CSE299 (Junior Design Project) Proposal

Project Title:Driver's Safety and Accident Identification by GPS and Ultrasonic Sensor.

Semester: Summer 2019

Sec: 14

Group-01

Group Members

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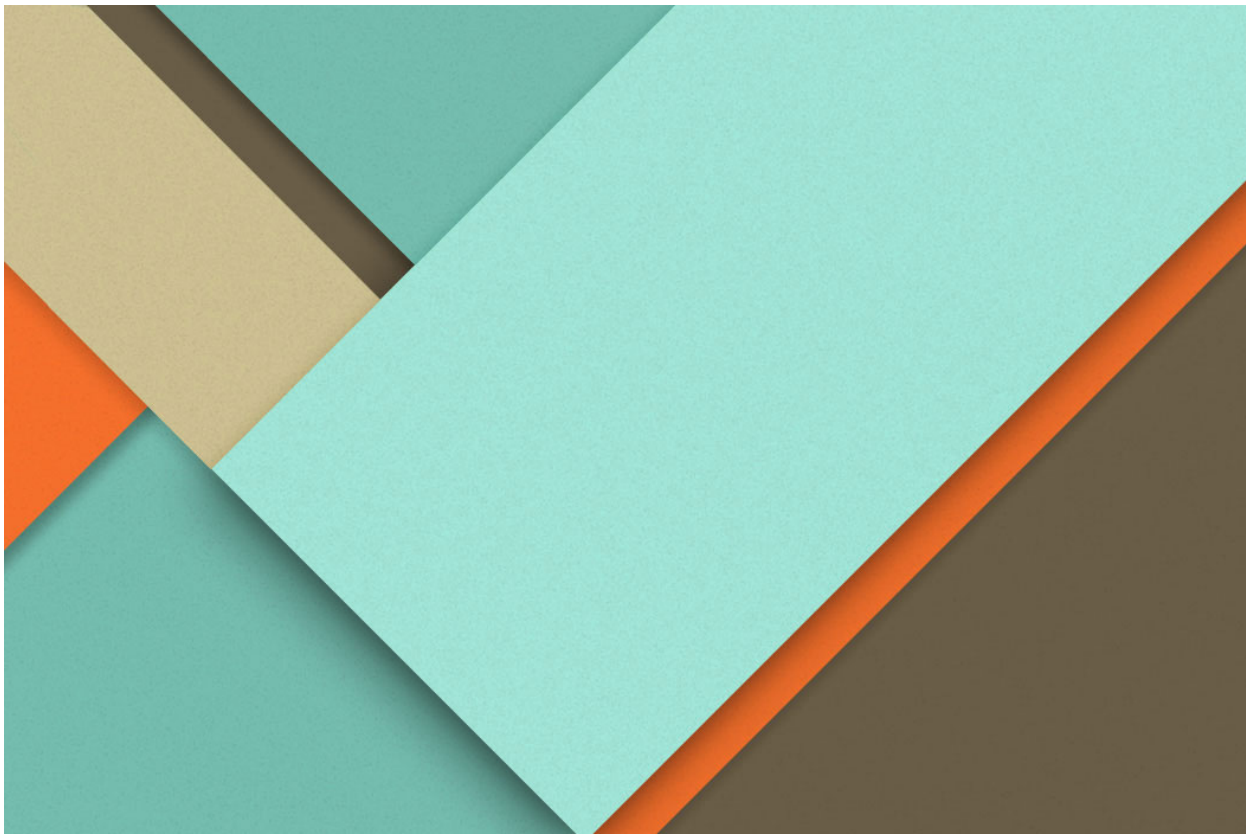
Submitted on:*24.05.2019*



Drivers Safety and Accident Identification by GPS and Ultrasonic Sensor.

24.06.2019

Index

Introduction:

Today road accident is the massive problem in our country. Everyday so many people are injured and also lost their life by vehicle accident. Most Of The time the victim loses their life because we can not rescue them in timely. So every year we lost so many lives by car accident. In our society most of the parents give their car to their children for driving,they don't know where their son is. Most of the time they faces accident but their parents don't know about that. As a result they lost their children.

