Mobile Phone Based Attendance System

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Abstract: *In this paper we are emphasizing on developing this project that will help the lecturers to take attendance easily, securely and is less error prone. For this, we are implementing software "Mobile Phone Based Attendance System (MPBAS)" based on Android Technology. We are inspired to work on MPBAS from the existing system E-Beat. MPBAS will help lecturers to take the attendance of students using Smart-phone. Lecturers will login to the phone application, get connected to the server and take attendance using Smart-phone. After taking the attendance in the mobile, lecturers will send it over to the server using GPRS and attendance list will be updated automatically. Lecturers will be able to edit the attendance by login on to the website. Students will be able to view their own attendance as well as curriculum details. To reduce the chances of fake attendance, the project would include Location detection using GPS. Also email would be send to the students by the lecturers, notifying them of their regular activities.*

 Thus, the project will ease the workload of the lecturers by providing them the platform wherein they will be able to take, manage, update and see the attendance of the students with efficiency. Also the students will remain updated regarding their current status and thus can improve the performance by increasing their cumulative attendance in time.

Keywords: *Android, Authorization, Authentication, Smart-phone, GPRS, GPS.*

I. Introduction

Our project aims in implementing software that will help lecturers to take the attendance of students using mobile/Smartphone. Lecturers will login to the phone application and get connected to the server. After login, they will take attendance using mobile phone. After taking the attendance in the mobile, lecturer will send it over to the server using GPRS. Lecturer will be able to edit attendance by login to the website and students will check their attendance using a website.

II. Existing System

We have studied and visited the different websites and the literatures. As per the literature review, the various organizations and individuals have tried to overcome the problems in the traditional attendance system. Some of them are listed below:

2.1 E – Beat

 E - Beat is an electronic beat constable's night patrolling attendance system to avoid manual recording of time & attendance and to save the time by sign-in / sign-off at different beat points while patrolling. XIPHIAS has developed the Electronic Beat. It has features such as Compact, Light-weight, Pocket size, tamper proof. But it has a limitations regarding system specification. It is operable in fixed temp range i.e. 0 to 70° C. Very small memory storage as small as 64kb.it uses the Infra Red Serial port for data communication which is outdated.

2.2 Mobile Phone Based Attendance System in J2ME

This project is based on J2ME technology. Professor enters the attendance to the mobile using keypad. It is a manual process. After saving the absentees or presenters in to the mobile, teacher can edit the attendance list in the mobile. And this attendance details can send to a computer using GPRS. It was developed considering the requirements of that time and has a very little future scope. The system has a limited bounds. It lags behind a lot as when compared to modern day technology such as Windows, Android, iphone .it also a platform dependent and version specific. It does not support the GPS technology to reduce the fake attendance.

III. Proposed System

Regarding the above literature research and taking in to consideration its drawbacks and limitations, we proposed the 'Mobile Phone Based Attendance System in android'. In this proposed system we are going to develop an android application which will eliminate all the drawbacks of the existing system, which consist of the following dynamic features:
➢ Time saving as attendance can be taken just by checking the list of students.

➢ No needs to maintain several separate records and manual calculations.
➢ 24x7 availability of information.
➢ More secured than traditional attendance system.
➢ A step towards the futuristic e-schools

IV. Modules

4.1 User Module

The main purpose of the user module is to provide security. This module is specially designed for staffs, which use mobile phone to take attendance. Each staff enter username and password before enter in to attendance list. If username and password cannot match, he/she can enter in to attendance page.

4.2 Attendance Entry Module

The purpose of Attendance Entry Module is to enter the attendance using cell phone. In this module Lecturer takes the attendance using the cell phone. Lecturers select the branch, semester and year. After this session he enters in to attendance page. Here staff makes a mark on the absentees

4.3 GPRS Connectivity Module

The main function of GPRS connectivity module is sends attendance list to the server database by connecting cell phone with the server through GPRS. In this module attendance list in the cell phone is sends to the database.

4.4 Database Module

The first function of this module is to update the attendance list from the cell phone. When the attendance list from the cell phone receives, server automatically updates its database. The server updating the database whether any change from cell phone occurred..

4.5 Location Detection Module

This module helps in restricting fake attendance. The lecturer cannot take attendance from anywhere else when he/she is actually not present in the class. It will be completed within 20 days.

4.6 Email Module

This module is used to send email to the students about their attendance, curriculum activities.

V. Applications

It can be used wherever the attendance is a necessity such as in schools, colleges and institutes and almost everywhere.
➢ It can be used in small scale as well as in large scale industries with little modification.
➢ Remote access to information through websites.

VI. Future Scope

➢ As soon as the students log in the application in the class, they will be available for the attendance. The lecturer will then submit the attendance using the availability of the students those who are logged in.
➢ SMS module can be implemented which will inform students about low attendance and various events.
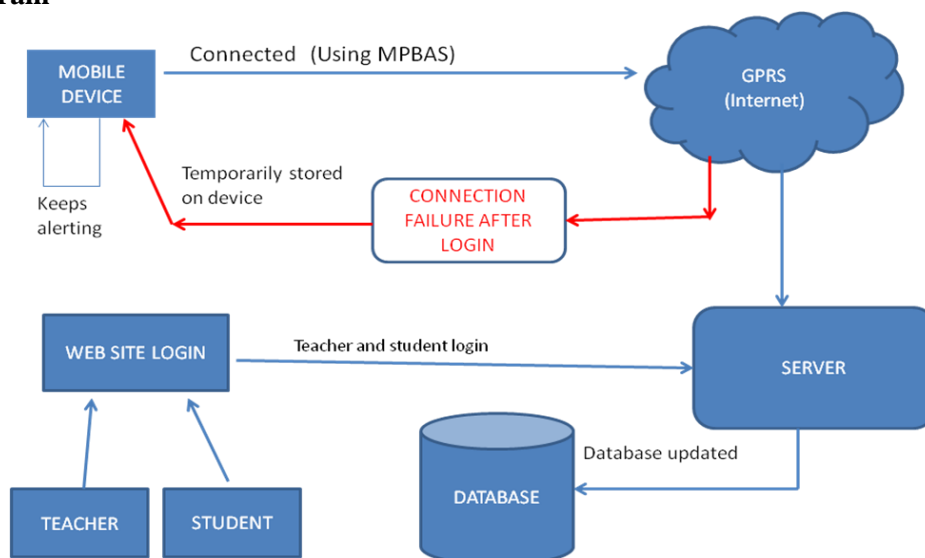
Flow Diagram

Fig. flow diagram of MPBAS

VII.   Conclusion

This project will help the lecturers to reduce their workload by reducing the time and calculations required to update the attendance manually. Students and their parents will also view the attendance and curriculum details using the website.

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