

# An a Review Study on Attendance through Mobile Devices

M. Ashish Kumar <sup>1</sup>, Rahul Kumar Chawda<sup>2</sup>

<sup>1</sup> Student of 6<sup>th</sup> Sem MCA Department , Kalinga University, Raipur

<sup>2</sup> Assistant Professor, Department of Computer Science, Kalinga University, Raipur

[rahul.chawda3@gmail.com](mailto:rahul.chawda3@gmail.com) <sup>2</sup>

**Abstract** Since ages, marking attendance has been one of the most important way to record and track the presence of students in schools, colleges. Attendance marking in different forms has been in use in various organizations to record the presence of their human resource. This helps the organization in generating their month-end payroll, and other activities. Such systems may be manual or automated. Biometric-based system, card-based system is some of the examples of automated attendance system. This application fetches the details of the courses allotted to the respective faculty and the students enrolled in the courses from the server using the internet connection and store it in the mobile database. This application stores the attendance in the mobile internal database and the faculty can view and update the attendance whenever required. At the end of the month, when the faculty is needed to upload the attendance, they can directly upload it from their mobile in the server provided the internet connection is available. This application uses Android application development toolkit. Android is a Linux-based operating system developed for smart phones or tablet computers. It is a stack of software that includes operating system, middleware and libraries and APIs written in C. The Android application is developed in Java-like language using the Android software development kit (SDK). The integrated development environment (IDE) which is officially supported for Android apps development and used in this project is Eclipse, which uses the Android Development Tools (ADT) plugin.

**Keywords-** integrated development environment, software development kit, Android Development Tools.

## I. INTRODUCTION

Since ages, marking attendance has been one of the most important way to record and track the presence of students in schools, colleges. Attendance marking in different forms has been in use in various organization to record the presence of their human resource. This helps the organization in generating their month-end payroll, and other activities. Such systems may be manual or automated. Biometric-based system, card-based system are some of the examples of automated attendance system. In the manual attendance system, the faculty takes the attendance of the students enrolled in different courses taken by the faculty. The information regarding the attendance is then passed on to the academic section of the institute where the information is feed into the institute server database. In the attendance system through mobile devices, the faculty takes the attendance which is stored in the mobile database. At the time of submission of attendance report the faculty directly uploads the attendance in the server and does not need third person interaction.

## II. METHODOLOGY

Android is a Linux-based operating system developed for smart phones or tablet computers. It is a stack of software that includes operating system, middleware an libraries and APIs written in C. It was developed by Google and Open Handset

Alliance in July, 2005. Android is an open source and Google releases the source code under Apache license. This open source and free license allow the manufacturers and the enthusiastic developers to freely develop and modify their applications in Java-like language that utilizes Google-developed Java libraries. The Android applications are developed using the Android software development kit (SDK). The SDK includes a comprehensive set of development tools which includes a debugger, software libraries, a handset based emulator which is based on QEMU (Quick EMUlator) and tutorials. The integrated development environment (IDE) which is officially supported for Android apps development is Eclipse which uses the Android Development Tools (ADT) plugin. The following are the several features which help in the development of Android applications:

### **Features of Android**

#### **Application Framework**

Android application framework is supported by number of open source libraries like OpenSSL, SQLite, and Libc. The application framework is also supported by the Android core libraries. The framework is based on UNIX file system permissions which ensures security as the applications can have only those abilities that mobile phone owner give at the time of installation. The application framework enables the reuse and replacement of components.

#### **Dalvik Virtual Machine (DVM)**

Dalvik is a process virtual machine used in Google's Android operating system. It is a low memory based virtual machine which is especially designed for Android to run on the embedded systems and work efficiently in low power. The programs are commonly written in Java and are compiled into bytecode. This bytecode is then converted from JVM .class files to .dex file (Dalvik executable) before installation on a device.

### **SQLite**

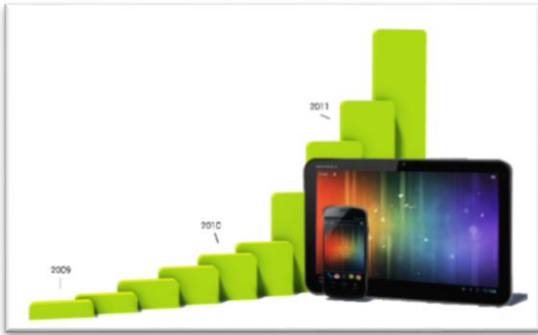
Android OS contains the SQLite database management classes which are used by an application to maintain its own private database. SQLite is a relational database management system contained in C programming library. It is mostly preferred as embedded database for local or client storage in application software. It has many bindings to the programming languages.

### **Linux Kernel**

Android uses Linux version 2.6 for the core system services like memory management, process management, security and network stack. The Linux kernel also acts as an abstraction layer between the hardware and the software stack.

### **Motivation**

The attendance system is one of the most important system used in every organization to keep the track of attendance. The previous conventions followed for taking attendance was very tedious task and requires a lot of paper work. It was not automated and so handling and maintaining the system was a tough job. The previous attendance system used in colleges needed the faculty to give the attendance details to be uploaded in the server. So there was a need to automate the attendance system and to reduce the manual effort needed in storing the records and maintaining it. The attendance system through mobile devices is fully automated. It is easy to use the system and take attendance which does not need any external effort to store and upload the attendance in the server.



**Figure 1.1: Growth Chart for the android OS**

Nowadays, Android phone has emerged as the world's most popular mobile platform. Android is the world's most popular mobile platform. It's the largest installed base of any mobile platform and growing fast. Millions of users are using android phones and android application is becoming more and more popular.

### **III. CONCLUSION**

The attendance system through mobile devices is a very effective tool which can be used to a great extent. The system is portable and can be easily installed and used on any mobile phones supporting Android OS.

### **References**

1. Android. Android Developer Webpage. <http://www.developers.android.com>.
2. Roger S Pressman. Software Engineering: A Practitioner's Approach. 2010.
3. Visual Paradigm International. Visual Paradigm for UML 10.1 Community Edition. <http://www.visual-paradigm.com>.
4. Gabriel Fielding. Android tutorial webpage. <http://www.androidhive.info>.