

# College Information System using Android

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## ABSTRACT

Nowadays, Android is the newest mobile device Operating System (OS), which is the more popular in mobile device field than any other mobile OS such as i-Phone OS, Windows mobile OS and so on. This has been designed to the best first step toward the exciting new open source mobile development. The format of this paper is such that it will take through Android application development. Android applications are developed in Java, especially android studio software and run on the Windows OS. In this paper, the user will be understand about the creation of college information system software such as the java programming coding, Android SDK management and android studio after learning of this application programming coding. This software will be absolutely useful for students and teachers in educational fields because it is included the college information that show in detail.

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**KEYWORDS:** College Information, Android Studio

## 1. INTRODUCTION

Android is a mobile operating system developed by Google, based on a modified version of the Linux kernel and other open source software and designed primarily for touch screen mobile devices such as smart phones and other mobile devices (such as tablets). The android is a powerful operating system and it supports large number of applications in Smart phones and other mobile devices (such as tablets). These applications are more comfortable and advanced for the users. The hardware that supports android software is based on ARM architecture platform.

Android is a Linux-based operating system designed and programming platform developed by Google for smart-phones and other mobile devices (such as tablets). Android has a large community of developers writing applications ("apps") that extend the functionality of devices, written in a customized version of the java programming language. Android includes a software development kit for writing original code and assembling software modules to create apps for Android users. Android represents an ecosystem for mobile apps. Apps are developed for a variety of reasons: addressing business requirements, building new services, creating new businesses, and providing games and other types of content for users. It is the use the Android software development kit (SDK) to develop apps that take advantage

of the Android operating system and user interface (UI). The SDK includes a comprehensive set of development tools including a debugger, software libraries of prewritten code, a device emulator, documentation, sample code, and tutorials. Use these tools to create apps that look great and take advantage of the hardware capabilities available on each device.

### 1.1 Perspective

The software mainly uses Android client devices (such as mobile phone, tablet computer, laptop, etc.) to log in via wireless net, then the procedure interacts with shared database by access to the specified WEB server. With the continuous improvement of college information system respectively acquire needed information from shared database, at the same time, inputting data into shared database according to actual situations. Thus, shared database becomes a bridge for mobile campus to obtain different system information in colleges indirectly. After installing the generated mobile campus APK software on the Android client, the login page can be opened Input the student name and password as student roll number, click login, then the system will detect whether the client networking. If the network is normal, the system will access to remote database for authentication, while caching the

access contents to the local database. After login, parents view the attendance details, exam schedule details, exam result details and also view the grade details.

## 2. PROPOSED SYSTEM

The proposed system for college information system is fully an automated one using Wireless Android. In this system, we are using PHP Page for Admin side to maintain the student details. Admin can register the student details and requirements such as attendance, exam details are added into the database. This a centralized one, by which the data server updates the each and every detail; the coordination between server and client becomes much easier. The system provides high security for all its data. Server can update or delete student information. In server side, easily add the details about attendance, exam schedule, exam results and grade details. Server easily updates each and every student's details.

## 3. PROPOSED SYSTEM ARCHITECTURE

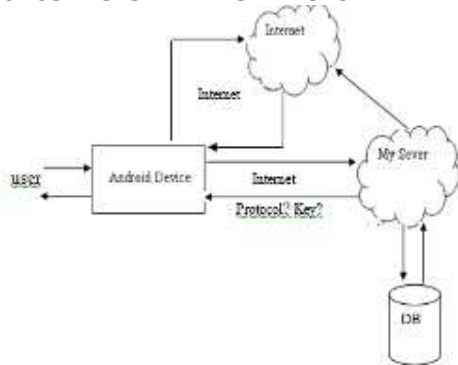


Figure: 1 Block Diagram of the Whole System

The system architecture has a smart phone with android OS, a web services, a database server and the user as its components. The android smart phone or tablet must use 3G or Wi-Fi network for internet connectivity to ensure better performance however 2G should also satisfy user request with added disadvantage of time lag. The user will login to the application through an android smart phone. The user-type is verified with the database server and access is given to the appropriate user. The web application also can be used to login and perform certain operations such as registration of users, generation of reports. The web application and the android application access data from a common Database server through the internet.

## 4. SYSTEM MODULES

### 4.1 User Module

In this module we are authenticating the users by providing username and password. If username and password is valid then they will be taken to their screens. To identify user we are using unique International Mobile Equipment Identity (IMEI) number of android device with the number stored at server. When they get matched with each other system checks the status of that device and transfer the control to respective user-interface.

