



# The Sixth Sense

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## Goal

This project will use ultrasonic sensors to enhance a white cane, allowing it to inform the user of oncoming obstacles at a distance. The goal is to give the user more time to react when encountering upcoming obstacle.

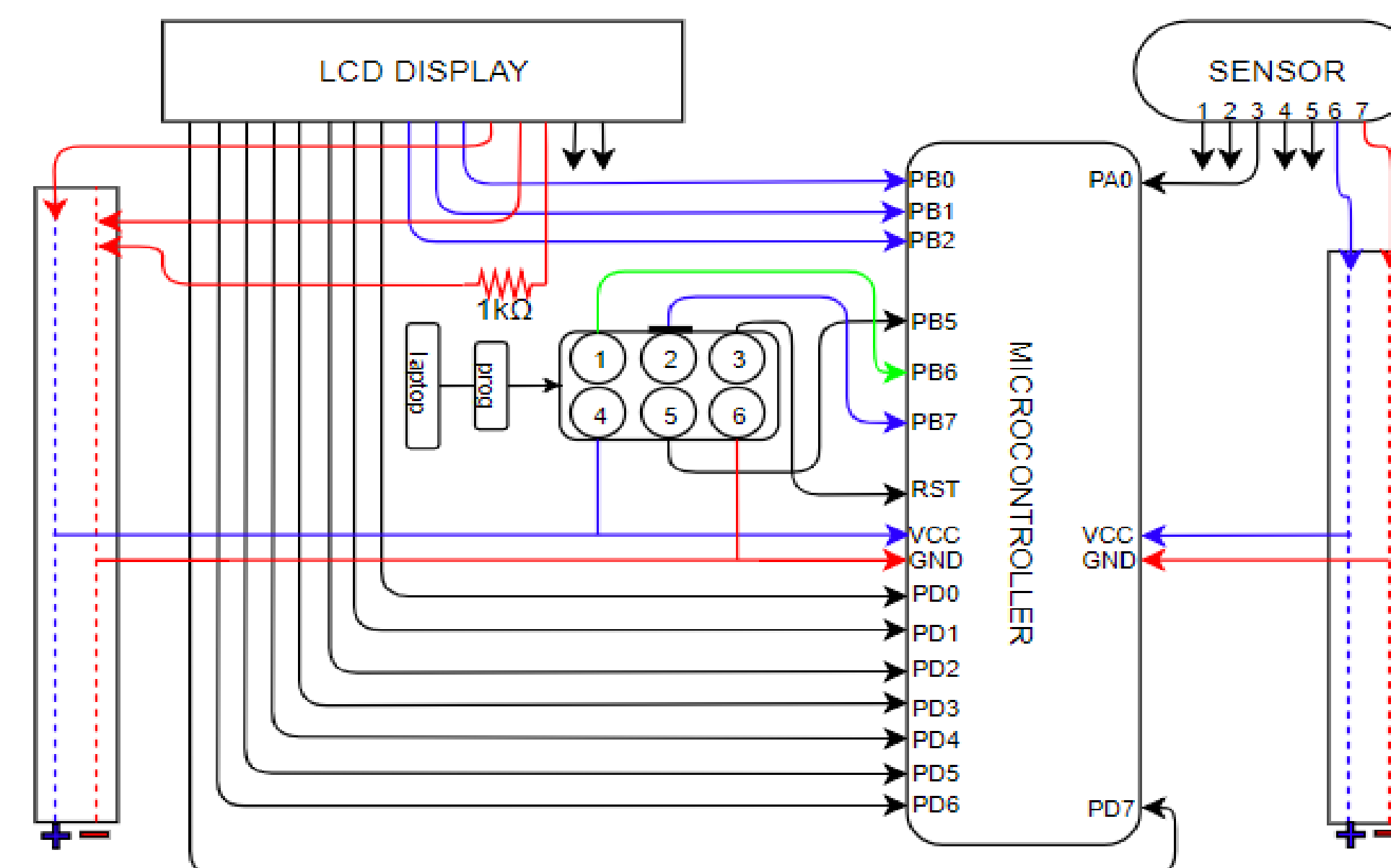
## Introduction

A 2015 study revealed that there is an estimated 7 million people who suffer from a visual disability in the US alone. Our project hopes to create an improved walking cane that can aid the millions of legally blind people to maneuver around their communities.

