Project 1: IoT-enabled smart mobility devices for aging and rehabilitation

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Week 7 (July 8 – July 12, 2019)

Accomplishments:

- Attached ultrasonic sensors and haptic feedback to walker
- Data Collection with sensors
- Worked on the Poster
- Ordered external webcam

Problem & Solutions

- When originally attached to the walker, the sensors would not pick up elevation change or objects around 20cm off the ground. So, I had to angle the sensors more towards the ground.
- Kinect just stopped working out of nowhere, found out it was because of wiring
- My algorithm for navigation for the sensors had some issues, so I was testing and then fixing up the code a lot

Plans for next week:

- More Data Collection
- Kinect working with TensorFlow





Results

Obstacle	HC-SR04 Sensors	Actual Distance
Wall	92.3 cm	91.9 cm
Door	54.6 cm	53.7 cm
Person	110.2 cm	110.3 cm
Stairs	52.3 cm	51.8 cm
Curb	76.9 cm	72.3 cm
Backpack	42.6 cm	42.5 cm



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Ultrasonic Sensors attached to Walker



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Data Collection





