Automatic Attendance Monitoring System Using Android Platform

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Abstract: In todays world, a paper based approach is followed for marking attendance, where the students sign on the attendance sheets. This data is then manually entered into the system. Managing the attendance of the students during lectures is a difficult task and it becomes more difficult during the report generation phase. This is because the process of marking attendance and maintaining the data is not fully automated and manual computation produces errors and also wastes a lot of time. For this reason, the development of Attendance Monitoring System (AMS) using android platform is proposed.

Keywords: marking attendance, attendance sheets, Attendance Monitoring System (AMS), android platform.

1. INTRODUCTION

From 20th century, the users who used mobile increased exponentially. This new era belongs to mobile generation, so every thing is becoming automated. Attendance monitoring system is very importent in each and every institution and organisation. The current organisation uses sheets of papers to take students attendance, this method results in impersonation and the sheets of paper used to record attendance can be lost or damaged. Recording attendance in this manner becomes time consuming and hence there is a need of an automated approach and making a system reliable.

The attendance monitoring system provides reliable solution. There will be two apk files one for teacher and other for student which are installed on their android phones. The AMS system will be used to record attendance of the student and can keep the track of the student report. Rather than marking the attendance on the attendance sheet, the student can mark their attendance by just a single click on his device also the teacher has the facility to generate report on just a single click. There is a facility which provides us to generate report for more than one students. The teachers and student should download or install respective apk for their phones. Each student has provided with a unique username and password. The username can be combination of letters and digits and the password can be of minimum length i.e 8 characters and can use special symbols, so no one can breach his/her private information. The student then logs on into his/her account and till his/her personal information such as name, department, division, semister, date of birth etc and all this data is recorded in database. On the other side, on teachers apk, they also have a unique id and password. After logging into the apk, the teacher will fill up his/her personal details and all the data is recorded on the database after this the teacher can activate the application the server and student can mark their attendance by a single click. The teacher can then generate the reports by one click. The teacher can have the access to the list of students attended the lacture and they can also modify it. If required.

The attendance monitoring system is a client-server approach and follows a specific software and hardware architecture. The main challenge here is to integrate both hardware and software component to work together. The software architecture consists of application program database and the server. The database consists of a number of tables that stores records implemented on PARSE database. PARSE is easy, fast and reliable and efficient and store a large number of records and requires a little configuration. It also provides upto 5gb of storage space. PARSE dashboard is used as server.

2. PROBLEM DEFINITION

The manual process is very tedious and hard to keep track of. Manual process for marking an attendance involves sheets of papers and registers. Sometimes while finding a record of previous years it becomes very time consuming for a person who is searching .current system needs a large rooms and cupboards for storing a papers and registers regarding students records. The students sometimes forgot to call out their names, this is again irritating for the teacher to revisit the page after a long lecture to mark the attendance of student. New system introduced will solve the problem to a greater extent.

3. LITERATURE SURVEY

Using mobile application managing the attendance, by providing a alternative way. A better communication between the student and the teacher should be considered. Taking the attendance on a mobile application is one step forward to sastainable development. Doing the same work on mobile application just not only save the resource but also enable the student to get flexible and attractive access to the attendance records of students by just installing this application.

There are many development has been done in which the attendance make seems of easy doing it automated like biomatric, RFid etc. but those are not suitable for huge crowd..information of the system is as follows

1. RFID
2. online student attendance monitoring system in class room using radio frequency identification technology: a proposed system framework
3. A novel approach to desktop based student attendance tracking system.

Many system and project have been developed in this regard to solve the process of attendance, but almost none of them fulfill the whole requirements. Now days attendance is generally taken may get lost. using the mobile application for taking attendance consume not only the energy but also reduce the wastage of paper and can help in a better way. Usage of paper can be eliminate by the mobile application. Mobile being portable can help teachers or any other user to take the attendance on their mobile and view the various record of event and important notice, various statistics to analyze the attendance record of the student.
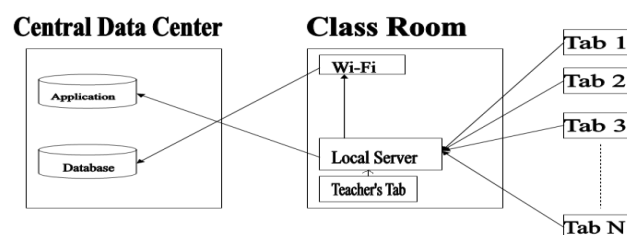
4. SYSTEM REQUIREMENTS

- **Hardware Requirements**
1. mobile device(Android)
2. storage- 32mb(min)
3. RAM – 32mb(min)
4. processor- 200MHZ
- **Software Requirements**
1. Operating System : Android
2. Front End : Java, xml
3. Back End : parse sdk
4. Android sdk
5. JDK 7
6. Eclipse indigo

5. SYSTEM ARCHITECTURE

The system architecture consist of two main parts.

