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இலங்கை தொழில்நுட்ப பல்கலைக்கழகம்

In Car Oxygen Level Detector

Project Proposal

Batch 06 – Group 25

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Content

Project Overview

We have to create a in car oxygen level detector with a display to show the percentage of oxygen which present in the car. But with this detector we can't control the oxygen level inside the car. We are planning to setup an alarm system to this detector when the oxygen level gets lower or higher and the reason for this alarm system is because there are more accidents occur in these days.

The important causes of using this detector in the car because of much death Occur in the car due to suffocation problem by an air conditioner or by smoking inside the car and in absence of parents, some small kids are playing inside the car. When they accidentally locked themselves inside the car and window getting closed. They unable to open the door or window and they struggle to breathe inside the car after an hour, this may turn to unconscious and cause death. Many people are sleeping inside the car with fully closed window and with air conditioner sometimes this may cause unconsciousness death. Because Experts say that in less than an hour one can die of carbon monoxide from the air conditioner.

O2 Sensor

Suffocation Death in Car

Details of the solution

We supposed to do this using a O2 sensors which are used in cars nowadays and connect it to a display. But we have to find a way to show the measured O2 level to the display. Therefore, we have to programme this circuit to identify oxygen level. We have found that we have to do it using Arduino language. In addition to that we have to create a circuit.

Following are the basic components which will use to make this 02 detector.

- Adafruit Pro Trinket 3v micro controller
- Adafruit Lipo backpack charger for the Pro trinket with battery
- Adafruit ads1015 breakout board
- Display
- Resistors
- Push up button
- Mono mini headphone plug
- Hookup wire
- Audio Jack - 3.5mm (Panel Mount)
- O2 Sensor
- Sensor Cable
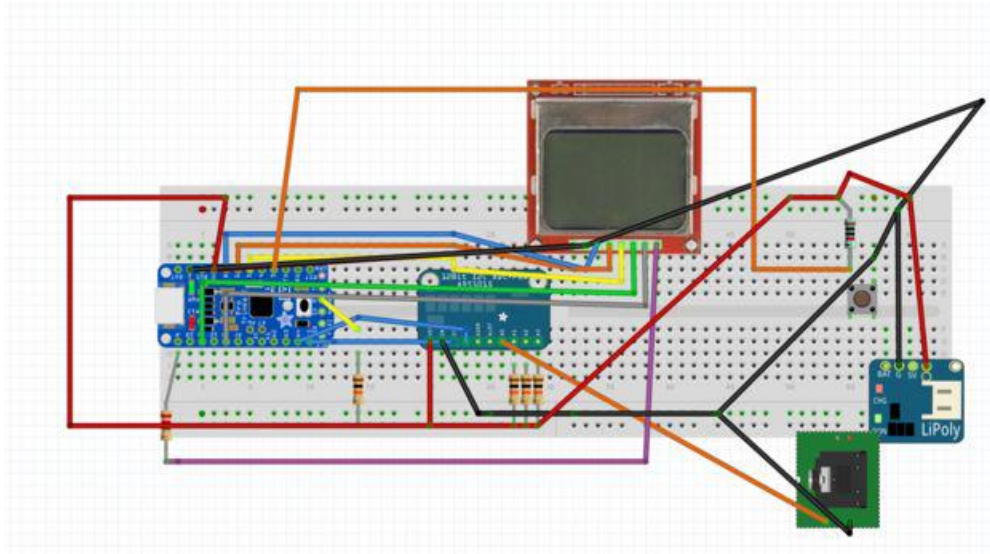
Circuit Diagram

