

PROJECT DEVELOPMENT DELIVERY OF SPRINT 3

TeamID	PNT2022TMID47359
PROJECT NAME	Smart Solutions For Railways

Transport is very important to carry the passengers and goods from one place to another. The better transport leads to

more trade. Economic level is mainly depends on increasing the capacity and level of transport. This paper presents an

implementation of an efficient and cost effective solution suitable for railway application. In this paper we are going to use IR

sensor to detect the crack in rail road, when the crack is detected its latitude and longitude values are send as a message to nearby

station by using GPS and GSM service. Then Ultrasonic is used for the surveying process. Then other important component is

PIR sensor it is used to detect the presence of humans in track.

Integrating features of all the hardware components used have been developed in it. Presence of every module has been

reasoned out and placed carefully, thus contributing to the best working of the unit. Secondly, using highly advanced IC's with

the help of growing technology, the project has been successfully implemented. Thus the project has been successfully designed

and tested. Cracks in rails have been identified to be the main cause of derailments in the past. Hence, owing to the crucial

solution of this problem, we have worked on implementing an efficient and cost effective solution suitable for this application.

This system automatically detects the faulty rail track without any human intervention. There are many advantages with the

proposed system when compared with the traditional detection techniques. The advantages include less cost, low power

consumption and less analysis time. By this proposed system, the exact location of the faulty rail track can easily be located which

will mended immediately so that many lives can be saved. By using LED-Photodiode assembly for railway track crack detection

system we got accuracy up to 80%.

