MyIdea Program

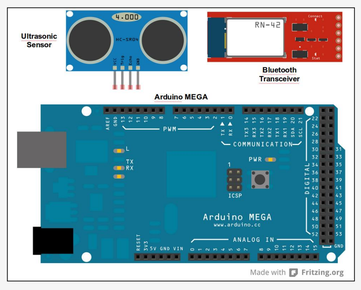
AMPLIFYING SENSES FOR THE VISUALLY IMPAIRED

Motivation: We care	
	Collision risks on ever changing environments
	Finding new directions is a big challenge
	They can not read posters with warnings
	“building a diverse and inclusive culture is the right thing to do”

How we can help
Locomotion
Navigation
Poster reader

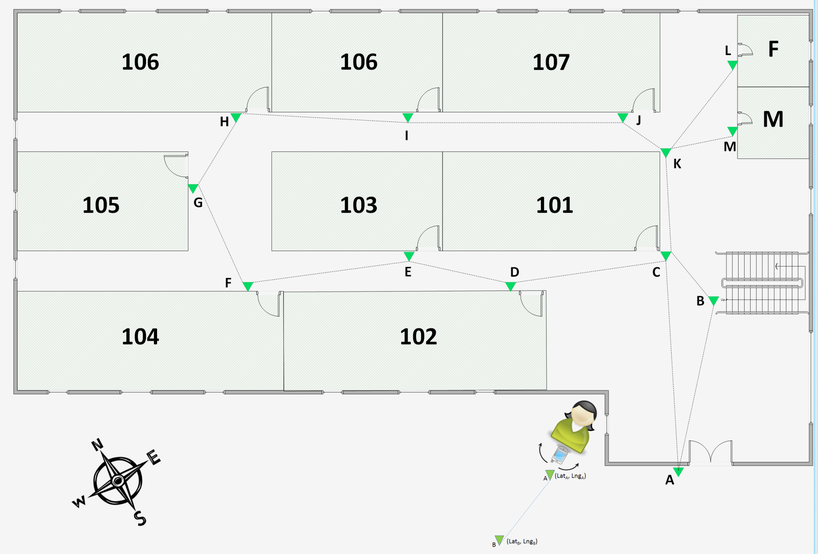
Locomotion

- Collision avoidance
- Smartphone UI not “visual centric”
- Very high precision and low power consumption
- Technologies
  - Android smartphone
  - Arduino w/ ultrasonic sensor
  - Bluetooth communication with smartphone
  - Text-to-speech, vibration and beeps



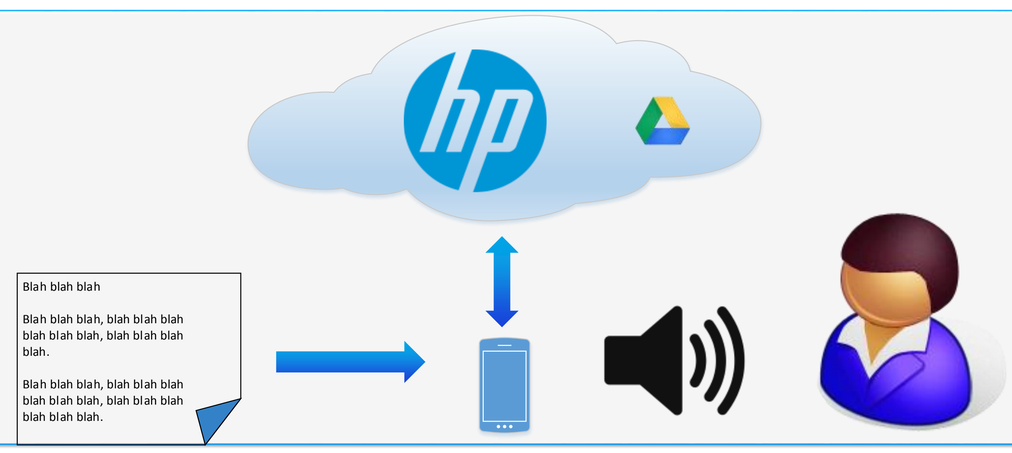
Navigation

- Indoor Navigation Assistant
- Turn-by-turn orientation
- Application can speech several informations about buildings and rooms
- Technologies
  - Android smartphone with NFC
  - NFC tags as waypoints
  - Geodetic coordinates uniformity
  - Buildings information stored @ HPCloud
  - Text-to-speech and vibration



Poster Reader

- Phone camera captures poster image
- Cloud service does OCR
- Phone speaks recognized text
- Technologies
  - HP BookPrep
  - Google Drive API



Project guidelines
Uniformity of the geographic location model to ease integration with existing GPS applications
Inexpensive and off-the-shelf components
No changes in buildings infrastructure, no wireless network needed for location
Must be useful for both visually impaired or not

Next steps
Start navigation tests on HP POA site
Investigate protection for the NFC tags
Better and reliable ways to calibrate compass
Increase assistive services provided through the HP Cloud

Team
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Support: MyIdea Program, Brazil R&D