

Notification System in Academic Domain Using an Android Application

Ayushi Bisht¹, Brahmika Thakur², Kanchan Rautela³, Kirti Singh⁴

Department of Information Technology

Inderprastha Engineering College, Ghaziabad

Corresponding Author: *angel.ayushi2204@gmail.com*

Abstract

The goal of this paper is to design a notification system using Android application to connect it to the educational web site of the university. It achieve high and quick organize between instructor and students, save time, effort by connecting Android application to the educational database of the college using latest technologies. It provides a wide range of information about education, courses, and all about college students that help the instructor to select to whom he/she will send notifications. It also includes sending notifications, attendance.

Keywords: *Notification, Notify Me, Android application, FCM*

I. INTRODUCTION

With the advent of mobile and pervasive computing era, smart phones became ubiquitous, and wearable devices are getting traction. A significant portion of the applications for these devices relies on remote servers on the cloud, and Firebase Cloud Messaging (FCM) is a popular service as a client/server communication

solution for Android. Basically it is an update version of GCM(Google Cloud Messaging). Android is an open source operating system, Devices which it runs the Android application work on any mobile that support android O.S with different screen size.

Android is a Linux-based, open source mobile operating system developed by Open Handset Alliance led by Google to develop apps for Android devices. To start with, must use a set of tools that are included in the Android SDK. Once downloaded and installed the SDK, anyone can access these tools right from the Eclipse IDE, through the ADT plug-in, or from the command line. Developing with Eclipse is the preferred method because it can directly invoke the tools that needed while developing applications.

In this application the ADT bundle has been used that's developed by android studio. Android studio used to build a small web service that is help the mobile application to connect with My SQL database. Android is a software stack for mobile devices that includes an operating system, middleware and key applications. The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.

II.OBJECTIVES OF THE STUDY

Our aim is to remove the distance between the college information system and students.

Students can be in touch with the upcoming events and their performances through a simple notification on their smart phones.

III.LITERATURE REVIEW

Biennial National Conference on Nascent Technologies et al [1] proposed the application where student can get the information such as displaying notices, results, attendance timetables, etc. With the help of this application, not only students can access the information from a remote place but also can avoid the inconvenience of travelling all the way to the institute. This system will benefit the students and help them utilize time effectively. At some colleges certain data is passed onto the students using SMS facility. But this transfer is only on the side of college. It doesn't take into consideration which information is needed by which student and at what time. Also the delivery of the SMS to the students is based on the student's mobile network. The college website which partially displays the information is heavy and requires flash, java, shockwave player and more time for loading content. DadapeJinendra R et al [2] proposed the android mobile application called MOBILE-CAMPUS, with which mobile users can get valuable information on different landmarks

of a university campus and guide students/parents/visitors to find the desired places in campus with more ease anytime and anywhere. To develop this application they have used java programming language, which is used for android platform applications.

IV.SCOPE AND METHODOLOGY

In the first phase, feasibility study is conducted, requirement analysis is carried out to understand the need for the system and the necessary modules such as admin module, registration module, student module and SMS and android module are

identified and explored in section, in the design phase, requirements are converted into system design, it is shown in Figure 1. In the second phase, design is converted into coding, testing is conducted to ensure that the developed project is bug free and it meets the requirement specification. Finally developed project is installed and it is ready to use.

Besides, these various books, newspapers and related websites have been used for the study. Suitable tools like percentages, tables and figures are also used in this study for analysis.

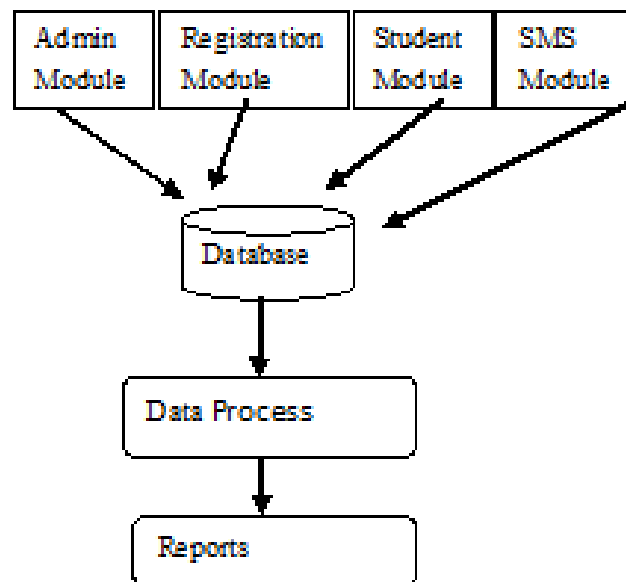


Fig 1.Overall System Design

receiving the message sent by the server, and then forwarded. Subscribers subscribe to the interesting topics, to submit information to the Message Broker, and to maintain a persistent connection. If publisher check into a new message, this

message will be released by topic category. Depending on the topic, the Message Agent receives the message as well as the client's subscription, and releases this news to the corresponding phone.

