PROJECT REPORT

on

WIRELESS INTELLIGENT TRAIN TRACKING AND MANAGEMENT SYSTEM

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ABSTRACT

The Railways is the chief mode of transportation for the people across the world. In such a situation there is a need for ultimate security to be implemented across the railway network. Conventional Railway networks lack the necessary infrastructure to respond swiftly to the emergencies such as accidents and etc.

To overcome this lack of security we have come up with two main objectives in our project. The first objective is, it provides an intelligent train tracking and management system to improve the existing Indian Railway transport service. The solution is based on powerful combination of mobile computing, Global System for Mobile Communication (GSM), ARM7 and software. The fundamental process in our system is obtaining train location using GPS technology and transmitting the data via GSM network to the central control unit for data processing and information analysis. Real- time positioning information received by the server is made meaningful and extremely useful for the end user, where the end user can better organize and utilize information from a graphical view point. The second objective is, with the help of above technology the present manual signaling system in railways can also overcome with automatic signaling system. In present system, if any train is stopped on the track, the driver of the train has to call to nearby controller room and then the controller will intimate the matter to the driver of the other train coming on the same track, to stop train. Due to the manual system, there are so many errors which lead to the disastrous accidents, to overcome this, we are going to use same sensors which are used in previous development. If the train is stopped at an area of particular signaling pole, the sensor present over the pole will sense it and through the use of the same database, it will communicate the information to the sensor present near the train which is coming back. A small LCD display is placed in the engine visible to the driver. On that display, the corresponding information will be displayed. With the help of this information, the driver of the train will be able to control the train which will avoid maximum accidents.

It is strongly believed that the GSM with latest ARM7 technologies can provide an effective and feasible solution for the requirement of a reliable and accurate train tracking system to improve the efficiency and productivity of Indian Railways. The

solution we propose encompasses a powerful combination of mobile computing, Global System for Mobile Communication (GSM), Global Positioning System (GPS), micro controller ARM7 and software to provide an intelligent train tracking and management system to improve the existing railway transport service. All these technologies are seamlessly integrated to build a robust, scalable architecture as illustrated in Block diagram.