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SMART TICKET CHECKER SYSTEM IN RAILWAY

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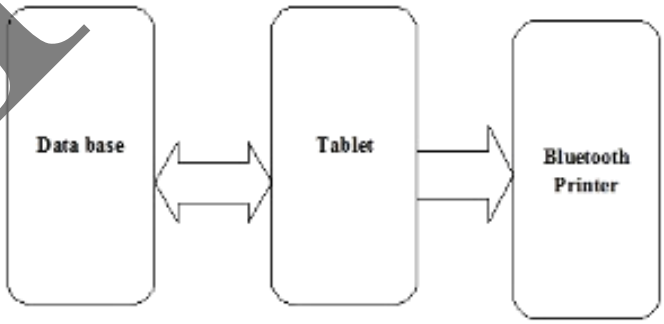
ABSTRACT:

In the Era of Computer Technology, We need to communicate and accelerate our life with the help of Information and Technology. We all require certain types of services on online, which require less workout or interference of Human being. This application will be very helpful for "Railway". Ticket Checker (TC) enters into the train and checks the tickets with the available data. If the person found and ticket is present with passenger then he ticks mark OK. In this way the ticket will be checked by the checker.

INTRODUCTION:

The field of technology is becoming more advance. Take an example of railway department, e-ticketing facility was introduce where users browse through the governmental website and book their long journey tickets which is later printed to show to the checker when needed. After that a new technique was introduce called M-ticketing where user messaged to the web portal through mobile phone after which a complete web page was downloaded on the mobile phone after that user can perform all the booking process as like in e-ticketing facility. The information of every user is stored in a CLOUD database for security Purpose which is unavailable within the current suburban railway system database for checking purpose. Also ticket checker are going to be given Tablet, with that he will get the complete details of the passenger. This application will be very helpful for "Railway". He enters into the train and checks the tickets with the available data. If the person found and ticket is present with passenger then he ticks mark OK. In this way the ticket will be checked by the checker.

BLOCK DIAGRAM:



WORKING:

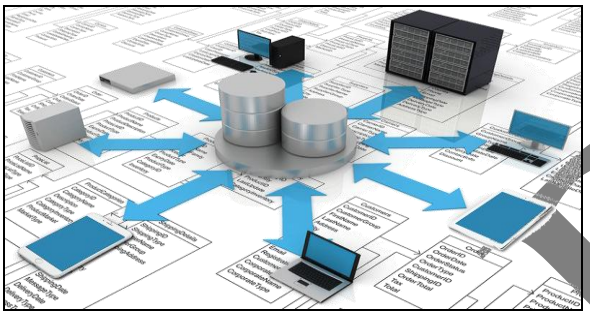
The information regarding to passengers is stored in the data base. At the time of departure of train, Before 15 minute ticket Checker will collect all the data regarding to the passengers of that train. With this available data he will go towards the train. He enters into the train and checks the tickets with the available data. If the person found and ticket is present with passenger then he ticks mark OK. The checking of ticket is done with the Application which we are going to create. If in case there are empty seats are available then he allocates seats to the waiting passengers and gives them ticket through Bluetooth printer. If waiting ticket is not present with passenger then he will charge a fine on that passenger and gives them a receipt of fine.

HARDWARE DEVELOPMENT:

DATABASE:

A database is an organized collection of data. The data are typically organized to model aspects of reality in a way that supports processes requiring information, such as modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies.

A database management system is a collection of computer software allowing the interface between users and databases. Database management system also gives provision to analyze the data using the software applications. Data base management system is responsible for preserving the integrity and safeguarding the stored data and also to retrieve the information in case of system failure. Defining, creating, querying, updating and administration of databases are done by general purpose DBMS which is a software system.



