



# WanderWise

freedom for the visually & auditory impaired

# Facts

- Over 10,000 children (ages birth to 22 years) in the United States who have been classified as deaf-blind (NCDB, 2008) [1]
- An estimated adult deaf-blind population of 35,000-40,000 (Watson, 1993) [2]

1. National Consortium on Deaf-Blindness. Retrieved July, 2010

2. Watson, D., and Taff-Watson, M., eds. (1993). A Model Service Delivery System for Persons Who Are Deaf-Blind, 2nd edition

# Challenges facing deaf-blindness

- Experience the world as an unpredictable, and possibly threatening place [1]
- Learning to move about in the world as freely and independently as possible [1]

# Change

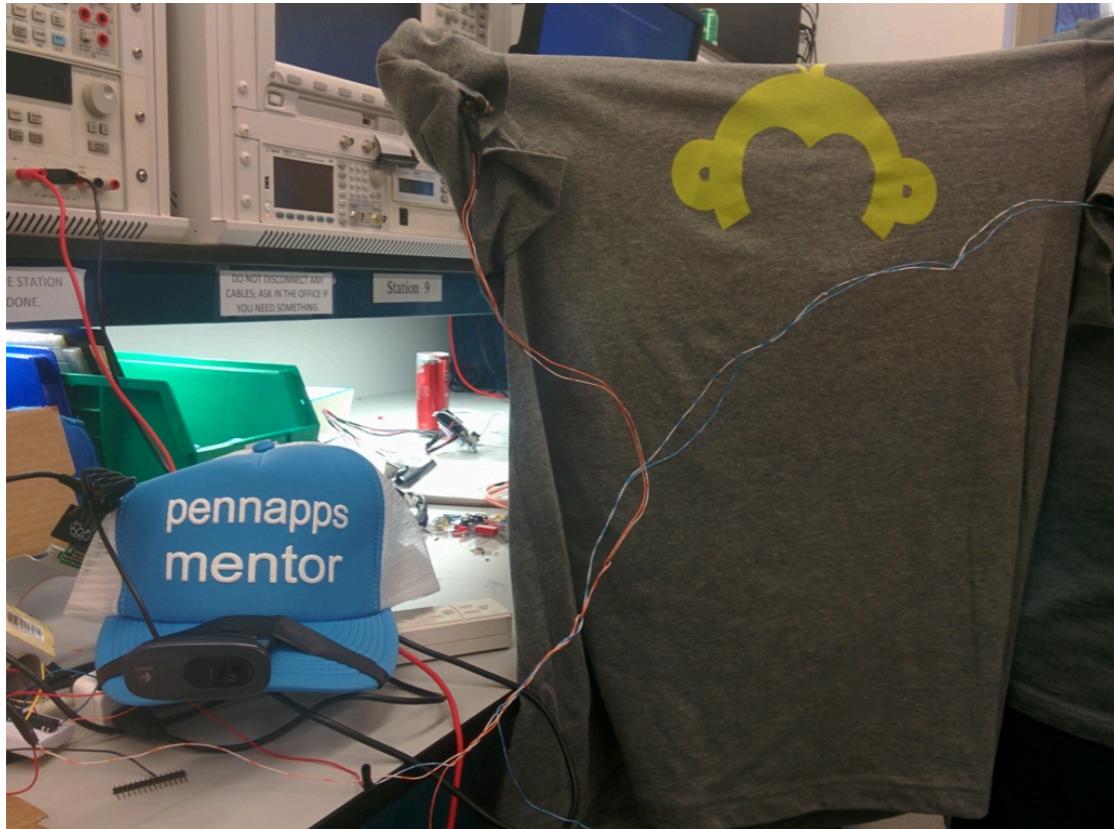
*“I would rather walk with a friend in the dark, than alone in the light.”* - **Helen Keller** (first deaf-blind person to earn a bachelor of arts degree)

**we want to be that friend.**

This weekend we sought to bring safety and accessibility to those without vision and hearing.

