

# AN INTELLIGENT CONTROLLED SYSTEM FOR SAFETY TRANSPORTATION

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### Abstract

The main concept of the system would be to transport a small vehicle safely and to reduce the effect of accident on the passengers. There would be no chance of accident caused by this particular vehicle from and it ensures the utmost safety of its passengers. This is accomplished by easier activities which are given as follows: authentication, one single bag system, pit avoidance system, accident avoidance system.

**Keywords--** Authentication, pit avoidance, safety.

## I. INTRODUCTION

The intelligent system for safety transportation mainly focuses on the elimination of traditional bugs in safety and ensures the complete utilization of the resources available. The automobile i.e. cars designed based on the concept of "Intelligence System for Safety Transportation" utilizes the existing system and added to it advanced features are also included. The car theft rate is increasing persistently and so are the accidents. In Intelligent System for Safety Transportation authentication schema, pit avoidance system, one single air bag system is implemented for controlling the rates of accidents and theft.

## II. EXISTING SYSTEM

The traditional existing system of automobiles has six airbags or dual airbag system which protects the passengers' skull and chest cage, but the system does not protect the rib cage, collar bone. The drawback of existing automobile is authentication system that is being used. One of the reasons for the occurrence of accidents is being driven by under aged citizens. This is avoided by the proposed system. During rainy season the automobiles may get stuck up in pits and potholes. To resolve this issue pit avoidance system is used in our system.

## III. PROPOSED SYSTEM

The proposed system will enhance the more developed features which will enable the car to transport in a safe way. It will protect its passengers by safe means by using airbags. It will also assure a comfortable ride in flooded roads by the usage of pit avoidance system. It will also cut the cost of transportation by using a hybrid one.

It will also authenticate the person for only those who are permitted to drive it.

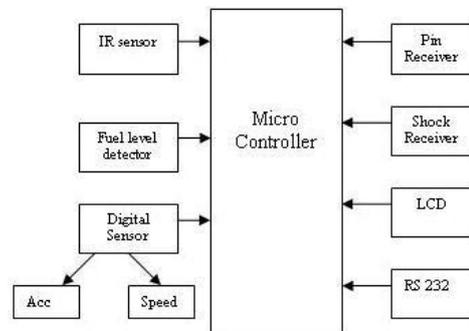


Fig 2.0 Architecture of the proposed System

## IV. AUTHENTICATION

The authentication has always been an issue, when it comes for a safety and luxury vehicle. Our system concentrates on authentication schema. The system is enabled with a pin code monitor, each and every time when the driver enters the car, the engine start is concatenated with three process. The existing key-lock system is the first process and the next one is a four digit code based pin service. The driver has to enter the pin, the pin entered will be matched on to the pin saved in the database. If the entered pin & the pin in the database is the same then the driver will pass through the second gateway. The final gateway is sensor authentication. Obstacle avoidance sensor i.e. IR (Infra Red) sensor is used to check the height of the driver if it exceeds the threshold height the driver will be authenticated through the third gateway and the engines starts up.

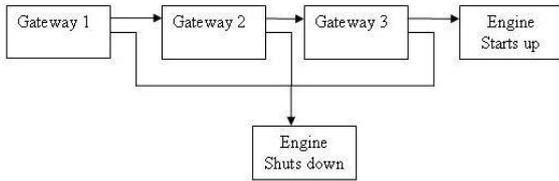


Fig 1.0 Control flow in Authentication Schema

If anyone of the gateway authentication fails, then engine shutdowns automatically.

#### V. PIT AVOIDANCE SYSTEM

As we know that in large ships, to understand the depth of seas we use SONAR. In the same way, we will use the system of SONAR in the cars to ensure that the car does not undergo a bumpy ride. The screen fixed in the car will display the pits and potholes being predicted as car moves in forward direction.

This will increase the conformability of the car.



#### VI. SINGLE AIR BAG

In the system we use the field of image processing. We would identify the edges of the body parts of the person in the car. Whenever an accident occurs the bag which is centered in the middle of the upper shaft of the car will blow out in such a way that the air bag will get modulated according to the body parts and its figures. This issues that the air bag will protect each and every part of the body of the person. This system thus eliminates the risk of the person getting damaged by the old system of Dual-Airbags & Six-Airbags which only protects the head and the chest. This is one of the significant features of the system.

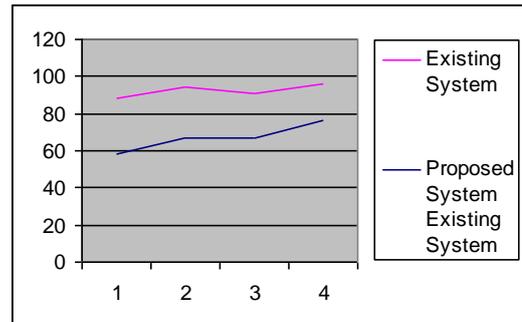
#### VII. INTER-COMPATIBLE ENGINE SYSTEM

The existing system of hybrid technology allows the driver to switch between two engines manually i.e. from electrical engine to petrol engine. Thus the earlier technology only does manual overturning but this new system overrules the latter one. This system will understand the torque required to pull the vehicle over a certain extent. It will monitor the engine fuel along with electrical charge. With a slight increase in the paddle shift of accelerator, the engine gets shifted from electrical engine to petrol one automatically by the change in paddle shift which now increases the torque & the Rpm(Revolution Per Minute) thus increasing the cars loading capacity.

This can be used while climbing higher roads, where more torque is required. So this system overcomes this flaw of the power lag in the battery operated car.

#### VIII. CONCLUSION

Thus this system would enable the maximum possibilities of overcoming theft avoidance and also at the same time environment friendly transportation.



It also saves lots of fuel by using electrical energy. It reduces the maintenance cost. This system would also enable the most comfortable ride by using the pit avoidance system.

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