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VEHICLE SAFETY AND COMMUNICATION SYSTEM

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ABSTRACT

Everyone nowadays requires the assurance of safer transportation. A car communication system can assist you in obtaining it. The primary motivation for a car communication system is safety and reducing the high cost of traffic collisions. According to the World Health Organization (WHO), road accidents kill approximately of traffic accidents is drivers' inability to respond to changing conditions in a consistent and approximate manner. As a result, we offer a system that alerts the user via a vibrator connected to the driver's seat when there is a risk of collision with another vehicle in the threshold range utilising some components such as arduino,sensors, and GSM etc. Furthermore, if an accident occurs with our respective vehicle, it shares the location of our vehicle.

KEYWORDS: *Arduino, GSM, Vibrator, Collision,Threshold range.*

I. INTRODUCTION

Vehicles play an important role in daily life because they are part of the method by which each person gets to their destination. As a result, the number of vehicles on the road is growing. This significantly raises the risk of an accident. In addition, approximately 50 million people are injured in traffic accidents. If preventive measures are not implemented, road deaths are on track to become the third leading cause of death by 2020. Making people aware of the occurrence of crashes is one of the most effective ways to reduce the high rate of accidents. When two or more vehicles are within Wi-Fi range of each other, they can communicate.

The exponential growth of vehicles on Indian highways in recent years, as well as the enormous number of fatal accidents, have enabled researchers to develop new generation technologies to assist the drivers travel in a more secure manner. One major cause of traffic accidents is drivers' inability to respond to changing conditions in a consistent and approximate manner. In fact, most accidents could be avoided if drivers could obtain relevant traffic information that is beyond their vision using vehicular communication technology. Car communication networks will be used for a variety of purposes. Because these applications have not yet been implemented, the following list is speculative and subject to change in the future. Furthermore, some of these applications necessitate the use of technologies that are not currently available. The car is an important part of daily life because it is used to get to each person's destination. As a result, the number of cars on the road is increasing. This significantly increases the risk of an accident. Keeping a safe distance between moving vehicles is responsible for nearly 70% of highway traffic accidents. The main cause of traffic accidents is a driver's incorrect judgement of safety distance. As a result, we offer a system that alerts the user via a vibrator connected to the driver's seat when there is a risk of collision with another vehicle in the threshold range.

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II. METHODOLOGY

The Design for Vehicle Safety and Communication System is

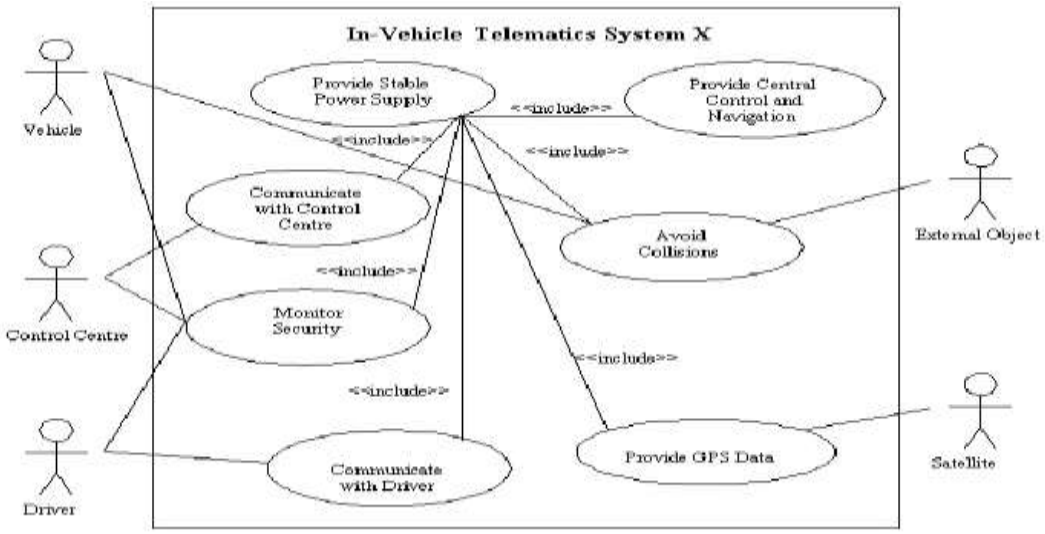
Design

Design Consideration

This technology is intended to warn the driver if there is a danger of a collision between two vehicles. Furthermore, if an accident occurs with our vehicle, the GPS module sends the location of our vehicle to the registered phone number.

III.MODELING AND ANALYSIS

The entire system is encased within a robust exterior construction that prevents any type of damage that could impair the system's operation.



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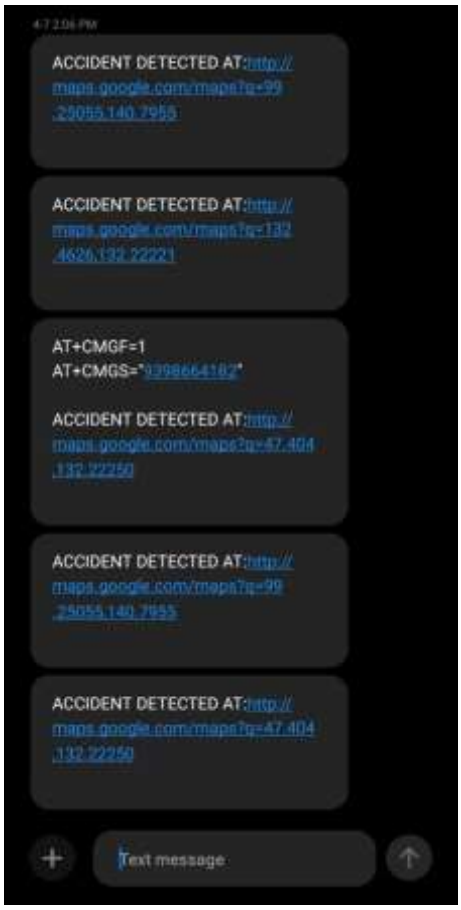
IV.RESULTS AND DISCUSSION

This is the project's sample screenshot.



V.CONCLUSION

The majority of road accidents can be avoided if drivers are warned of impending risk. Our project built a system that is both efficient and scalable. By giving early warnings, developing wireless technologies for vehicle-to-vehicle communications have the potential to significantly reduce the frequency of fatal roadside accidents. This device assists drivers in maintaining a safe space between their vehicles.

Many components of the vehicle industry are scrutinised, including as air bags, tyre pressure, mechanical and electrical parts, speed, breaking condition, steering condition, and distance detection. Aside from this, it is critical to instal a basic alert system in the vehicles so that one is notified in the event of a crash or other emergency.

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