

Railway Accident Prevention Using Sensor

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Abstract: Rail accidents pose a significant threat to both human life and infrastructure. This abstract presents a comprehensive overview of the railway accident prevention system that incorporates various sensors for effective monitoring and early detection of potential threats. The proposed system includes sensors such as ultrasonic Sensor and Vibration Sensor. These sensors work in tandem to collect real-time data on various parameters, including train location, Accident, obstacles on the track. Obstacles on the right of way of the train can cause derailment, collision, injuries to train passengers and loss of properties, Railway accident prevention and protection are a key part of a wider picture of transport safety. so, there is a need to look at various ways to prevent or reduce the frequency and severity of these accidents by using Arduino based safety system to mitigate these accidents. The aim of this paper is to simulate a program in Proteus to detect obstacles on the right of way of trains. Arduino code is written to detect obstacle on the track in the train. By implementing these features in real time application, we can avoid accidents up to a very significant margin. The railway accident prevention system aims to minimize the occurrence of accidents, reduce response time, and enhance overall safety in railway operations through the use of advanced sensor technologies.

Keywords: Vibration Sensor, Ultrasonic Sensor, Relay, Motor, GPS tracking, Accident.

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