



Railway Smart Alarm

¹Supriya L. Sonewne, ²Aarti D. Sarve, ³Sakshi H. Awle
8thsemester, Department of Electronic & Telecommunication
JD College of Engineering and Management
sprsonewane@gmail.com, aartisarve@gmail.com, sakshi2811@gmail.com

Abstract: Modern hand held device such as Smart phones have become increasingly in recent years. Dramatic breakthrough in processing power, along with the number of extra feature included in this device has opened doors to a wide range of commercial possibilities. In particular, most cell phone regularly includes cameras, processors comparable to PCs. However, apart from all this added abilities there are few application that allow passing of the environmental information and time. As mobile device become more like PCs they will come to replace object such as checkbooks, credit card, cameras, mp3 players, etc. In short we will be using them to accomplish our daily tasks. One application that fall into this category is the “Railway smart Alarm App” for a Google android phone. Now the current problem of Indian railways is if we want to go from one place to another place by a train so we know the exact time of a particular train and name of the train. But after reaching at the station we see that the train is late for some time. And due to this we waste our time at station till the train arrives. The prime objectives of “Railway smart alarm” is to create a full fledged Android Application which could give the live status of train, departure and arrival time of the train, PNR status train according to the train number and date entered by the user. The user not only fine full scheuled of train but also alert about how much time train will be late to reach at station with the help of alarm. So the user can save his/her time by leaving home according to alarm of Smartphone. The project is developed in java programming language using the integrated development Environment (IDE). We use the android software development kit (SDK) which includes varieties of custom tool that help us to develop mobile application on the android platform.

Keyword: *Mobile apps, Android, Smart Phone, Alarm.*

I. INTRODUCTION

This project is depend on IoT as it require internet. It has various type of definition like internet of things is

connection between different things with the help of internet, internet of things (IoT) is the network of physical devices, vehicles, buildings and other items—embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data.

Early history

As of 2013, the vision of the internet of things has evolved due to a convergence of multiple technologies, ranging from wireless communication to the Internet and from embedded systems to micro-electromechanical systems (MEMS). This means that the traditional fields of embedded systems, wireless sensor networks, control systems, automation (including home and building automation), and others all contribute to enabling the internet of things (IoT).

According to Gartner, Inc. (a technology research and advisory corporation), will be nearly 20.8 billion devices on the internet of things by 2020.there

The internet of things (IoT) is the network of physical devices, vehicles, buildings and other items embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data. In 2013 the Global Standards Initiative on Internet of Things (IoT-GSI) defined the IoT as "the infrastructure of the information society. The IoT allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit. When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, smart homes, intelligent transportation and smart cities. Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure. Experts estimate

that the IoT will consist of almost 50 billion objects by 2020.

Typically, IoT is expected to offer advanced connectivity of devices, systems, and services that goes beyond machine-to-machine (M2M) communications and covers a variety of protocols, domains, and applications. The interconnection of these embedded devices (including smart objects), is expected to usher in automation in nearly all fields, while also enabling advanced applications like a smart grid, and expanding to the areas such as smart cities.

II. EXISTING TECHNOLOGY

The system which is used now days has some drawbacks which need to be improve for better performance the system through which the feedback is taken is not good enough. Today's technology is not able to show how much time train will be late to arrives at particular station. And doesn't alert the user about the train time. And after reaching at the station we waste our time at the station till train arrives. Railway cannot even provide argent notification to passenger in case of emergency.

DRAWBACKS

The existing system is not user friendly because the retrieval of data is very slow. The use of some technology can be complicated and time consuming.

III. TECHNOLOGY USED

Smart Phone App:

A mobile app is a software application designed to run on mobile devices such as smart phones and tablet computers. Most such devices are sold with several apps bundled as pre-installed software, such as a web browser, email client, calendar, mapping program, and an app for buying music or other media or more apps. Some pre-installed apps can be removed by an ordinary uninstall process, thus leaving more storage space for desired ones. Where the software does not allow this, some devices can be rooted to eliminate the undesired apps.

Android Studio:

Android is specifically designed with inter-app communication in mind and depends on this to provide different platform specific functionalities. Android App can either be designed with the help of Android SDK and using IDEs such as Android studio or browser based platform called App inverter. Application in Android can be developed using either MIT's App inventor (AI) or by using IDEs such as Android Studio (AS) with the help of Android SDK. MIT's AI is the second version of the Google's original App Inventor, which is web browser based development environment for a simpler way to

develop android apps. With the little to no knowledge of programming, one can develop and deploy an android app using AI. However, this simplicity comes at a price; AI does not provide all of Android's advanced features and most apps developed in AI have to follow a specific design template. To access all of Android's features, one needs to develop apps using tools such as Android Studio, which is provided by Google As a full-fledged development environment for Android development, debugging, testing and packaging.

Web Server:

A Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients. Dedicated computers and appliances may be referred to as Web servers as well.

