal-group.org/sj131264/>

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Project Possibility



<http://projectpossibility.org/index.php>

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Screen Readers

- [VoiceOver](#) for iPhone
- Eyes-Free Shell and Talkback for Android

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