



Android Based Mobile Attendance System

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Abstract -The mobile application we have attempted to build will require connecting to the internet through Wi-Fi(Wireless Fidelity) technology or through GPRS(General Packet Radio Service).Lecturers will first have to sign up for this and then they can take attendance any time they wish by first logging in with the help of a smartphone to the server. After attendance has been taken lecturer will send it over to sever via GPRS.The lecturers can also enroll new students, delete information about a particular student, modify some information etc.

Keywords- Wi-fi, GPRS, MBPAS, E-beat, Parse

I. INTRODUCTION

Attendance is a vital part of daily routine in educational institutes,offices and many other organizations. In schools and colleges this attendance marking is done manually but with advent of new technologies like smart phones,ipads,tablets,palmtops the world is just a click away. Today, we need not use pen and paper based attendance registers instead we can use very easy and efficient methods like taking e-attendance.

Based on this idea we have made a project which is an Android based mobile application (MAttS App) here ‘M’ stands for Mobile ‘Att’ is abbreviation for Attendance and ‘S’ stands for System. This mobile application will require connecting to the internet through Wi-Fi(Wireless Fidelity) technology or through GPRS(General Packet Radio Service).Lecturers will first have to sign up for this and then they can take attendance any time they wish by first logging in with the help of a smartphone to the server. After attendance has been taken lecturer will send it over to sever via GPRS.The lecturers can also enroll new students, delete information about a particular student, modify some information etc.

With this project we aim at reducing the manual efforts taken daily by the lecturers the time being wasted and also we want to emphasize on reducing the paper wastage that happens daily.

II. EXISTING TECHNOLOGIES

A. E-Beat

E-Beat is electronic beat constable’s night patrolling system to avoid manual recording of time and attendance and to save time by sign in/sign out various beat points while patrolling.XIPHIAS has developed the Electronic Beat .It has features such as compact, lightweight, pocket-size,and tamperproof. But it has limitation regarding system specifications.It is operable in fixed temperature range i.e. 0 to 70 degrees.Very small memory storage as small as 64 KB .It uses infrared serial port for data communication which is outdated.

B. MPBAS Mobile Phone Based Attendance System Software

This project is based on J2ME technology .Lecturer enters the attendance to mobile using keypad.It is a manual process.After saving the absentees and presenters into the mobile phone the lecturer can modify the details as well.It was developed considering requirements at that time and has very little future scope.The system has limited bounds.It lags behind as compared to today’s modern day technology such as Android, iPhone .It is platform dependent and version specific.

III. PROPOSED SYSTEM

The propose system is made using Android operating system and removes all the anomalies of existing system.It has various dynamic features that are listed below as follows:-

1. A step towards futuristic e-schools,colleges.
2. More secure than traditional systems.
3. Attendance information is available 24x7.
4. Significantly reduces paper wastage.
5. No need for maintaining manual records and books.

IV. PROJECT MODULES

- A. User authentication
- B. Calling of web services

- C. Marking Attendance
- D. Display information of student
- E. Parse server

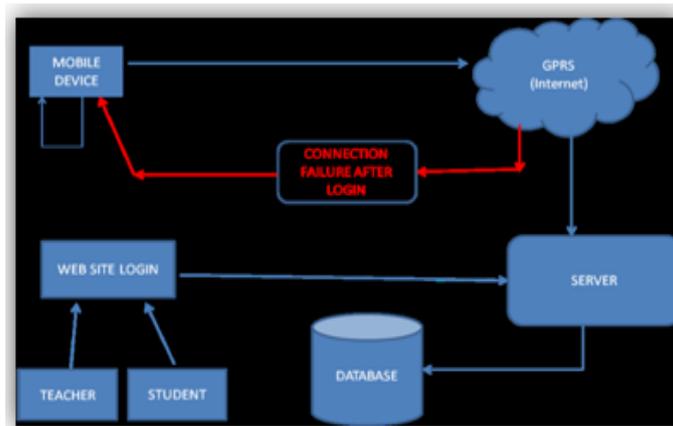


Figure 1: Project Overview

A. User Authentication

The purpose of login module is to login a user who has already registered earlier so that he/she can take attendance. The login screen asks two details from user that is username and password. Only when the lecturer enters the correct user-id and password a successful login message will be displayed and he/she will be able to login. The purpose of this module is to enroll a new user. This module needs 3 inputs username, password, and email-id.

B. Calling of web service

In this module teacher will have to select details like name of the subject, lecture in which attendance is being taken, semester, date, time of attendance, year and other necessary details. After so teacher needs to call the web service by clicking a button provided on screen. The web service thus invoked will return the list of names of all student's belonging to a particular semester in a particular lecture, at a particular time as per input provided.

C. Marking Attendance

After the list of student details is shown lecturer should start taking attendance of students. For this our application will provide checkboxes against each student details which all will be initially marked only the students who are absent the checkboxes against their detail should be unmarked and then it is to be sent to remote database.

D. Display information of students

Once attendance is marked successfully the teacher can view it anytime by accessing the data from remote database. Our project also provides facility of calculating average attendance for the students as per no of day's student attend in a month.

E. Parse server

Parse is a platform which provides backend solution for any mobile application. It is like a server but it eliminates the need of maintaining a separate server for a mobile application. For using parse as our backend we have to download the parse SDK (software development kit), we have to do certain changes in build.gradle file of our application if we are using android studio. Parse uses parse object to store data, each parse object has a different and unique id through which it can be identified. Every application created using parse has a unique application id and client key which is associated with the parse SDK. It also provides a local data store which can be used for storing parse object through which the data is passed on to the server. The functionality of local data store is especially used for temporarily storing data so that it can be synced later. Parse also provides the functionality of storing data offline. When the device is not connected to a network parse local data store will keep the data on the device till the device is not connected to a network.

V. FUTURE SCOPE

The future scope of this project could be that further it can be enhanced by sending an email or text message to the students or their parents who have attendance below a particular percentage (50%).

VI. CONCLUSION

An attendance system is presented which will greatly reduce the workload, save time for taking attendance at various places like schools, colleges. Similar applications can be used to create different applications for different purposes as well as enhancing the features of existing applications. Since internet has become an integral part of urban society its easy availability and sometimes also free access further eases the task of taking attendance and storing it on a remote database through internet.

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