TABLET:

A tablet computer, commonly shortened to tablet, is a thin, flat mobile computer with a touch screen display, which in 2016 is usually color, processing circuitry, and a rechargeable battery in a single device. Tablets often come equipped with sensors, including digital cameras, a microphone, and an accelerometer. The touch screen display uses the recognition of finger or stylus gestures to replace the mouse, track pad and keyboard used in laptops. They usually feature on-screen, pop-up virtual keyboards for typing and inputting commands. Tablets may have physical buttons for basic features such as speaker volume and power, and ports for plugging in network communications, headphones and battery charging. Tablets are typically larger than Smartphone's or personal digital assistants with screens 7 inches (18 cm) or larger, measured diagonally. Tablets have Wi-Fi capability built in so that users can connect to the Internet and can have cellular network capabilities.

PRINTER:

Thermal printing (or direct thermal printing) is a digital printing process which produces a printed image by selectively heating coated thermo chromic, or thermal paper as it is commonly known, when the paper passes over the thermal print head. The coating turns black in the areas where it is heated, producing an image. Two-color direct thermal printers can print both black and an additional color (often red) by applying heat at two different temperatures.

SOFTWARE DEVELOPMENT:

OPERATING SYSTEM:

Operating systems come in two classes, desktop-based and mobile-based ("phone-like") OS. Desktop OS-based tablets are currently thicker and heavier, require more storage, more cooling and give less battery life, but can run processor-intensive applications such as Adobe Photoshop in addition to mobile apps and have more ports, while mobile-based tablets are the reverse, only run mobile apps. Those that focus more so on mobile apps use battery life conservatively because the processor is significantly smaller. This allows the battery to last much longer than the common laptop.

ANDROID:

Android is a Linux-based operating system that Google offers as open source under the Apache license. It is designed primarily for mobile devices such as Smartphone's and tablet computers. Android supports low-cost ARM systems and others. Android 3.0 (Honeycomb) and later versions support larger screen sizes, mainly tablets, and have access to the Google Play service. Android includes operating system, middleware and key applications. Other vendors sell customized Android tablets, such as Kindle Fire and Nook, which are used to consume mobile content and provide their own app store, rather than using the larger Google Play system, thereby fragmenting the Android market. Hardware makers that have shipped Android tablets include Acer, Asus, Samsung, Sony, and Toshiba. Additionally, Google introduced the Nexus 7 and Nexus 10 tablets in 2012.

SYSTEM DESIGN:

The system is made up of three components:

1. Admin application
2. Ticket checker android application

1. ADMIN APPLICATION:

This system provides desktop application for an admin. Using this application the admin can make changes in the system. These changes may include:

1. Add new TC
2. Add new Passenger
3. Duty Allocation

2. TICKET CHECKER APPLICATION:

Using the ticket checker application, the checker can do the following tasks

2.1 SIGNUP AND LOGIN:

This is the first procedure to know the users information. User need to register before using this application. During the registration user must fill his personal information like name, address, set a username, password, phone number and email-id for his account. The next time whenever user wishes to work, user can simply login into his account using username and password which he has registered. All these information are stored and can be accessed from the cloud server.

3.2 CHECKING WITH DATABASE:

This is a backup arrangement just in case if the ticket checker is not able to verify if the users mobile display is being damage, battery failure etc. In this case the ticket checker will directly verify with admin database by making use of the username to get detail information about the ticket for validation purpose. Checker will enter the ticket id in server database to get information about the ticket, in order to verify the journey details especially time and date of the ticket.

3.3 ALLOCATING SEATS FOR WAITING PEOPLE:

If the person is absent who reserves the seat then a TC can allocate the seats to those people who are in waiting list.

3.4 FINE MANAGEMENT:

If the person is entered in coach who does not have any ticket with him, then a TC can collect fine from him. The receipt of fine will print through Bluetooth printer.

CONCLUSION:

This kind of ticketing application can be applied to any kind of transport system. Our android application is one of its kinds and finds huge application saves a huge work for our ticket checkers by this App. This android application reduces the manual work of ticket checkers. It is basically the transition from a manual to digital system for checking of Indian railways. Also our app saves a huge work for our ticket checkers and also moving from manual ticket checking process to digital ticket checking process. So from these we will surely contribute our own work in "DIGITAL INDIA" program of Government of India.

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