**ABSTRACT**

In the current railway systems, it is becoming even more necessary to have safety  
elements in order to avoid accidents. The railways became the prime suggests that of transportation because of their capability, speed and responsibility. 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 nearby station. A GPS system is being used top in point 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.

Accidents at level crossing have a large portion on train accidents, and causes economical loss by train delay and operational interruption. We are also concerned with providing an automatic railway gate control at unmanned level crossings replacing the gates operated by gate keepers. It deals with two things. Firstly, it deals with the reduction of time for which the gate is being kept closed. And secondly, to provide safety to the road users by reducing the accidents that usually occur due to carelessness of road users and at times errors made by the gatekeepers.

As railroad bridges and tracks are very important infrastructures, which has direct effect on railway transportation, there safety is utmost priority for railway industry. This project aims at monitoring the tracks on the bridges along with structural health condition of the bridge for accidents reduction.

So Indian railway looking forward to promote the motto of “SAFE JOURNEY”.

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