

LITERATURE SURVEY

Smart Train Detector using IoT Approach

An IoT enabled approach has been adopted to detect the arrival of trains. To detect the arrival of trains, metal detection in the railway tracks is not sufficient as the sensors present in the railway tracks just detect any metal object and cannot distinguish between a train or a mere coin. Thus, in order to make the working more foolproof, introduction of another parameter, i.e., weight on the railway track is necessary. This paper describes an approach to collaborate metal detection with weight detection in railway tracks to detect train movement using the principle of IoT. The key idea here is to use load cells along with metal sensors.

GPS and Ethernet based real time train tracking system

In the railway sector, tracking traffic violations and the resulting accidents are a major issue. This issue can be dealt with to some extent if somebody could properly monitor/track the individual trains. Tracking trains manually is a cumbersome process, so tracking of trains using a special device integrated in the train seems to be a better possibility. This integrated device would then warn the train driver to drive safely and also enable periodically updating its location status in a remote controller. In this paper we propose such a real time train tracking system using the global positioning system (GPS) and communication of information through Ethernet Concepts. The system proposed enables communicating the real time information about the train position and also its health conditions based on few sensors integrated. The proposed system would also provide the complete information about the different trains running, in the video terminal of the controller, using the available internet facilities and the Google mapping Concepts. This proposed system uses a Arduino - A Electronic open Source hardware which provides the complete computation capability for this work. It is felt that this proposed system would provide a solution for a big organisation like Indian railways to enable monitoring all their train movements in one place by using the

internet or through various LAN networks. The locations/positions of all individual vehicles are mapped using their IP addresses, in the Google map wherein each point in the Google map plot provides the current information about the trains and also the Drivers Alcohol status, max speed, GPS Coordinates etc. The design details are provided in the paper.

IRCTC-Railway ticket generation using QR code in Android

The Railway Ticket generation using android is basically derived from the computer reservation system and upgraded to android-based ticket generation using QR Code. Railway Ticket generation System contains the details about train schedules and its fare tariffs, passenger reservations and ticket records. A Railway inventory contains all train details with QR Code Information. The online QR Based ticket generation system has its database centrally located which is accessed through an Application Programming Interface (API). With the Railway management system the traveller and the train got the freedom to get a ticket without standing in a queue. For travelling in the unreserved section, the passengers have to stand in a queue to get the ticket. In our system, the passenger can generate the unreserved ticket through their android phone itself. The passenger can get the train details by scanning the QR code of a train to get the ticket. The passenger can get a ticket by entering the number of seats and payment details. It has also become a hassle-free transaction for both the train and the traveller. The Railway reservation system involves three main actors: the database, online operator and a database scheduler. The database scheduler updates the database, one of the core functions of the inventory management of railway reservation systems is the inventory control. Inventory control steers how many seats are available for the booking in the unreserved section.

Smart Ticketing System for Railways in Smart Cities using Software as a Service Architecture

Ticketing system for railways was introduced in order to authenticate and authorise valid commuters to suit one's comfort, purpose or needs while

travelling. Due to increased commute, travelling by train increased immensely, which resulted in various . Moreover, in spite of having such a massive amount of data generated of the commuters, very poor analysis was ever done to improve the railway service and the commuter's experiences. To overcome the above pitfalls this paper proposes a smart ticketing system architecture for railways which completely scraps the idea of paper tickets and harnesses the amount of money commuters have invested for their travelling. The commuters will be benefited with the provision of using the seasonal tickets as per their requirements depending on the number of days they have subscribed. This model also enables the authorities to detect those commuters who never pay and buy or fail to carry their tickets or pass while travelling. The proposed system will also have features like crowd analysis and suggesting cost effective offers to the railway commuters.