



SYNOPSIS ON

E - Vahan

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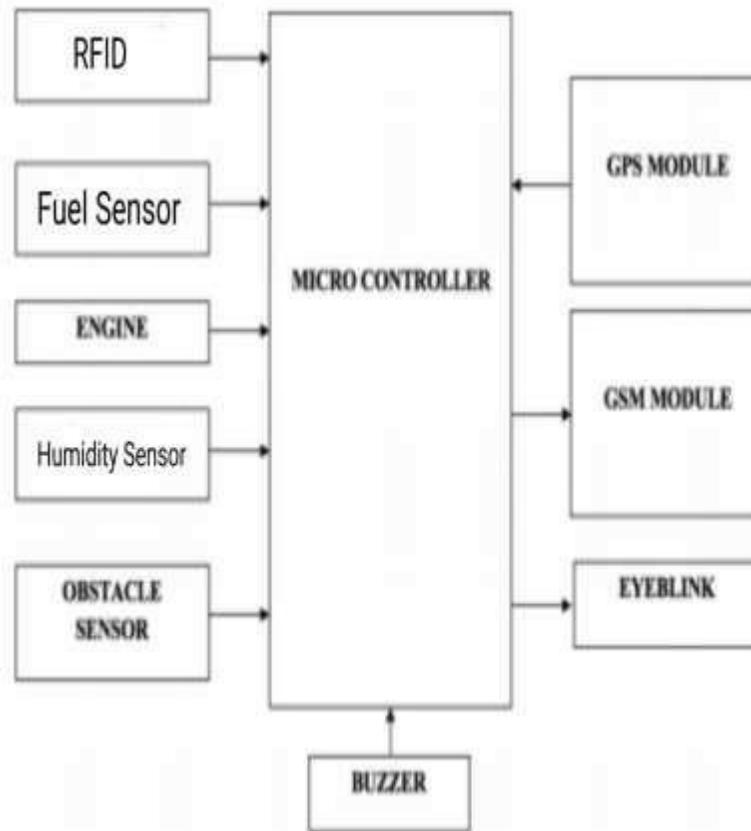
INTRODUCTION

Before the discovery of the wheel, primitive man would remain secluded from other groups and communities. They could commute only within walking distance. The discovery of the wheel entirely evolved the early man life. His social boundary also grew with time. With passing time, primitive man evolved to a mannered, civilized individual and refined the design of the wheel. With the advent of technology, transportation has become an indispensable part of our lives. Though it has countless advantages and uses, we have to deal with the major problem it brings with it that costs human life. Statistically, according to Ministry of Statistics and Program Implementation, there were 114 million motor vehicles registered in India in the year 2009 and 159 million in the year 2012. The data provided by Delhi Statistical Hand Book clearly indicates the rise in the number of registered motor vehicles from 534,000 to 877,000 in the year 2014–2016 thus increasing the number of accidents and in turn the casualties associated with the surge. Data collected by the National Crime Bureau and Ministry of Road Transport and Highway revealed that in the year 2013 more than 100,000 people lost their lives in road rage. Despite the efforts of awareness campaigns, road signs, and traffic rules, motor accidents accounted for 83% of total traffic-related bereavements in the year 2015 as published by IndiaSpend.

Motivation

The Internet of Things (IoT) is making human life easy in all aspects. The applications (“**E-VAHAN**”) it offers are beyond comprehension. IoT is an abstract idea, a notion which interconnects all devices, tools, and gadgets over the Internet to enable these devices to communicate with one another. It utilizes information technology, network technology, and embedded technology. Various sensors and tracking devices are coupled to deliver the desired outcome thus making lives easier. IoT finds application in various areas, such as intelligent cars and their safety, security, navigation, and efficient fuel consumption. This project puts forth a solution to achieve the desired outcome of saving precious human lives that are lost to road crashes. In the proposed system, we are designing and deploying a system that not only avoids accidents but also to take action according

EXISTING SYSTEM



A Block Diagram

USE OF THE PROJECT

The arrangement of the idea to implement the functional requirements is elucidated under the heading system design. The arrangement of the idea to implement the non- functional requirements is elucidated in the system architecture section of this project report

The software development system model that best suits this project and aligns itself with the needs of the given project is the Agile development model. A block diagram, depicting the steps concerned in implementing the Agile development model.

