Project Overview

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Digital Image and Video Processing

The Process

Here is where we will write down some of the highlights during this project process

Presentation Details

Here is where we will talk about the elements we want to include in our presentation so we do not forget.

- Strategies we employed to overcome the problem of a small dataset - which image processing techniques we had to use
- A demo video where we film one of us trying out the final project - we can have someone blindfolded and looking for a trash can with the device

Technical Deets

Hackery Ideas

This sub section will have overarching ideas on what we could do to overcome some engineering problems.

- 3D projections as weights
- Create our own weights using what statistically resembles weights
- Generate "images" where there are trash can shapes in the foreground/background
- Using laws of perspective for distance/depth

Protocol for Device/Localizer

The Needs:

- To find a trash can
- Localize the trash can
- Update location in real time

Protocol:

- Strip that attaches to the cane or something that you wear around your wrist
- Localization is circular around the wrist (haptic feedback with diff intensity levels)
- Wrist because it can tell you how to put it in there
- Also depending on task the protocol can be transferrable to other tasks too

The Market

- It isn't a small market ...
- 285 M visually impaired
- 39 M completely blind

Challenges

- Safety - need to account for hazardous situations - cant be making person cross streets, construction areas