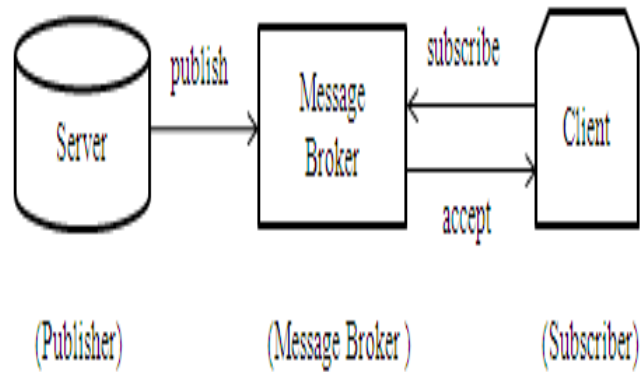


Fig.3 Architecture Diagram of Push Notification

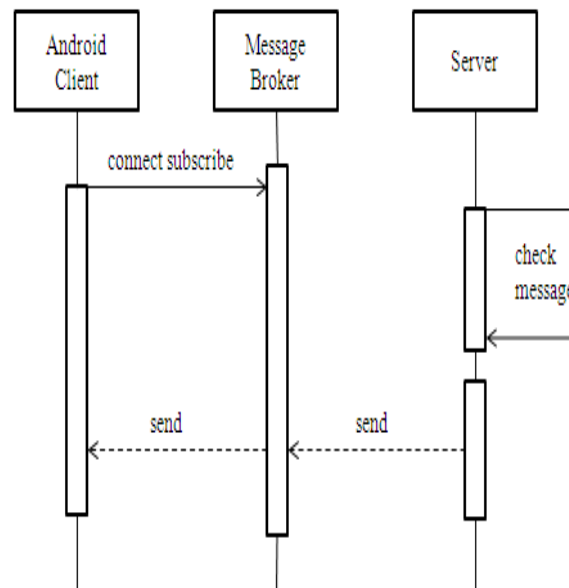


Fig.4. Push Process

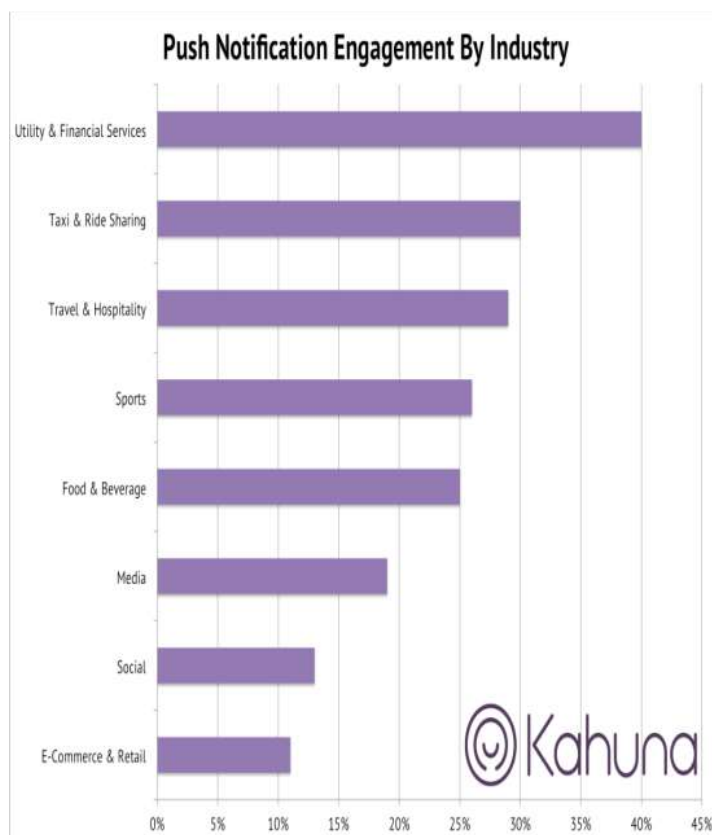


Fig.5 Push Notification Use In Various Sector

VII. MODULE DESCRIPTION

1. Administrator Module

This module is used to login for administrator, it have whole rights to monitor and manage the entire project, through this module, new information can be insert, update, view and delete.