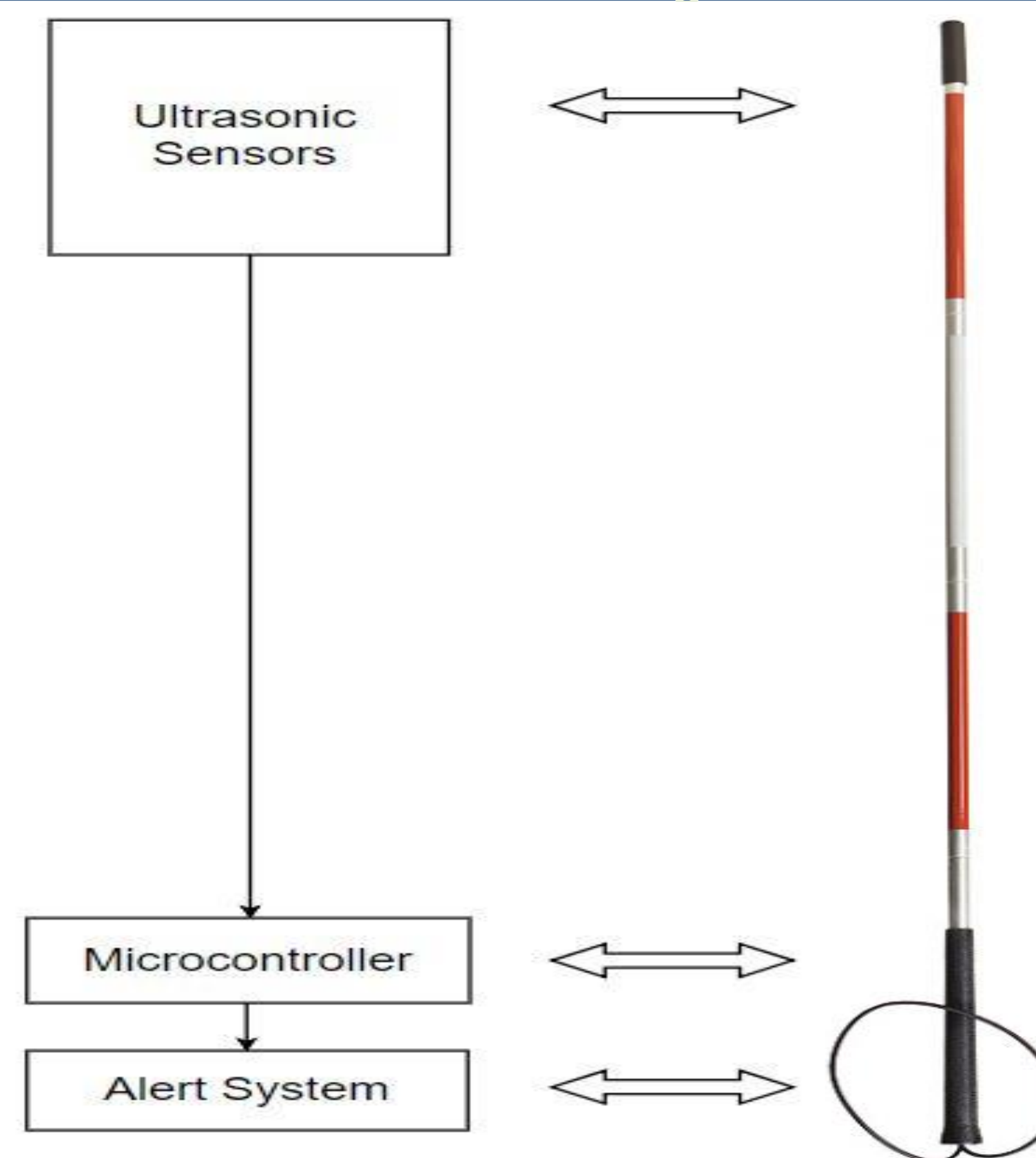
## Current Progress

We have already finished the program to receive data from the ultrasonic sensors and transformed it into recognizable information that the user can read. We have built the prototype on a breadboard instead of on an actual white cane and it works as expected. For the sensor, we used the analog voltage output rather than the pulse width output and the RS232 output.

