Materials

- Arduino Uno
- LCD
- Ultrasonic Sensor or PIR Sensor
- Whatever else is needed for alarming purposes

Background & Set-Up:

HC-SR501 Passive Infrared sensor (PIR) Motion Sensor measures IR radiating from objects in its field of view. It is used to detect motion or presence. The PIR has a digital output that goes high when presence detected. For more info and tutorial: https://learn.adafruit.com/pir-passive-infrared-proximity-motion-sensor/overview

Ultrasonic Sensor works like sonar or echo-location. It emits high frequency sound waves to detect distance. The sensor outputs a trigger signal (digital out) then monitors for an echo signal (digital in) to calculate the time until the waves are reflected back to see how far away the objects are. For more info and rutorial: https://www.instructables.com/id/Simple-Arduino-and-HC-SR04-Example/ https://www.makerguides.com/hc-sr04-arduino-tutorial/

Goal:

We want to create an alarm system using our Arduino that detects a presence and triggers an alarm. You can use the PIR or ultrasonic sensor (or both). The alarm is left up to your imagination. Be as creative as you can. Set off a buzzer to play a song or turn on a motor that triggers some sort of Rube Goldberg machine action. Anything you want!