### 4.2 Database Module

The proposed system used MySQL as its database because of their simplicity and flexibility. This module store every single information about students, faculty and model their data on specified operations. These operation can be storing student attendance, result data or can be authentication credentials.

### 4.3 Staff Module

This module is designed for staff, which use mobile phone to take attendance, upload result and upload college notifications. The entered admin details are encrypted and sent to server for verification. Only after successful authentication the operations are performed. If username and password cannot match, he/she cannot enter in to attendance page.

### 4.4 Attendance 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. Staff make a mark on the absentees. Lecturer are only allowed to take attendance during their lecture time. In case of swapping of lecture or extra lecture, HOD can allow other faculty to take attendance of students by swapping the logic of time-table permanently or temporarily.

### 4.5 Marks Entry Module

The marks scored by the students are stored in the database through this module. The exam cell will login, select the type of the exam e.g., unit test, model exam and then the year, section and subject in the application which displays the students list. Now, the marks for each student is entered and submitted to store in the database.

### 4.6 Result Generation Module

This module allows the HOD and Lecturer to generate various reports on the student attendance and marks data. To generate reports, the user must login through app and ensures that internet is on. In this module, application generates PDF file dynamically using java program.

### 4.7 Notification Module

This module allows the department HOD to update students about any college related information through notifications. The students can view notifications provided by the interface provided by application. HOD can send message to only available options like all student, all faculty, specific faculty and to all.

## 5. SYSTEM FLOWCHART

### 5.1 Flowchart for Admin/ Head of Department (HOD)

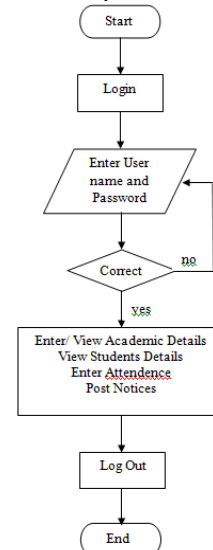


Figure:2 Flow chart for Admin

**5.1.1 Admin Login**

The first step in this application is to get the HOD, staff members and teaching faculty to register. They need to first register their phone's International Mobile Equipment Identity (IMEI) number in the database. The respective person will then provide his or her phone's e-mail id and password for registration. After registering the admin is allowed to log in. He or she can now view admin homepage where there are options to take attendance, upload results, send notifications to student. He can also view the attendance taken and uploaded results.

**5.1.2 Take Attendance**

System will validate admin to check whether admin is applicable to take attendance for any subject which he/she selected from the application after validation is success. Next function of this module to check the time-table database to know when to allow admin to upload attendance. If admin is legitimate to take attendance and applying the operation at correct lecture time, now he can take attendance.

**5.1.3 Upload Result**

Admin can upload student's term-test marks through application. The same authentication will be performed by system as Take attendance module. This will not be complete without HOD's permission as HOD can only allow faculties to upload marks.

**5.1.4 Send notification to students/faculty**

HOD can send notification to students or teaching faculty or some selected faculty or that faculty he wants to communicate his message to. Notifications related to college meeting, important information, training and placement related information.

**5.2 Flowchart for Faculty/ Teaching Staff**

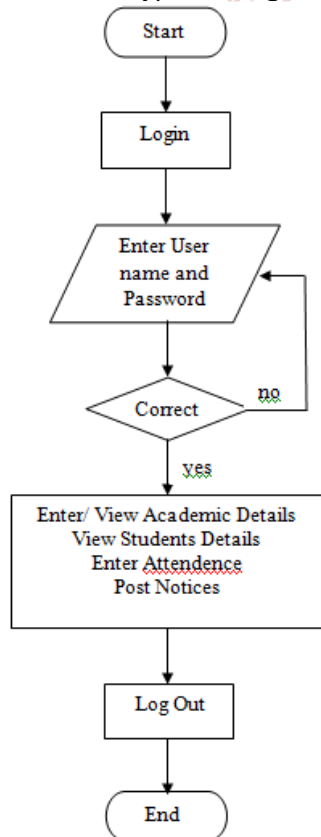


Figure:3 Flow chart for Faculty/ Teaching Staff

**5.2.1 Take Attendance**

Teaching faculty can take attendance of students during the lecture i.e. within that time frame. If he or she takes attendance anytime else he is not allowed to do that. After taking attendance he can view it in the PDF file generated and keep it for future use.

