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GSM AND GPS BASED WOMEN SAFETY WITH RFID

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Abstract

The purpose of this project is to provide women employee's safety travelling in cabs. To identify thewomen/person sitting in the vehicle we are usingRFID identifier. GSM and GPS modules are used toknow the geographical location of the vehicle on earth. In this case the vehicle (project kit) knows the person entering into the vehicle by using RFIDcard. In case of emergency the RFID number will besent to police or family members of the with the identity of the person along with the location. Alerts family and police and gives location coordinates of

***Key Words*: Microcontroller, RFID, GSM, GPS etc.**

1. INTRODUCTION

Many unfortunate incidents have been taking place in woman's case. Problems may come from any direction such as women walking on the road after the work, going to super market or many other reasons for which they go alone. People at home are not sure of their return safely. Another factor is woman die without knowing the reason as they attend excursions and industrial trips conducted by the organizations. It happens due to attacks on woman but not suicides. There might be a situation in which the person has to travel alone a long distance at an odd hour and perhaps even by public transport and may face some danger. At such a time, a personal safety app might not only be wise to have easy access to, it might also give you a lot of confidence needed. There might be a situation that when women had an accident in the late night and there are no one to help and to take care of them. In such situations the person will not be able to tell the situation that he/she facing. And they do not know the basic first- aid details and to know the person where the incident has happened. To escape from the un-wanted meetings we do not know the way to escape from that meeting because we do not know the fake calls working. These are some of the problems that have taken place in the day to day life of women. The objective of research work is to create a safety system in the form of a portable safety device for women ,that does the following tasks:the woman being attacked.

2. LITERATURE SURVEY

RFID technology has generated much hype in the last few years. The major driver for its development has been the tagging of physical objects – people, places, and things –with single chip radios so they can interface with computers. RFID technology is both hailed as the key to the —Internet of Things,‖ and condemned as invasive surveillance technology, and in more extreme circles it is feared as the Mark of the Beast. An RFID system can be broken down into two key dimensions. The technical infrastructure includes the actual data capture technology comprised of tags, readers, and transmission medium. The logical infrastructure refers to the overall identification (ID) scheme used in representing objects

2.1 Existing system

GSM and GPS based vehicle tracking system is currentlyused. This system consists of GPS module attached to a button in the vehicle. In case of emergency, the switch attached to the GPS can be pressed. The GPS that is used here is Tectonic FM1100 . When any problem occurs the employee travelling in the vehicle presses the switch attached to the GPS. GSM module attached to this GPS and switch is used to send the message to a special team of the organization. Although this system seems to be efficient, at times there are some drawbacks because the drivers may not be trustworthy.Another existing method is an application based prototype . It is interfaced with GPS, GSM and a spy camera. The user must register the emergency numbers. This is an android app which provides all facilities but it has a disadvantage that if the mobile phone of the victim is thrown away by the opposing person, this model cannot be used efficiently. To overcome these disadvantages we propose a model.

3. IMPLEMENTATION

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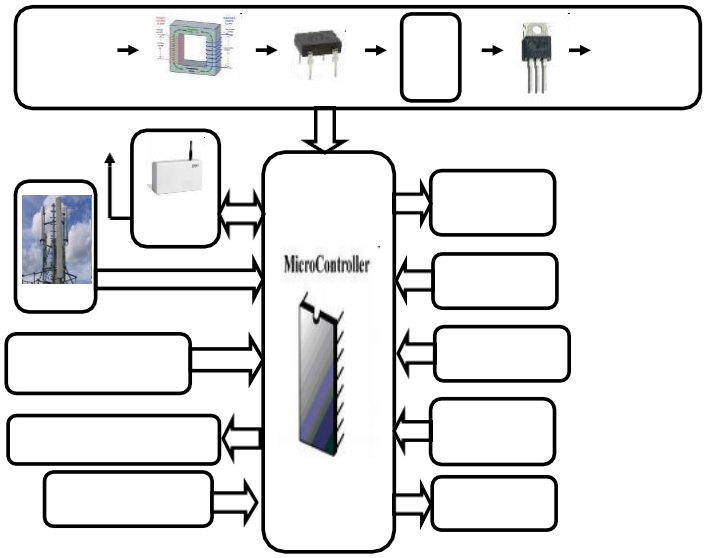
3.1 Block Diagram

GPS & GSM based women safety with RFID

- Converting the available AC supply to DC.
- Using rectifier for conversion of AC to DC.
- Regulator to Provide Regulated power supply.



Regulated power supply

O/P/O 230VerTransformerRectifierRegulator 5V **GSM**[DC]GSM stands for Global System for Mobile communications, reigns as the world's most widelyused cell phone technology. Cell phones use a cell phone service carrier's GSM network by searching

GPSGSM

Mode mindicators Accident Sensor Emergency for cell phone towers in the nearby area.

