ISSN No. 0976-5697

Volume 4, No. 2, Jan-Feb 2013

International Journal of Advanced Research in Computer Science

REVIEW ARTICLE

Available Online at www.ijarcs.info

Android and Web Application for Attendance and Notification Management of Academic Institution

Sharwari Chandrashekhar More*
Computer and IT Department
Pune Vidyarthi Griha's College of Engineering and Technology, Pune, India
sharwarimore@gmail.com

Vidya Ramesh Patil
Computer and IT Department
Pune Vidyarthi Griha's College of Engineering and Technology, Pune, India
patilvidya43@yahoo.co.in

Varsha Vasant Sasane
Computer and IT Department
Pune Vidyarthi Griha's College of Engineering and Technology, Pune, India
varsha.sasane54@gmail.com

Prof. U. M. Kalshetti
Computer and IT Department
Pune Vidyarthi Griha's College of Engineering and Technology, Pune, India
urmila.kalshetti@gmail.com

Abstract: In this paper we propose the development of a system which helps in bridging the gap between professors/teachers and students with the help of web based technology and smart phones having Android platform. Thus we aim at developing an attendance management system and an online notice board and a wall of fame along with other basic operations for all the classes and departments which would be accessible on smart phones and web applications. The system thus developed will integrate a server with a central database to be accessed by the mobile application, programmed for Android platform and the web application. The architecture of the system would be client server. The administrator will update information on web server. The intended user can login and access the required notices and attendance reports.

Keywords: Android, Mobile Application, Web Portal, central database, server, attendance and notice management

I. INTRODUCTION

In the present system all work is done on paper. The whole session attendance is stored in register and at the end of the semester the reports are generated. Also monthly reports are generated and at the end of semester the students who have attendance less than certain specified criteria get a notice [1]. There are many problems associated with the traditional working system like difficulty in report generation, lots of paperwork to maintain, time consuming, manual control over the entire attendance system and it isn't user friendly at all [1],[2].

Also the traditional approach of the notification system is manually notices are put up on the notice board. The students have to go to the notice board by themselves and check for the news and notices. This approach confronts some difficulties like lack of circulation of information, lack of prompt messaging system, lack of revised updates and thus the resulting clutter and confusion. Also there may be a need for delivering the notice instantly. This cannot be met through the use of the traditional approach of the notification system. Other existing options for circulation of notices include using various websites including social networking websites. Also bulk message services are used to circulate the notices and other important circulars. Because of this system some people may be left unaware of the important notices and circulars. Also the current notification system application present on various platforms requires continuous internet connection for getting the notifications [3].

Thus to overcome the above mentioned drawbacks of the existing system, the use of modern technology like the Internet and smart phones, tablets etc is recommended since in future there would be a vast use of smart phones. Also the use of Android smart phones has increased considerably. So like the mobile application discussed in [2], it is a good option to have an application for college portal on the Android Smart phone.

Thus the project will include creation of database, web portal and an Android app for the academic institution. The database will contain all the user related information including his account details. Also all the other necessary details like attendance records, notices etc will be stored in the database. The web server will basically authenticate the user login and check new registrations. Also it will update the database from time to time. It will also generate notices and attendance reports. The notices can be according to the year, class or department. Also attendance can be calculated for every individual, class and semester.

II. SYSTEM OVERVIEW

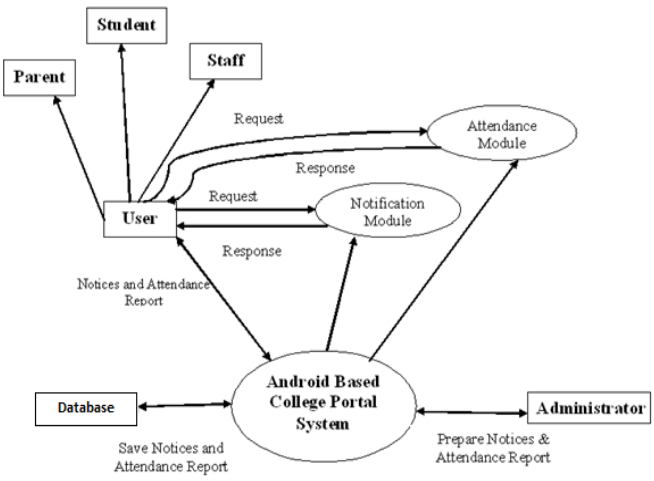

Figure. 1

The project will include the following modules:

a. ***Login/Activate:*** The college database will contain the basic details of every user. To register to the application, the user will be sent a mail containing his user id and password. Using these login details, he/she can login to the application.

b. ***Upcoming Events and News:*** This section will be updated by the administrator and will contain all the news regarding the various activities in the college. Also this section will have all the information of all the events in the college like cultural events, sports events, gatherings, dinners etc. All the information will be added by the administrator.

c. ***Notification area:*** Here all the notices which are put up on the notice board will be displayed,

This section would be further divided as below:

a) College Level notices

b) Year wise Notices

c) Course/Class wise notices

This section will be updated by administrator and the administrator would have the right to delete any content. Also if the notices contain any additional content along with it like certain documents, the user can download those documents as well. Also if there are any changes in the notice or something is to be added by the staff, the staff can post a feedback related to the notice so that the changes will be conveyed to the students.

d. ***Attendance:*** The teachers will login to this app from their phone or tabs. They will mark the attendance of every student according to the lecture and class. All the classes' attendance would be stored in the database. Thus this will be helpful in generating attendance reports. The reports can be generated according to the classes and lectures. Also report for every student can be generated for a particular subject as well as for the entire semester. It can help the teachers to bring out reports at the end of the semester. It can help them to identify the percentage attendance of all the students and also manage the defaulter lists etc. Thus the intermediate attendance taken by the staff will be stored in the phone database and once in a while they can sync this up with centralized database. The other users will login to this app and check their desired attendance.

e. ***Feedback:*** The students or parents can give their feedback or register any complaints related to the academic institute.