MySQL database:

MySQL is open source database application & it is written by SQL language. SQL is structured query language which is a standard language and it is used to access or changed the database. SQL is standard language and MySQL is a database management system. There are many database management system like SQL server, Oracle,SQLite. But MySQL is an open source best software & fast, run on any platform. MySQL is also known as RDBMS (Relational Database management System) because it is relational database system. Now database is a collection of data which can be access, manage and update easily.

PHP Script:

PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. PHP reference implementation is now produced by The PHP Development Team. PHP originally stood for Personal Home Page, but it now stands for the recursive acronym PHP: Hypertext Pre-processor.

PHP code may be embedded into HTML or HTML5 code, or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

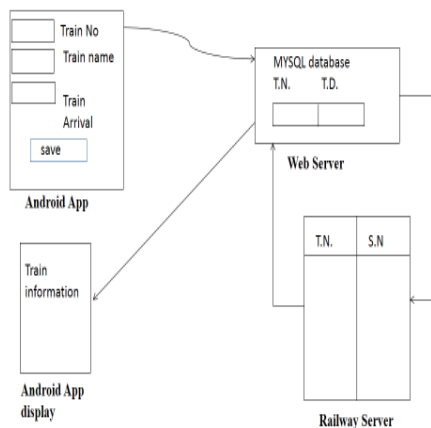


Fig. 1 Block Diagram

IV. WORKING

First user has to fill all information on his/her smart phone like train number, train name and train arrival time and then click on save button .By clicking on save button the information entered by user will save into the web server of MySQL database through php scripting. Then web server send the request to railway server for accessing the data entered by user and access data from railway server, then send to the user application again by php script.

V. WORKFLOW

The detail workflow of this application is as follow:

Admin Registration/Login:

This part is only for admin who can adds the train in list. The first step in this application is to get admin to register or login. Here admin is the only person who can add the train for users of this application. Admin add the train for users.

Add Train:

After login the admin click on add train option and add train. The user can see the list of added train by admin.

Take List of Train:

When user open this application, user can see the list of train added by the admin. The user has to see particular train from list and take first short click then the window appear is “Set Alarm beforeHrs.” User has to set alarm according to message displayed on application, and click on update button, alarm will set. To see the updated alarm

user has to take long click on same train chosen by user. Then the window appear is “Alarm Set before Hrs. of Train Arrival” then click on ok button.

VI. ADVANTAGE

Save time:

When we set the alarm at home before the exact time of train if train is late then that set alarm alert the user by ringing the alarm tone due to this user knows how much time train will be late from exact time and user leave his/her home after ringing the tone. In this way user can save time.

Small in size:

As this is only app which run on android smart phone this is small in size.

Use any time:

It operates on internet and internet is available for 24 hour for everyone.so, it can be use any time.

Use anywhere:

As the aim of our P.M. Narendra Modi to make a“digital India” there will be availability of internet anywhere so we can used this application anywhere.

Portable:

Application can move one place to another.

Easy to handle:

Android application is user friendly so it is easy to handle.

VII. CONCLUSION

Thus we design app which inform the user about Train and alert the user that train is late for some or it on time.

This project has provided us with a real world experience.

VIII. RESULT

The alarm rings. As you open your eyes blearily, you see that its five minutes later than your usual wake time.

The clock has checked the train times online, and your train must be delayed, so it lets you sleep in a little longer.

Reference

[1] Yang Shulin, Hu jipieng “Reasearch and Implementation of Web Services in Android Network Communication Framework Volley” IEEE-ICCSN.2014.20.

- [2] Suriyani Ariffin, Ramlan Mahmood, "SMS Encryption using 3D-AES Block Cipher on Android Message Application", International Conference on Advance Computer Science application and Technology May-2013-IEEE 978-1-4799-275.
- [3] Martin Hellebrandt and Rudolf Mathar "Location Tracking of Mobile in Cellular Radio Networks", IEEE TRANSACTION ON VEHICULAR TECHNOLOGY, SEPTEMBER 1999.
- [4] Sandeep Kumar, Mohammad Abdul Qadeer, Archana Gupta, "Location Based Services using Android", IEEE-2009.
- [5] Ramesh Shrestha, Yao alihong "Design of Secure Location and Message Sharing System for Android Platform", IEEE-2012 on computer technology.
- [6] Suchita Tayde, Asst. Prof.Seema Siledar "File Encryption, Decryption Using AES Algorithm in Android Phone", International Journal of Advanced Research in Computer Science and Software Engineering,May-2015,ISSN:2277 128X.
- [7] Usman Sait. Android Essentials, Apress publications edition 2008, Chris haseman.
- [8]Professional Android Application Development, Wrox Publication Edition 2008, Reto Meier
- [9] Unlocking Android, A Developers Guide, Manning Publiaction Edition 2009, Frank Ableson, Charlie Collins, Robi sen
- [10]https://en.Wikipedia.org/wiki/Internet_of_Things, June 25 2016
- [11] Joo, D.Y and Kim, J.K.: Creative and active convergence model of IoT, Kerea institute for industrial Economics and Trade, Korea.