**5.2.2 Upload Result**

Faculties can even upload results of the students. PDF is generated of the same and it can be viewed by the faculty in future.

**5.2.3 View Uploaded Result**

Result that is been uploaded can be viewed by the professor through the PDF file generated. This PDF file can be used in future.

**5.2.4 Check notifications**

Faculty can receive important announcements, information regarding meetings from the HOD or admin through these notifications.

**5.3 Flowchart for Students**

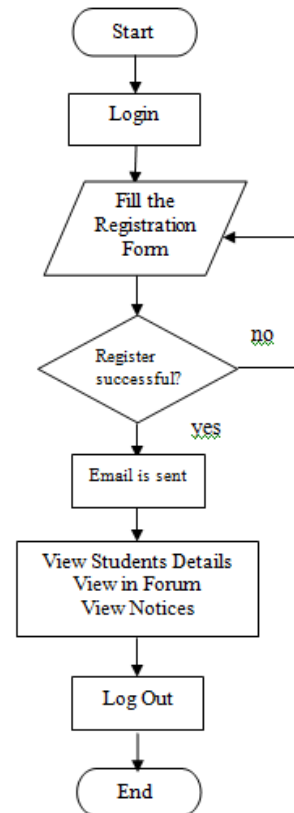


Figure:4 Flowchart for Student

**5.3.1 View Attendance**

Students can view attendance uploaded by the faculty or HOD. They receive a PDF file and can view it anytime.

**5.3.2 View Results**

Students can even view results uploaded by the HOD. A PDF file is received and students have to first download it and then view it.

**5.3.3 Give Feedback**

Students have the facility to give feedback about the faculty or the teaching staff. This is an additional advantage provided to students by the college staff.

### 5.3.4 View notices sent by college

Notices are sent to the students by HOD or admin. Useful information, college notices, important announcements are received on students registered phone. They can view it anytime.

## 6. Hardware and Software Requirements

### 6.1 Hardware that is essential in this System are as follow:

- Intel Core i3 Processor or more.
- Minimum 100 GB HDD.
- Minimum 4 GB of RAM.
- 3.0Hz or more Clock Rate
- Standard Keyboard and Serial Mouse.
- 2GB or more VGA card
- HD quality Monitor
- 3MB or more Cache Memory

### 6.2 Software that is essential in this System are as follow:

- Android Studio.
- PHP MYSQL database
- SQL Server (Either on localhost/domain)
- XAMPP / PHPmyAdmin tool
- Android SDK (Minimum API 15)
- Java Programming Language Platform
- Windows 7/8/8.1/10 Operating System
- NET Framework 4.0 later, with ASP.NET functionality tested[4-6]

## 7. CONCLUSION

This paper assists in automating the existing manual system. This is a paperless work. The application offers reliability, time savings and easy control. It can be used as a base for creating and enhancing applications for viewing results, tracking attendance for colleges or any workplace. It reduces the man power required. It provides accurate information always. Malpractice can be reduced. All years together

gathered information can be saved and can be accessed at any time. Students will view results, attendance and curriculum details and notifications using this application anywhere and anytime. The application will greatly simplify and speed up the result preparation and management process. It provide high security and a system that reduces the work and resources required in traditional process. The data which is stored in the repository helps in taking intelligent decisions by the management. So it is better to have an android application for students information management. All the stakeholders, faculty and management can get the required information without delay. This system is essential in the colleges/hostels and universities.

## REFERENCES

- [1] Campus Application of FH Kiel 1.0 for Android, [http://www.handster.com/campus\\_application\\_offhkiel.html](http://www.handster.com/campus_application_offhkiel.html)
- [2] Mobile App Development, [http:// www. Rapids of technologies.com/android-applicationdevelopment.html](http://www.Rapids of technologies.com/android-applicationdevelopment.html).
- [3] Application Fundamentals, <http://developer android.com/ guide /topics/fundamentals.html>
- [4] Yang Shulin, Hu jipieng "Research and Implementation of Web Services in Android Network Communication Framework Volley" IEEE- ICCSN.2014.20.
- [5] Darien Graham-Smith (February 2013). "Write Your Own Android App With Basic for Android - Part I" (PDF). PD PRO Magazine.
- [6] [https://en.wikipedia.org/wiki/Array\\_DBMS](https://en.wikipedia.org/wiki/Array_DBMS)
- [7] <https://www.rd-alliance.org/array-database/introduction-array-databases>
- [8] <file:///D:/ch2/The%20Java%20platform%20%20Wikibooks>