# Solution

Arduino + RaspberryPi + OpenCV + iOS



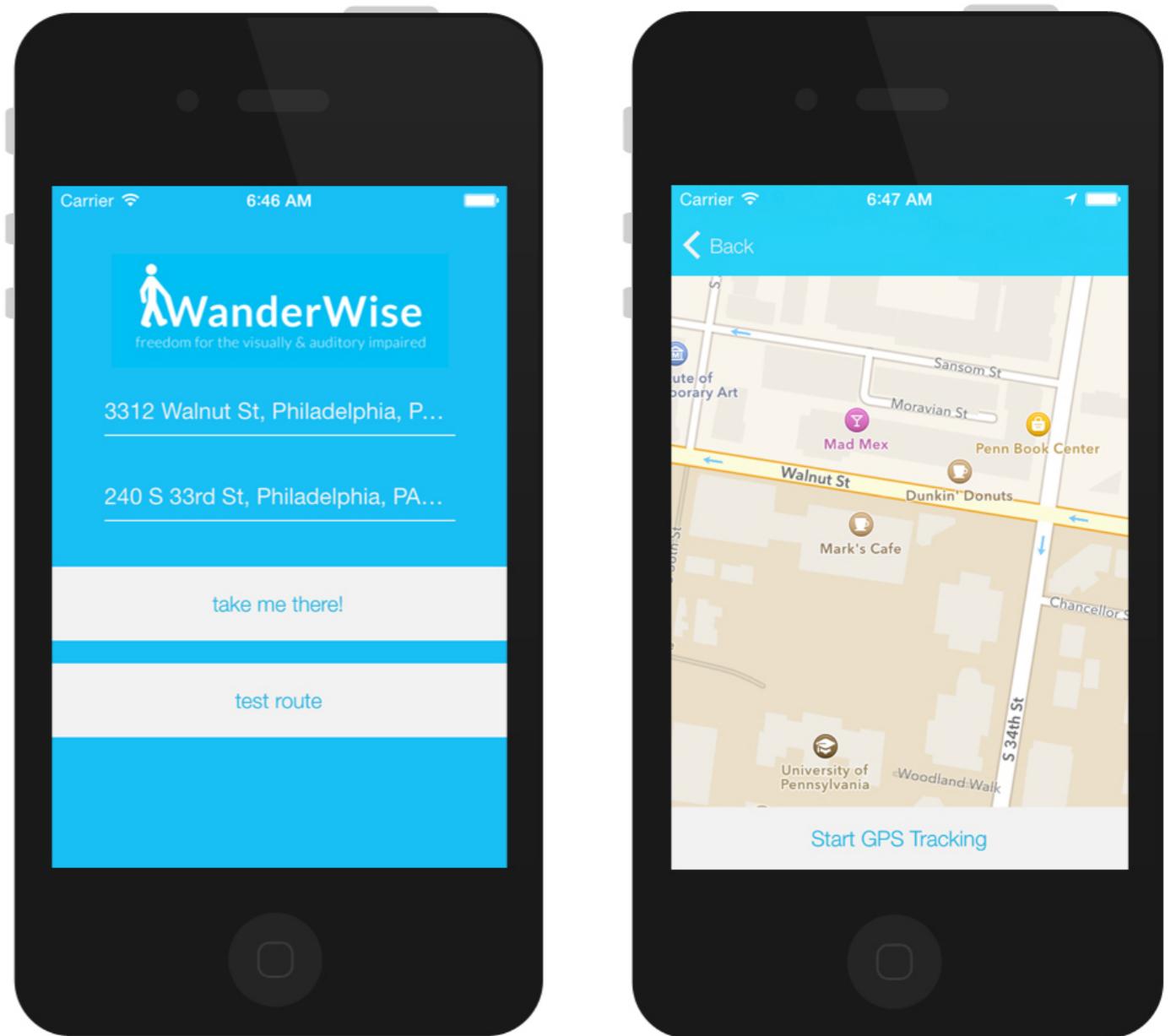
Direction assisting  
headpiece & haptic  
feedback clothing



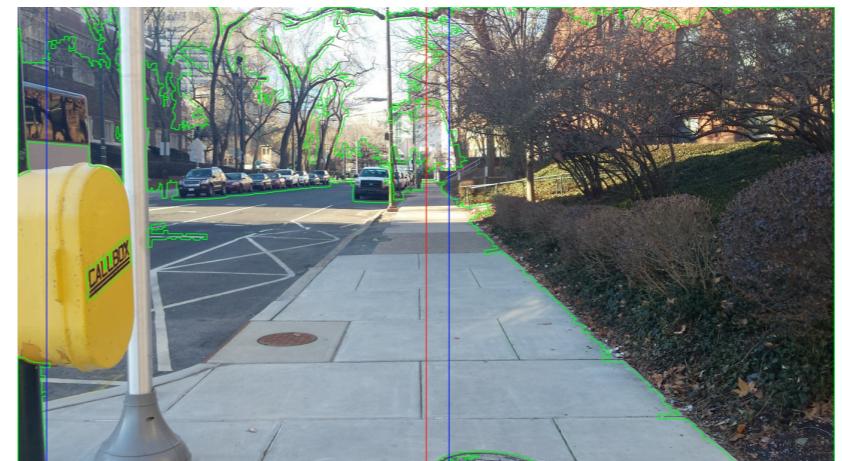
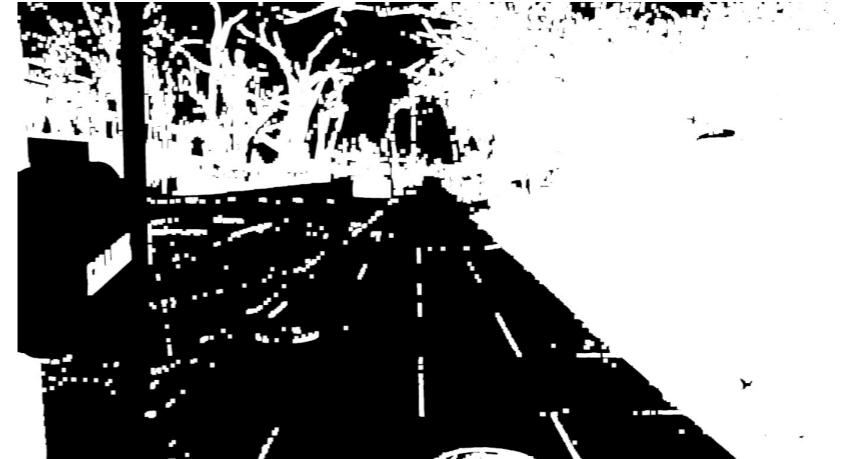
Collision Detection  
Eye-wear

# Route Creation

- Origin and destination are entered via iPhone
- Parses Google Directions API to provide turn-by-turn directions to RaspberryPi
- Spoken directions also provided



# Path Identification



# Crosswalk Detection