III. SYSTEM IMPLEMENTATION

The Android based college portal project will be implemented in Android which is basically a Java-based operating system and will be implemented using the Android SDK [4]. Also the server side code would be in HTML- PHP and MYSQL [5],[6]. The system is mainly divided into two major components i.e. the web application and the Android app.

A. Web Application:

The users can also login to the web portal along with the Android app in order to avail the benefits of various services provided. Also, with the help of the web application, we can manage large amounts of data that is required by various users. Every user is provided with separate privileges and is granted different authorities. Only authorized users can access their data like a student and a parent can view only the information related to themselves or their ward. Also a staff member can access data of a certain class to which he/she may be teaching. This provides security of the data. A PHP session helps in preserving data across subsequent accesses by allowing you to store user information on the server for later use. This session information is temporary and is deleted after the user has left the website. This ensures the authentication of the users. Thus the web application can provide efficient authentication and authorization to the users of the application.

B. Android Application:

The Android application developed for the end users will contain efficient user interface which will help the users to easily access the required data like the attendance reports, notices, any additional documents etc. Also the android application will contain various services like login, logout, request for updating profile, provide feedback, view notices, attendance reports etc

IV. SYSTEM ARCHITECHURE

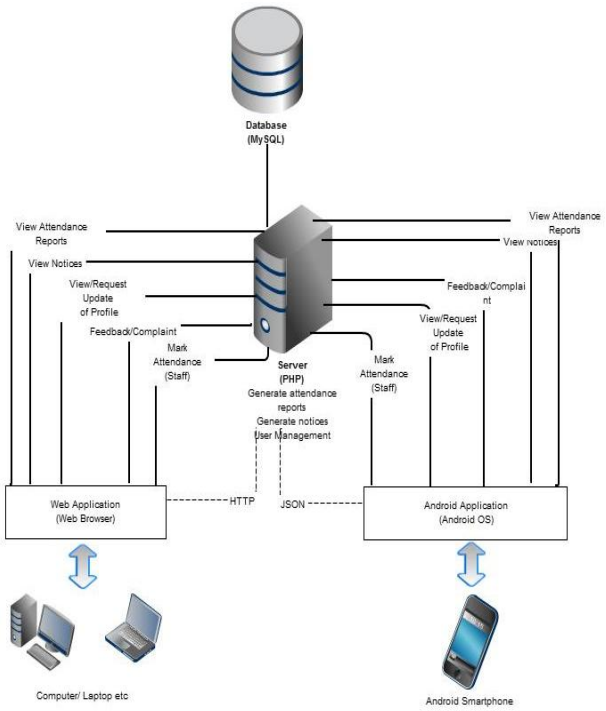

Figure. 2

V. ACKNOWLEDGMENT

We take this opportunity to express our gratitude towards our project guide Prof. U.M. Kalshetti for her expert guidance during preparation of our project. We would also like to thank Fortune Tech Solutions for providing their valuable guidance.

VI. RESULT

The system generated will be very user friendly as retrieval of data will be fast and efficient. Also reports regarding the student attendance and other notices can be generated easily. Most of the functions of the teaching and

the administrative staff will be automated. Lots of paper work will be reduced. Also parents as well as students will get real time access to their attendance and other important notices. Also with the help of notification module, proper circulation of information will be ensured and revised updates can be provided too.

VII. CONCLUSION

The initial phases of system development i.e. preliminary investigation, analysis and designing are implemented. In the first preliminary investigation phase, the feasibility study is conducted to improve the existing system. In the second analysis phase, analysis of information needs and development of functional requirements of the system is done. Also here the scope of the proposed system is identified. In the design phase, the development of the Unified Modeling Language Diagrams and the database design is done. Thus the system when employed in an academic institution will provide features for efficient attendance and notification management.

VIII.REFERENCES

[1] Mahfudzah Othman1, Siti Nurbaya Ismail2, Mohd Ikhsan Raus3, Faculty of Computer Science and Mathematics Universiti Teknologi MARA (UiTM), MALAYSIA, "The development of the web-based Attendance Register System (ARS) for higher academic institution", IJCSNS International Journal of Computer Science and Network Security, VOL.9 No.10, October 2009

[2] Karan Balkar, Reyomi Roy, Preeyank Pable, M. Kiruthika and Shweta Tripathi, "A Mobile Application to Access Remote Database using Web Services", Proceedings of the NCNTE-2012, Third Biennial National Conference on Nascent Technologies, Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, Department of Computer Engineering & Information Technology, February 24-25, 2012

[3] Prachi Tongaonkar, Remya Mogayan, Satish Kamble, Shreya Kadam, "Instant Academic notices on phones" ASM group in Association with CETS UNIVERSITY, Mexico in 7th INTERNATIONAL CONFERENCE (INCON-VII-2012), 3rd and 4th March, pp. 303 **(Article in a conference proceedings)**

[4] Jerome (J.F.) DiMarzio, Android–A Programmer's Guide, Edition 2010, Tata McGraw Hill, pp. 2-8, 53-82, 149-202

[5] Jasone Gerner, Yann Le Scouarnec, Jeremy Stolz, Michael K. Glass, Beginning PHP5, Apache, MySQL Web Development, Edition 2005, Wiley Publishisng Inc and Wiley Dreamtech India Pvt. Ltd.

[6] Julie Meloni, PHP, MySQL and Apache, 3rd Edition, Pearson Education Inc and Sams Publishing