

Project 3: Design Plan

Ben Miller and Andrew Zhou

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Purpose

The purpose of our design is to enforce social distancing by using a display that tells a person whether or not they are six feet away from the next person.

Inputs

An ultra sonic transducer is used to detect if a person has passed the transducer's line of sight. An audio transducer determines whether or not the system is on or off based on the currently detected amount of noise.

Outputs

An LCD output display alerts the next person whether or not it is safe to pass. Additionally, a seven segment display is used to alert the next person how long they must wait before it is safe.

Constraints

Only one person can be detected at a time due to the ultra sonic transducer only detecting objects within its line of sight. Additionally, the object being detected must be within four meters of the ultra sonic transducer. While a timer will be used to attempt to prevent a waste of power, the audio transducer's sensitivity may cause false positives.