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Abstract

Train accidents occur as a result of human errors or mechanical faults in trains, in tracks, or in the signalling system. Major and costly train accidents occur due to head-on collision of trains running on the same track towards each other. Several schemes have been proposed by researchers in the past to detect the risk of possible collision and to take preventive measures. The aim of this paper is to design a novel microcontroller based system using RFID, GPS, and an RF transmitter/receiver module to detect possible collisions and inform the drivers when trains travel on the same track.

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Index Terms

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Keywords

Train collision detection, Microcontroller based design, RFID, GPS, Radio modem