

E \overline{L} AB

PROJECT PROPOSAL

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Don't disturb the Neighbors

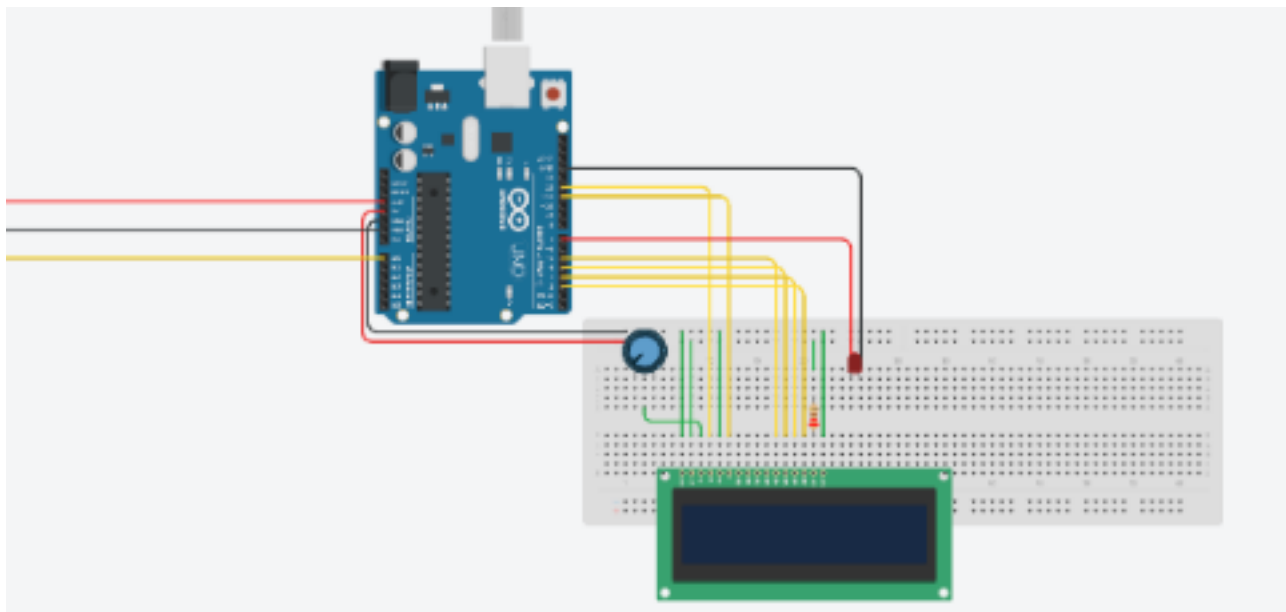
Abstract

The goal of this project is to create a noise activated alarm to police my volume level. I have trouble hearing and, as a result, wind up yelling without noticing. This problem is compounded by the fact that I am often wearing headphones while working remotely so any chance I have of noticing goes out the window. My plan is to use a sound sensor in conjunction with an arduino and an LCD display to create a sound monitor. The stages of this are to

- Wire the device
- I will need to test to discover an exceptable noise threshold and what analog value it corresponds to.
- I will also need to develop a solution to handle High amplitude, low duration sounds like bumps and thuds.
- If time allows I will program a decible scale into the display. Untill then it will only display the analog value. This is less scientific but still usefull in the itnerum.

Schematic

The build will be laid out as followed.



The three wires at the one end of the schemtic are connected to the sound sensor's, Vin, Gnd, and Envelop pin, respectively. The envelop pin will allow me to only measure amplitude, greatly simplifying the build.

Components

- 1x Arduino Uno
- 1X 16x2 LCD display
- 1x Sparkfun sound detector https://www.microcenter.com/product/613577/Sound_Detector?storeID=121
- 1x LED
- Wires and solder