Street Sound
Navigate with your ears
Free web application for the visually impaired to access street information

Alyssa Rosenzweig
University of Pennsylvania
with
Professor Roberto Manduchi
UC Santa Cruz
Assistive Technology Lab

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Current Mobility Methods

- Verbal directions
- Trial and error navigation
  - Long white cane
- Static tactile map
  - Order ahead of time
  - Purchase embosser and self-print
- Hire guide
  - Dog
  - Sighted person
- Limit travel to familiar areas

“Street Sound
Navigate with your ears”
What You Need

- Internet connection
- Firefox web browser
  - FireVox text-to-speech plug-in
- Audio output
  - e.g. Speakers, Headphones
- Tablet pen (optional)
- That’s all!
What You DON’T Need

- Expensive screen reading software
  - e.g. ~$1000 for JAWS or Window-Eyes

- Specialized interface device
  - e.g. SensAble PHANTOM Desktop device

- Force feedback
  - e.g. Logitech Wingman force feedback mouse

- Complicated installation process

- Specific operating system
  - e.g. Windows, Mac, Linux
Street Sound Features

- Type in any address
- Zoom and move map
- Click for intersection
- Click for street name
- Move off map notification
- Move off street notification
- Find local businesses

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How Street Sound Works

- Extracts latitude-longitude coordinate from cursor location
- “Reverse geocoding”

- Looks up coordinate in Geonames database
- If loading, returns and draws nearby street segments
- Responds to user’s cursor location and activity
Visually Impaired Accessible

- All actions possible with keystrokes
  - Zoom
  - Scroll
  - Search
  - Set address

- When following a street, beep notifies if deviate

- Warning if no longer on map
- User can now hear what you and I can see!
Technological Aspects

- GoogleMaps API
- Javascript event processing
- *Geonames* database for street information
- Wacom *Intuos3* 9x12 pen tablet
  - More natural interface for blind than mouse
Future Development

- Multi-touch display
- Automatic intersection and street name notification
- Local database of street data
- Travel directions between two locations
- Audio guidance to specific location on map