1. CDC(Central Data Center)

2. Classroom

A wifi connecton is required, here TAB 1 to TAB N represents the mobile devices(TAB) of the students. Marking of the attendance will be controlled by the teacher.

Teachers TAB is connected to the local server. At a particular time during the lacture, the teacher will initiate the session for marking the attendance of the students. The students have to login in to the system with his/her mobile device(TAB). The request here is made to the local server. This request is then forwarded to the central data center and the AMS application is activated.

Once the application gets activated, the students can access the application, they can mark their attendance with the help of a single click thus their attendance for that particul ar lacture will be marked or recorded. All this process is carried out on the local server. This data is then sent to the Central Data Center. Where records are maintained.

6. OTHER SPECIFICATIONS

- **Advantages**

1. Reduces the mannual work.

2. Saves lots of time.

3. Provides approximation of students attendance.
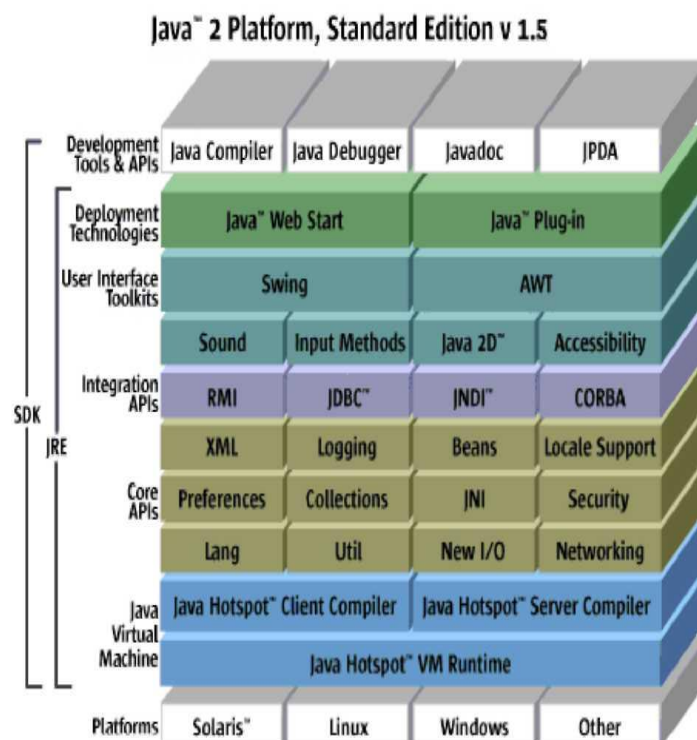
- **Disadvantages**

1. Dependency on android mobile phone.

- **Applications**

Useful in large organizations such as colleges, schools and offices

- **Technologies Used**

 Java:

Java was developed at Sun Microsystems. Work on Java initially began with the goal of creating a platform-independent language and OS for consumer electronics. The original intent was to use C++, but as work progressed in this direction, developers identified that creating their own language would serve them better. The effort towards consumer electronics led the Java team, then known as First Person Inc., towards developing h/w and s/w for the delivery of video-on-demand with Time Warner.

Unfortunately (or fortunately for us) Time Warner selected Silicon Graphics as the vendor for video-on-demand project. This set back left the First Person team with an interesting piece of s/w (Java) and no market to place it. Eventually, the natural synergies of the Java language and the www were noticed, and Java found a market. Today Java is both a programming language and an environment for executing programs written in Java Language. Unlike traditional compilers, which convert source code into machine level instructions, the Java compiler translates java source code into instructions that are interpreted by the runtime Java Virtual Machine. So unlike languages like C and C++, on which Java is based, Java is an interpreted language.

REFERENCES

[1] hoewu, O. O. M. Olaniyi, and Lawson (2011), Embedded Computer-Based Lecture Attendance Management System, *African Journal of Computing and ICT (Journal of IEEE Nigeria Computer Section), 4(3):27 – 36.*

[2] Kadry, S. and M. Smaili (2010), Wireless Attendance management System Based on Iris Recognition.

[3] Cheng, K., L. Xiang, T. Hirota, and K. Ushijimaa (2005), Effective Teaching for Large Classes with Rental PCs by Web System WTS, *Pro. Data Engineering Workshop (DEWS2005),* 1D – d3 (in Japanese).

[4] Shoewu, O. and O.A. Idowu (2012), Development of Attendance Management System using Biometrics, *Pacific Journal of Science and Technology,* 13(1):300-307.

[5] **A. Kasse**m, M. Hamad, Z. Chalhoub and S. El Dahdaah (2010), An RFID Attendance and Monitoring System for University Applications, *International Conference on Electronics and Communication Systems.*

[6] Mr. Mr. Abhilash S. Kotgirwar, Miss. Sneha. R.Kaware, "Automated Attendance Monitoring System", IJIRME(International Journal of Innovative Research in Modern Era).

[7] Android Developer Guide: http://developer.android.com/guide/index.html