

Tim's Cream

The Detect-inator

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Problem Statement

It's hard to notice the dangers around you when you're so immersed in your Fortnite games or watching your online videos. In a matter of seconds you could be engulfed in the flames of a wildfire or drown due to a sink leakage. A burglar could rob you silly or you could miss the sound of a nuclear bomb siren. If only there was some way to alert you of these dangers in your surrounding so that your mind could be put at ease!

Solution

The Detect-inator is a multi-functional and viable solution to this problem that plagues our everyday lives. The Grove module contained in the Detect-inator allow it to become your personal assistant carefully watching your surroundings to warn of you of imminent threats. These analog and digital inputs are all connected to the central Grove board which attached to the Launchpad can be programmed through Energia to become the Detect-inator.

(Used modules are in **bold**)

The **moisture sensor** is used to detect moisture and plays a buzzing tune from the **buzzer**.

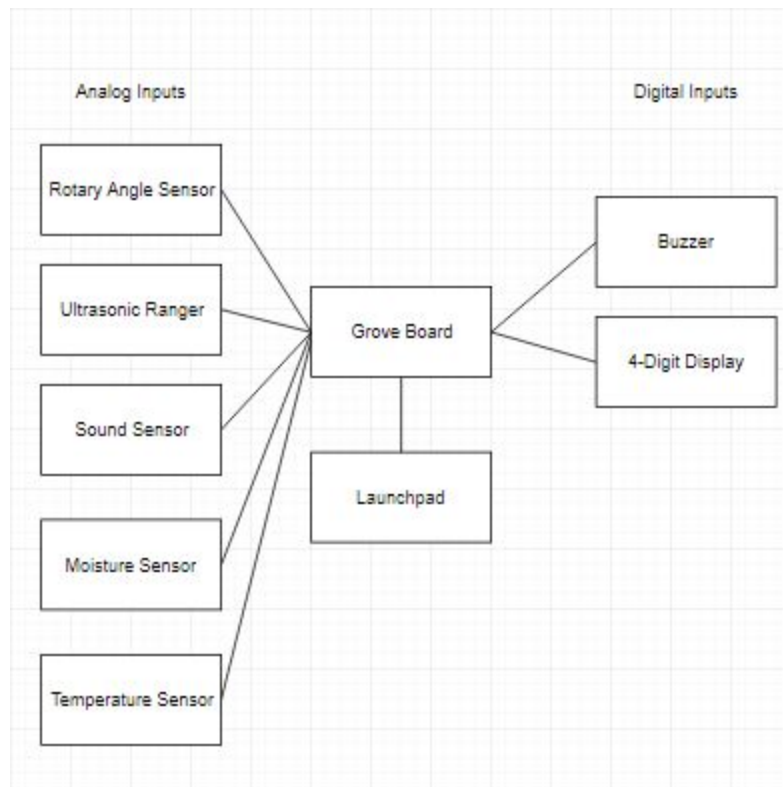
The **temperature sensor** is used to detect heat and plays a different buzzing tune.

The **ultrasonic ranger** is used to catch any burglars sneaking up on you and plays another, also different, buzzing tone to alert you.

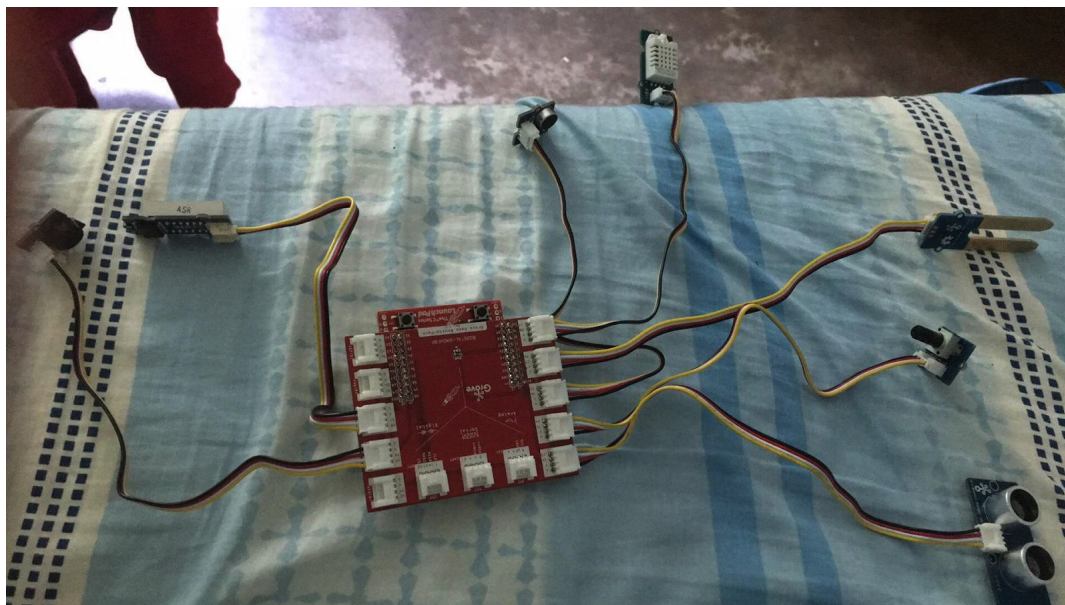
Finally the **sound sensor** detects any loud noises around you such as a warning siren and alerts you even more.

The **4-digit display** is used to display different information based on which module is selected by the **rotary module**

Loose Block Diagram:



Photograph of Solution



Improvements for the Future

I see the Detect-inator as an Internet-Of-Things home alarm system which could detect all of these dangers from anywhere in the house and alert you based on an app on your smartwatch or phone so that the alerts would be a physical vibration on your body that could wake you from your sleep or disconnect you from your studies. This would mean more calibration about what levels of moisture/heat/noise threshold and also an ability to have the 4-digit display be transmitted and viewed off-board as well. I would also suggest adding an option to disable to the motion detector so you or your loved ones/guests don't set it off on accident.

Slide Used for Presentation:

THE DETECT-INATOR

Wednesday, Tim's Cream

A different song for every alert

