Smart Computing Applications in Railway Systems - A case study in Indian Railways Passenger Reservation System

The demand for safe, fast, and reliable rail services continues to be the reason for concern in all the countries across the globe. Lack of operational efficiency and reliability, safety and security issues, and aging railway systems and practices are haunting various countries to bring about a change in their existing rail infrastructure. The global rail industry struggles to meet the increasing demand for freight and passenger transportation due to lack of optimized use of rail network and inefficient use of rail assets. This is expected to induce rail executives to build rail systems that are smarter and more efficient. The passenger reservation system of Indian Railways is one of the world's largest reservation models. Daily about one million passengers travel in reserved accommodation with Indian Railways. Another sixteen million travel with unreserved tickets in Indian Railways. In this vast system, it is a herculean task to efficiently handle the passenger data, which is a key point of consideration now-a-days. In this paper, the authors have explored different issues of implementing smart computing in railway systems pertaining to reservation models.

IoT Based Ticket Checking System

Internet of things. The term Internet of Things was used by Kevin Ashton in 1999. IOT is like a vehicle used to as a “Smart Devices” and other items like Electronics, softwares.IOT words was Invented from a two words “Internet ”and “Things”. Internet is a vast network. The Internet is the global system of interconnected computer networks that use the protocol to link devices. Internet is used in daily life to communicate, search information etc. things means important information or devices. In recent days a population is gained day by a day and smart cities have

gained popularity. In this paper we present a “IOT BASED TICKET CHECKING SYSTEM”. This system is consist of an IOT module that is used to check the tickets of passenger in trains. This system describes the whole architecture of a train system.

SMART RAIL RESERVATION AND VERIFICATION SYSTEM WITH UNIQUE IDENTIFICATION IN IoT USING CLOUD DATABASE

The Internet of Things is inter-networking of physical devices, buildings, and other items which are embedded with electronics, software, sensors, actuator, and network connectivity that enable these objects to collect and exchange data. The devices which are connecting to internet are called IoT Devices. In technical we can say it as the device which has IP Address is called as an IoT Device. Analysts say that by 2020 there will be over 50 billion devices. That's a lot of connections. More over some estimate that it would be 100 billion devices. In general ticket reservation for the Indian railways is quite a complex process. This involves various steps which could be much complicated for illiterates. More over Indian railways is using more than 2 tonnes of paper for booking and verification process. To avoid these problems and more over to move the nation towards digitalization we are proposing this idea. Here in this proposal we are building web-based application for reservation and mobile application for ticket verification process.