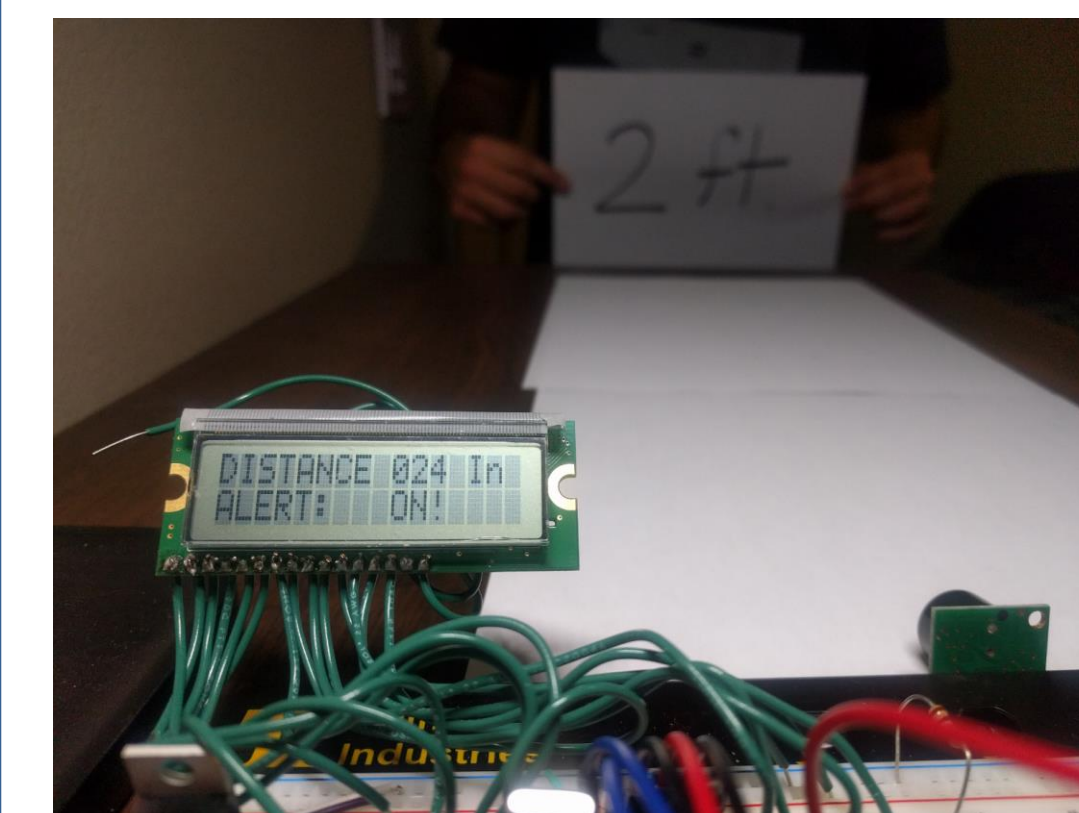
## Schematic



## Abstract Design



## Prototype: Alert ON



Alert the user of an object that is less than 30 inches away from the sensor.

## Prototype: Alert OFF



Alert off when the object is more than 30 inches away.

## Senior Project II Goals

The challenges for next quarter:

- |                     |   |                                |
|---------------------|---|--------------------------------|
| 1. Single Sensor    | → | Multiple Sensors               |
| 2. LCD Alert System | → | Vibration / Motor Alert System |
| 3. Breadboard       | → | White Cane Casing              |
| 4. Damage Prone     | → | Impact Resistant               |

## Contact

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## References

1. Winter, B. (2015, October 15). 10 fascinating facts about the white cane. Retrieved from <https://www.perkins.org/stories/10-fascinating-facts-about-the-white-cane>



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