

LITERATURE SURVEY ON SMART SOLUTION FOR RAILWAYS

Railways is the vast mode of the transportation in India and it is the cheapest way for travelling .So there are more number of rail users and it is not easy to stop railway anywhere to obstruct accident, due to that there are major drawbacks of that .At present an unmanned system is available at level crossing and hence ,lots of accidents occur at such crossings ,since there is no one to take responsibility of the functioning of railway gate when a train reaching the crossing.

Even with greatest of ideas to avoid railway accidents, many trains accidents still happen worldwide. This survey shares an idea on how to avoid train collision by using an automated control incorporated in the trains. In this survey we have implemented ideas such as pre-crashing using RFID sensor, ultrasonic sensor in-order to choose an array of commands which would run as per the conditional algorithm created in the microcontroller. We would also have a EPM to control the speed of the motor to lessen speed. This system will be more efficient since it was fully automated and also it was cost effective.

The main objective of this study is to provide frameworks on the development of smart train automation method that can avoid collision risk vehicles, detect their relative distance and speed and therefore inform the driver about a probable accident. The system we proposed will prevent collision of any form of accident in the railways system. This model includes infrared (IR) sensors, radio frequency indication device (RFID), Liquid Crystal Display (LCD), Light-emitting diode (LED), Lights, buzzer, motor driver and microcontroller.

Once the implementation of smart train with lot of new technology many ideas have been proposed for essential advancement in developing system meant for better travelling livelihood. A System based on vision and video processing has been proposed that could employ a camera to take video images and extract features for finding the obstacle and behaviour of obstacle around and draw conclusion to avoid accidents . Live camera that analyze the images from the video to recognise obstacle and sends an alert if it detects a automated engine breaking using EPM module.

LITERATURE

- ✓ Berry Jesia G and Harrison James E (2008) , he entitled "Series of injury because of transport accidents involving railway train"
- ✓ Zuhairi Mahdi Al-Ahmed Salih(2013), the research survey is about "Automatic railway gate and crossing control based sensors and microcontrollers"

- ✓ Anil M.D.et al (2014).he discussed about "Advanced Railway accident prevention system using sensor network".
- ✓ Fareeduddin Khajaand reddy Anj (2014), he studied on "Evolution of urban transpotation planning with reference to hyderabad metro rail".
- ✓ Ramesh S.Et al (2014) explained "Automatic track inspection in railway network".
- ✓ M Kiruthigaet al (2014) researched on "wireless communication system for railway signal automation at unnamed level".
- ✓ Bhosal amol Ankush (2015) discusses about "Automative Railway safety and control using RF model".
- ✓ Karthik Krishnamurthy Monica Bobby , Vidya V,Edwin Baby (2015) he studied on "sensors based automatic railway gate".
- ✓ Pillai Binu B and singh G.D (2015),his article is on "Scenario of road Accidents in kerala and its ILL effects".
- ✓ Ujjwal Kohli , Anmol Agarwal (2016) worked on systems in india "Smart unnamed level crossing railway system".
- ✓ Viswanatha CR , Vidhyashree PV Sujit Kumar (2018) .He researched on,"Smart railway gate system using internet of things".

Automatic gate system victimizationRFID is that the economical and easy method of reducing the accidents at the extent crossings .This offers associate secure model for the railway track system.By using this Autonomous vehicle for purpose of railway track inspection and crack detection, it will have a great impact in the maintenance of the tracks which will help in preventing train accidents to a very large extent. The regions where manual inspection is not possible, like in deep coal mines, mountain regions and dense thick forest regions can be easily done using this vehicle. By using this vehicle for the purpose of Railway track inspection and crack detection and automated SMS will be sent to pre-defined phone number whenever the vehicle sensors detect any crack or deformation. This will help in maintenance and monitoring the condition of railway tracks without any errors and thereby maintaining the tracks in good condition, preventing train accidents to very large extent Railway track crack detection autonomous vehicle is designed in such a way that it detects the cracks or deformities on the track which when rectified in time will reduce train accidents.