So we want to make a device that send us notification when and where the accident occurred and also send the notification to the emergency number that also up to the users.

Goals

1. To Fix The Problem and make out a solution
2. Make a device that helps the people to avoid accident and after accident they can assure that someone will come to help him.

Background Research

we searched so many project idea on search engine to know about how we improve our idea and apply on our project. We got some idea from those type of project but most of the project is based on accident detection and buzzer system but they don't send the notification to the emergency numbers. But we want to add some specialty on our project that send the notification to the emergency number like Police,nearest hospital etc and also send the notification to the victim priority numbers.On this notification victims current location will be sent by this sms.

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Overall Idea

We make a device with arduino and multiple sensor with GPS module and GSM module that will send the victim current information when he got accident and also help the driver to drive their car in the cloudy or foggy weather.It will send exact Gps location to the emergency services and vehicles owner or many people(it will depend on owner) .Owner can monitor his vehicles any time.If the vehicles have been stolen , owner can easily trace its location.Drivers can take necessary actions to avoid collision.Also driver can easily park at rare gear for rare side collision avoid system

Tools

1.Arduino Uno

2.Arduino nano

3.GSM 800l

4.GPS VK-16e

5.16*2 LCD Display

6.Demo Engine Motor

7.Buzzer

8.Registar

9.Hc-Sr04-ultrasonic sensor

10.LED Lights

11.Jumper wire

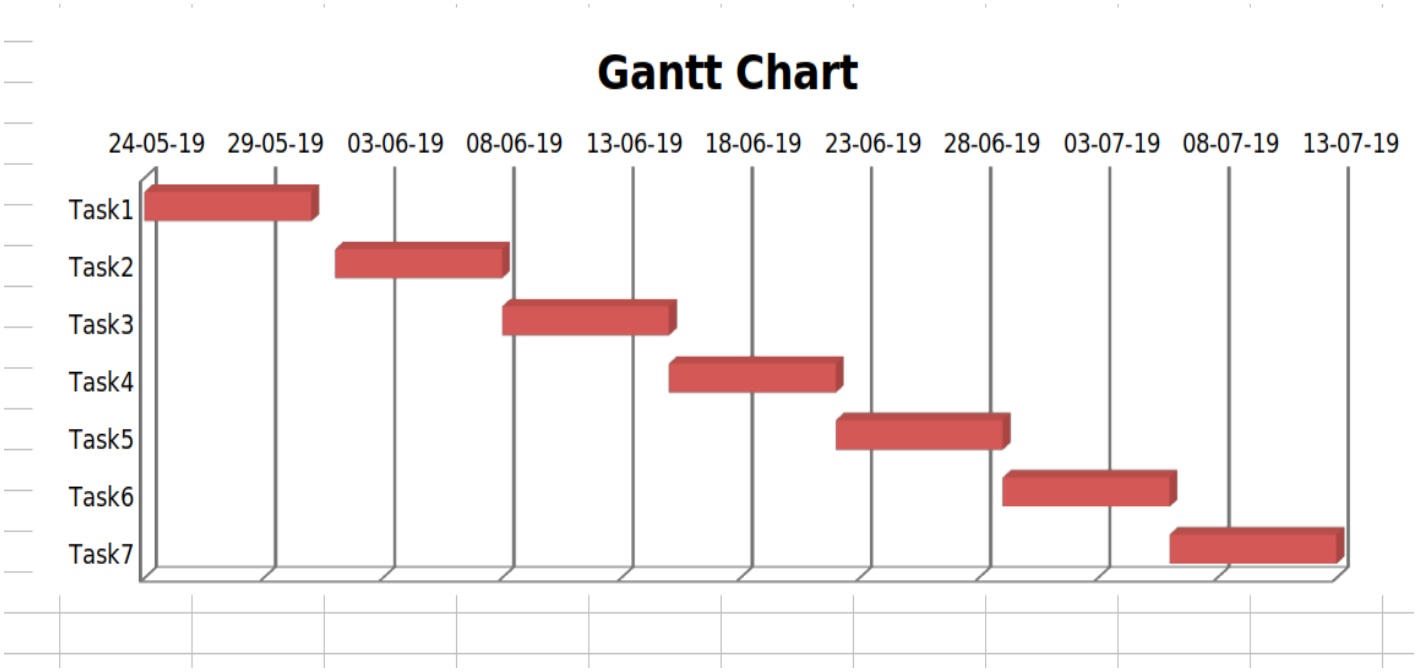
Budget

Tools	Price(taka)
Arduino uno	450
Arduino nano	350
Gsm 800l	2300
Gps vk-16E	900
16*2 Lcd display	100
Demo Engine motor	350
buzzers	20
Resistor	08
Hc-Sr04-ultrasonic sensors	360
Led lights	10
Jumper wire	100
Total	4948

Project Plan

Task Number	Date To Start	Days To Finish	Work
Task1	24-05-19	7	Will buy the tools and testing them r okay or not,will design the circuit diagram of gps module part.
Task2	01-06-19	7	Will complete the full circuit diagram and start arduino code for gps module and gsm module code.
Task3	08-06-19	7	Will complete previous code and start collision avoiding and notification code.
Task4	15-06-19	7	Will complete collision avoiding code and assemble the tools of collision avoiding part.