2. Login Module

This module is used to login the profile and will continues the other processes.

3. Student Module

This module can be used for student for registration. The information such as name, id and mobile no. are collected and the collected information is stored in the database.

4. Database Module

The learning material to be shared is stored on server. By means of internet it will be broadcasted to all the registered students.

5. SMS Module

This module can be used to send notification through FCM.

VIII.IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

This project will be the platform independent, i.e; project will run on any operating system. Because any one can be access the project and upload it of their use.

1. Staff Module

The main purpose of the staff 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.

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.

2. 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.

Adding the time table:

Adding the time table is very simple as the application stored the all university subject and simply they have to select from the drop down list.

3. Student Module:

Add Details:

Add your name, roll number and minimum percent of the attendance. This is a onetime process.

Dashboard:

You can view all pages from the dashboard. You'll be shown the dashboard every time the app runs.

View bunks:

You can either view all bunks or view by subject. View by subject displays a list of subjects and on clicking it takes you to the summary. View all lists all your bunks which are arranged by date.

Alerts:

In order to view the overall attendance clicks on alerts button in dashboard. Alerts page also notifies you when the overall percent drops down.

4. Server Module

In this we simply build the database module which is use to store all the data of the staff as well as student also.

IX. USE BACKEND

As the backend mostly use the SQL, MYSQL, ORACLE these all use. Follows the same query but the way of organizing the data is different in all.

SQLite can be a powerful tool that makes it easy to store, access, and manipulate data. SQLite is embedded into every Android device. Using aSQLite database in Android does not require a setup procedure or administration of the database.

In the Android SQLite is an Open Source database. SQLite supports standard relational database features like SQL syntax, transactions and prepared statements. The database requires limited memory at runtime (approx. 250 Kbyte) which makes it a good candidate from being embedded into other runtimes.

SQLite supports the data types TEXT (similar to String in Java), INTEGER (similar to long in Java) and REAL (similar to double in Java). All other types must be converted into one of these fields before getting saved in the database.

SQLite itself does not validate if the types written to the columns are actually of the

defined type, e.g. you can write an integer into a string column and vice versa.

Access to a SQLite database involves accessing the file system. This can be slow. Therefore it is recommended to perform database operations asynchronously.

The android.database package contains all necessary classes for working with databases. The android.database.sqlite package contains the SQLite specific

classes.

X.DATABASE FOR NOTIFICATION

Information details are submitted to the relational database by the admin related to the college student Roll number, name and also put the subject name and code. Timetable of particular class. All the login details are also stored in database directly through app whenever students login inside the application.