Lack of concentration of the driver on the road because of some distraction or because of lack of sleep of the driver. The product aims to provide the following functions:

- External forces should not result in the damaging of the system.
- The framework must be able to explicitly identify and discover problems related to the components.
- The issue detected should be reported back to the system

The automotive system should have the capability to determine whether an accident has already taken place and thus should have the capability of sending the location coordinates of accident to a responsible person with the help of GSM technology.

The system utilizes GSM technology for the communication of code pattern to transmit location coordinates.

- 1)The system is Arduino Uno based.
- 2)The system should be able to communicate even from physically far off distances.
- 3)The system uses a RFID, ultrasonic sensor, humidity sensor, Fuel sensor, and GPS sensor

4)To practically put together all the components and execute them, the composition of various sensing devices in our system

Feasibility of Project

The software development system model that best suits this project and aligns itself with the needs of the given project is the Agile development model. A block diagram, depicting the steps concerned in implementing the Agile development model. In the Agile development model the entire requirement set is broken into numerous builds. Various development stages take place here, making the development cycle a “multi- step waterfall” cycle. Cycles are split into tinier portions, making the modules easier to manage and implement. Every module goes through the planning, requirements analysis, design, implementation or building, and testing stages. A running version of the system is delivered at the end of the first iteration, so we get a working model early on during the product development cycle. Each iteration releases a model with added modules integrating more functions to the last release.

This process goes on until the complete system is developed. These iterations are repeated in a loop till an end version of the system is refined and is the expected outcome is obtained.

- As the project deploys a real-time checking and a monitoring system, the outputs produced are further used to take the necessary actions and are thus feedback to the code to give an appropriate action for the further events.
- This process is redundant and cyclic in nature which is implemented whenever a driver enters the automobile.

FUNCTIONAL SPECIFICATION

This project deals with problems which cause accidents and attempts to ensure safety. This project addresses various reasons that lead to fatal accidents. Roads are unpredictable and at every turn of the road can be fatal accidents present and one cannot rely on the driving sense of other drivers and the pedestrians. One needs to be self-aware of the environment and the vehicles around. The driver should take all the precautions and be mindful of the people on the road as well because every life has value. Common reasons for accidents are the lack of concentration of the driver on the road because of some distraction or because of lack of sleep of the driver. The product aims to provide the following functions:

- External forces should not result in the damaging of the system.
- The framework must be able to explicitly identify and discover problems related to the components.
- The issue detected should be reported back to the system.

Software Specification:

- Technology Implemented : IOT
- Language Used : Integrated C
- Database : Aws Cloud
- User Interface Design : HTML , CSS
- Web Browser : Chrome

Hardware Requirements:

- Processor : i5
- Operating System : windows
- RAM : 8 GB
- Hardware Devices : Sensors , Arduino UNO
- Hard disk : 1 TB

FUTURE SCOPE

The Internet of Things (IoT) is making human life easy in all aspects. The applications it offers are beyond comprehension. IoT is an abstract idea, a notion which interconnects all devices, tools, and gadgets over the Internet to enable these devices to communicate with one another. IoT finds application in various areas, such as intelligent cars and their safety, security, navigation, and efficient fuel consumption.

This project puts forth a solution to achieve the desired outcome of saving precious human lives that are lost to road crashes . In this context, we propose to develop a system, we are designing and deploying a system that not only avoids accidents but also to take action accordingly. This research aims at dealing with the issues that cause fatal crashes and also integrates measures to ensure safety. Life without transportation is impossible to imagine; it makes far off places easy to reach and greatly reduces the travel time. But the problems which surface due to the ever- increasing number of vehicles on the road cannot be ignored. The project aims to eradicate a few of the major reasons of car crashes and also aims to integrate post- crash measures.

THANK YOU