Task5	22-06-19	7	Complete the previous part and starting assemble the gps and gsm tools with code.
Task6	29-06-19	7	Assemble the sensors ,with both of part and will attach both part.
Task7	06-07-19	7	After attaching will go for a testing.
			Holiday-Eid-Ul_Adha
			Project will be ready for present.

Gantt Chart



Task We Do in Individual

Name	Task
Md.Mamun Howlader	Coding and helping to make that device successfully.
Md.Habibullah Khan	Making Circuit diagram and work for doing this project.
Mahabubur Rahman	Testing and work for doing this project.

References

1.https://www.pololu.com/product/2191

2.https://components101.com/ultrasonic-sensor-working-pinout-datasheet

3.https://www.elprocus.com/gsm-architecture-features-working/

4.https://learn.sparkfun.com/tutorials/gps-basics/all

5.https://www.circuito.io/blog/arduino-code/

Appendix

Mapping With BS Courses

SI	Course Code	Course Title	Course content that Were used in project and how
01	CSE231	Digital Logic Design	IC and Circuit Diagram.
02	CSE323	Operating System	Knew about arduino and it works and also knew about different kinds of sensor and it work and also know how to code.

Details About Tools

1.Arduino Uno-The **Arduino Uno** board is a microcontroller based on the ATmega328. It has 14 digital input/output pins in which 6 can be used as PWM outputs, a 16 MHz ceramic resonator, an ICSP header, a USB connection, 6 analog inputs, a power jack and a reset button. This contains all the required support needed for microcontroller.

2.Arduino nano- same as arduino uno

3.GSM 800l-SIM800L is a quad-band **GSM**/GPRS module that **works** on frequency.

4.GPS VK-16e-A **GPS navigation device**, **GPS receiver**, or simply **GPS** is a device that is capable of receiving information from GPS satellites and then to calculate the device's geographical position.

5.16*2 LCD Display-**display** something

6.Demo Engine Motor

7.Buzzer-A **buzzer** or **beeper** is an audio signalling device

8.Resistor-A **resistor** is a passive two-terminal electrical component that implements electrical resistance as a circuit element.

9.Hc-Sr04-ultrasonic sensor-**Ultrasonic** sound vibrates at a frequency above the range of human hearing. ... Our **ultrasonic sensors**, like many others, use a single transducer to send a pulse and to receive the echo. The **sensor**determines the distance to a target by measuring time lapses between the sending and receiving of the **ultrasonic** pulse.

10.LED Lights

11.Jumper wire