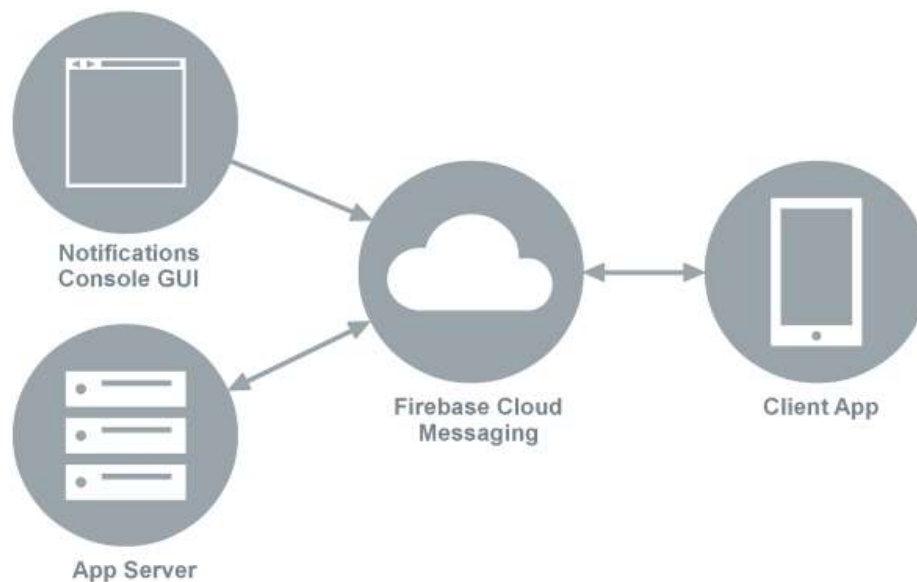


Fig 6. Working of notification generation

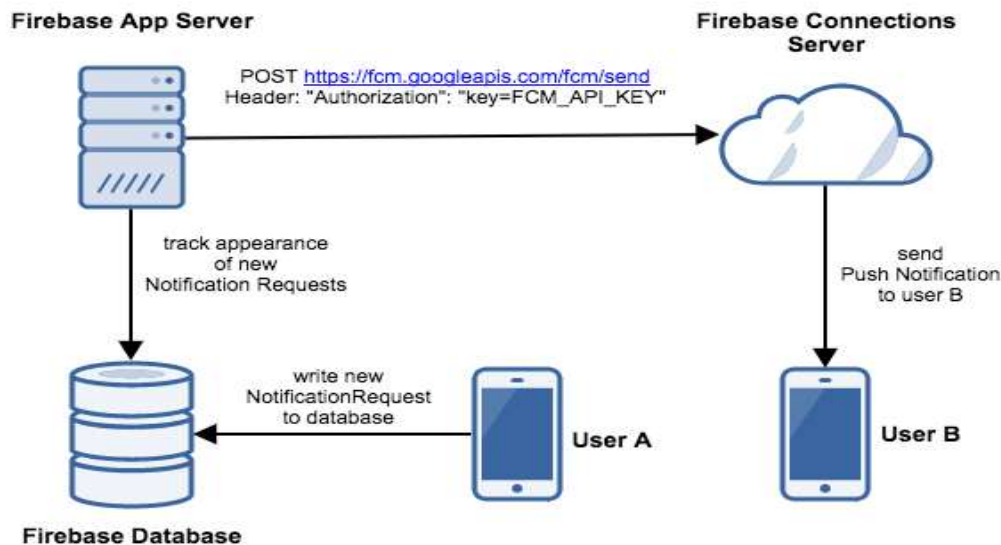


Fig 7 Overall working of app

XI. RESULT

The project provides the homepage for the students and teachers where they can easily check their attendance. This will help the students to check their Current status of attendance. Teachers can also update students attendance and also any notice regarding Placements, events etc can easily seen by the students with the help of push notification on their phones.

CONCLUSION

This work is to access the details about the student information and generate reports. The project based on Attendance Maintenance System is a collection of static and dynamic pages. This project offers user

to enter the data through simple and interactive forms. This is very helpful for the students and staff members to keep and maintain the information about students easily. Further this work can be expanded to store the internal marks, semester marks and placement activities.

FUTURE SCOPE

By this system students can learn anywhere anytime as per their own convenience. Timely updates of students related information can be sent to students as well as their parents. Attendance marking and report generation becomes easy. Less chances of malfunctioning. In future this system can be implemented to automate

most of the educational systems and it can be designed for cross platform.

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REFERENCES

- 1) Student Attendance Through Mobile Devices. Available from: <http://ethesis.nitrkl.ac.in/5195/1/109CS0146.pdf>. Date Accessed: 11/05/2013.
- 2) Chawhan SS, Girhale MP, Mankar G. Mobile Phone Based Attendance System. IOSREJournal of Computer Engineer-ing. 2013 Mar-Apr; 10(3):48–50.
- 3) Online Student Attendance Management System Project. Available from: <http://1000projects.org/online-student-at-tendance-management-system-project.html>. Date Accessed: 5/08/2012.
- 4) Jessenth Ebenezer P, Muralidharan MR, Srikanth S, Ra-mesh E, Prabhu S. Android Application for Student Activity Register. International Journal of Research in Engineering and Advanced Technology. 2014 Apr-May; 2(2):1–3.
- 5) Joshi R, Shete VV, Somani SB. Android Based Smart Learn-ing and Attendance Management System. International Journal of Advanced Research in Computer and Commu-nication Engineering. 2015 Jun; 4(6):256–60.
- 6) Sospeter J, Kaijage S. Requirement Analysis and Design of RFID and Mobile Application based Attendance Man-agement System: A Case Study of Ordinary Level Schools. Communications on

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- Applied Electronics (CAE). 2015 Aug; 2(6):17–22.
- 7) Akhila K, Prathyusha B, PavanKumar M, Amrutha M. A Novel Approach of Mobile Based Student Attendance Tracking System Using Android Application. International Journal of Engineering Research and Technology (IJERT). 2013 Apr; 2(4):2139–43.
- 8) Mahat SS, Mundhe SD. Proposed Framework: College Attendance Management System with Mobile Phone Detector. International Journal of Research in IT and Management. 2015; 5(11):72–82.
- 9) Patel UA, SwaminarayanPriya R. Development of a Student Attendance Management System using RFID and Face Recognition: A Review. International Journal of Advance Research in Computer Science and Management Studies. 2014 Aug; 2(8):109–19.
- 10) Avinaash Ram SP, Albert Mayan J. Mobile Attendance Management and Employee Registration.