Final Product

Allocation of tasks

Task Name	Start Date	End Date(DD/MM)	Duration(W.D)	Days Remaining	Completion
Create the project group	18-Mar	25-Mar	6	0	100%
Analyzing the Project	23-Mar	06-Apr	11	2	80%
Arranging Funds	07-Apr	20-Apr	10	16	50%
Executing the Project	20-Apr	17-Jul	65	104	10%
Necessary purposes	20-Apr	31-Jul	75	118	10%
Testing the Project	17-Jul	03-Aug	11	121	0%
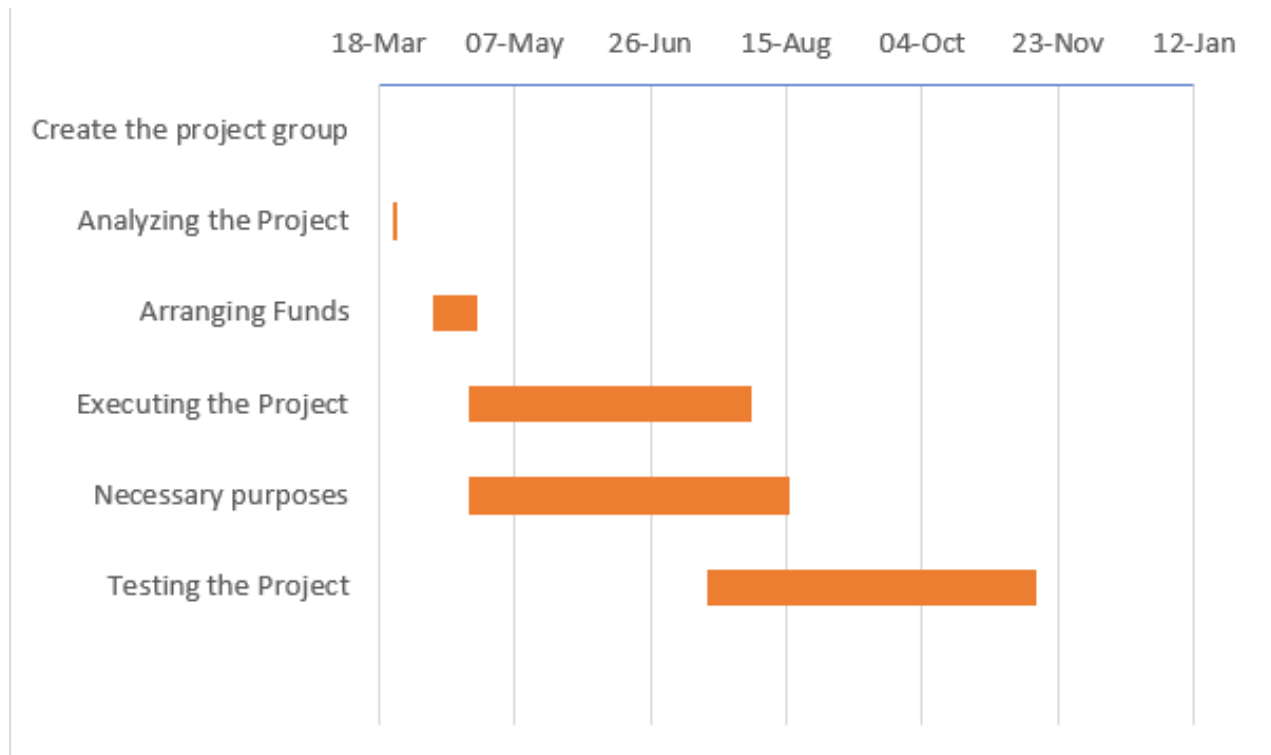
Budget

Item	Cost
Adafruit Pro Trinket 3v micro controller	9.95$
Adafruit Lipo backpack charger for the Pro trinket with battery	5$
Adafruit ads1015 breakout board	10$
Display	10$
Resistors	2$
Push up button	0.5$
Mono mini headphone plug	2$
Hookup wire	0.5$
Audio Jack - 3.5mm (Panel Mount)	0.5$
Sensor Cable	4$
O2 Sensor	20$

Key Personnel

Saliya Ranasgalla - Group Leader, Hardware Analyzer

Muditha Neranjan - Material Collector, Finance Manager

Tharusha Withanage - Material Collector, Designer

Nadun Dilanka - Report Writer, Designer

-Thank You-