GPS

GPS stands for global positioning system, which **FID Reader LCD Display Crystal oscillator Alert Button Reset Button Buzzer provides** unequalled accuracy and flexibility of positioning for navigation. PS provides accurate location and time information for an unlimited numberof people in all weather, day and night,anywherein theworld.

Fig -1: Block Diagram

This the block diagram for GPS & GSM based women safety with RFID . This is based on Microcontroller PIC16F876A . and RFID reader scans the information of the women and its is tracked by GSM and the location is send by GPS . we use LCD to display the location of the Women.

Microcontroller (PIC16F876A)

This micro controller is used all over the world. It has 28 pins out of this we use 22 pins has input and output pins. Flash data memory is of 8192 bytes and EEPROMdata memory is 256 bytes. And the oscillator frequencyis 20 MHz

RFID Reader

RFID Reader is an acronym for Radio Frequency Identification. It is a technology that incorporates theuse of electromagnetic or electrostatic coupling in the radio frequency portion of the electromagnetic spectrum to

uniquely identify an object ,animal ,or person. The technology can be used to identify , track, sort or detect a wide variety of objects.
Communication takes place between a reader (interrogator) and a transponder (tag).RFID canstore data up to 2KB.

Regulated Power SupplyLED (Light Emitting Diode)
It is a combination of semiconductors which emits light when current pass through it . Over the years, semiconductor technology has advanced to bigger heights, Light Emitting Devices have also been a partof this revolution and as a result, Now we have LED'swhich give better illumination with low power consumption.

LCD (Liquid Crystal Display)

- A liquid crystal display (LCD) is a thin, flat electronic visual display that uses the light modulating properties of liquid crystals.
- Liquid crystal display is very important device in embedded system. It offers high flexibility to user as he can display the required data on it.
- These are used in a wide range of applications, including computer monitors, television, instrument panels, aircraft, cockpit displays, signage, etc.

Crystal oscillator

An electronic oscillator is an electronic circuit that produces a repetitive electronic signal ,often a sine wave or a square wave.PIC micro controller internallyhaving 4MHz clock frequency

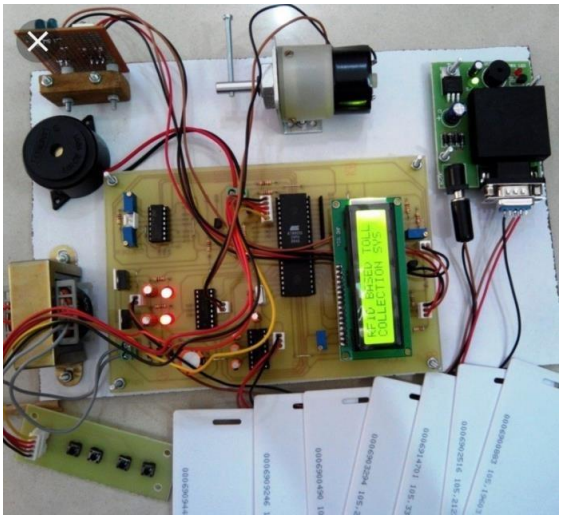
Reset Button

Reset button is a button that when clicked, will clear all of the fields in the micro controller, and executes the instructions from the starting address.

Accident sensor

The sensor is used to detect accident impact when wemeet the accident.

4. RESULT



5. ADVANTAGES

- Highly efficient and user friendly design.
- Easy to operate
- Users are identified with Unique RFIDcards.
- Low power consumption.
- Accident location of the vehicle can beknown using GPS.
- Efficient design.
- Works anywhere in the world (GSMavailability).
- In case of emergency intimation can it canbe sent to predefined numbers

6. DISADVANTAGES

- Modem should be properly installed for properworking of the system. Poor network signal can decrease theperformance of system.
- GPS takes time to get the signal from satellite,when the system is switched ON.

7. APPLICATIONS

- Accident locations and alerts can be sentimmediately to reduce the loses.
- Also can be used for vehicle tracking.
- Child and animal tracking.
- Vehicle Security Applications.
- Women safety alerts in cabs.

8. CONCLUSIONS

Going serially as per the objectives mentioned, a location tracking subsystem was successfully implemented and the corresponding results were logged. It allows to check the location of the person using the Tag. The Reader which is embedded in each vehicle, recognizes the details of the particular person. When the car picks up the person; he/she needs to swap the RFID card. The micro controller matches the RFID card no with its database records and sends the person id, cab id & the cab position co- ordinates to the company unit via GSM module. Based on the location tracking, it identifies the person information and driver information will pass to the police station and every cross area is measured and updated information is pass to three person during emergency situation. This will help police to identify the person location and to start enquiry about the driver who drives the vehicle. In future the vehicle location and the driver information will be send to the two predefined contacts.

9. FUTURE SCOPE

- By using this project, we can save the time andfor vehicle tracking it is very easy.
- By interfacing MMC/SD card to the system wecan log the path of the vehicle being traveled

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