

RAILWAY TRACK CRACK DETECTION

Submitted in partial fulfillment of the requirements
of the degree of

Bachelor of Engineering

By

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Project Report Approval for B.E

This project report entitled ***RAILWAY TRACK CRACK DETECTION*** by ***RAMKRISHNA SHUKLA*** and ***SOHAIL TIKEKAR*** is approved for the degree of ***Bachelor in Engineering***.

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Declaration

We declare that this written submission represents our ideas in our own words and where other sides or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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ABSTRACT

In the current railway systems, it is becoming even more necessary to have safety elements in order to avoid accidents. One of the important causes that can provoke serious accidents is the existence of obstacles on the tracks, either fixed or mobile. This project deals about one of the efficient methods to avoid train accidents due to cracks on the track and obstacle detection. The main objective of this project is to develop detecting the crack in the railway track and alert the near by station.

A GPS system is being used to pinpoint the location of faults on tracks. The project presents a solution, to provide an intelligent train tracking and management system to improve the existing railway transport service.

The solution is based on powerful combination of mobile computing, Ultrasonic Sensor, Passive Infrared Sensor, Arduino uno, Global System for Mobile Communication (GSM), Global Positioning System (GPS) technologies, bluetooth module and software. The inbuilt GPS module identifies the crack location with a highest accuracy and transfer the information to the central system.

The availability of the information allows the train Controller to take accurate decisions as for the crack location. Positioning data along with longitude and latitude of cracks helps the central system to identify the possible safety issues and react to them effectively using the communication methods provided by the system.

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