

# Late Night Door Guard

ECE153B Proposal

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## Overview:

For this project, we will use the LPC4088 to create a device that senses the distance between two objects. If there is a certain distance that we don't expect, the alarm will be triggered.

We are imitating a door of a house. At about 12:00am to 5am, the door is not supposed to be opened. So if the sensor senses the distance that is greater than 0, the alarm should be triggered.

## Peripherals:

- Speaker
- Ultrasonic sensor

**Software design:**

We will need an ultrasonic sensor to sense the distance between two objects, and connect this external part to the board, and read the data from the sensor. If the distance is greater than 0 (which represents that the door is open), the speaker will play a given sound or music.

**Goals:**

- Be able to check the distance between two objects
- Get data from the ultrasonic sensor
- The speaker will play sounds

**Group Responsibilities:**

Xihan will focus on connecting the ultrasonic sensor to the board. Yingchao will do the code part. Joyce will focus on making the speaker work.