



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact factor: 4.295
(Volume 4, Issue 3)

Available online at: www.ijariit.com

Mobile web based android application for department management

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ABSTRACT

Mobile applications are too handy and easy to use. They are used as an option to the traditional process. Applications developed have users which through proper authentication can access the system. Teacher and students both have their own apps and have username and password to log in and so anyone cannot log in. Students can view all the details like attendance percentage, defaulter list, and internal marks, practical submitted using this app interface. Teachers can take attendance, enter marks, keep track of each student who has submitted the practical, and generate automatic defaulter and critical defaulter list. The project also adds mobility and automation of the information.

Keywords: Medium, Authorization, Apps, verification, Synchronization, Interaction

1. INTRODUCTION

Mobile applications development is growing fast day by day. Using mobile phones for not only as a communication medium but also used to perform various day to day function. Different tasks that were earlier performed going everywhere personally or with lots of manpower are now performed using the application. The application has the ability to connect a numerous number of people those willing to use the service. Not everyone can log in as authentication of every user is mandatory. Authorized users can access and avail the benefit of the same. Different platforms require a different mobile application for their compatibility. But applications developed using "Phone Gap" have an edge over the other applications that are specially designed for one particular platform. Applications improve the service to be provided to the user and help in data maintenance. Hence due to its vast benefits, applications are being developed for many perspectives and uses. Educational institutions are also not left behind in the availing of the services and benefits of it. Previously apps were developed for informational and productivity purposes that include various basic functions like calculators, cameras, contacts. With the rapid growth in app development industry, developers implemented more

expanded features like social networking apps, travel, and tourism, ticket booking, and fitness apps and recently mobilize medical apps.

This study explores the impact of QR code on students and teachers by reducing both time and cost. This study is mainly conducted to support the "DIGITAL INDIA" movement by Prime Minister. The paper continues with sections of various digital initiatives by providing a Mobile Application for day-to-day college activities and for smooth performance of daily tasks

1. 1 Purpose

Cell phones are not just meant for communication anymore. As the needs are changing, smarter applications are in demand. Applications tend to bring two different users on the same platform and help them to communicate with ease. Maintaining complete data at one single place and making it available any time when required. It encourages paper-less transaction.

1. 2 Scope

Developing a mobile application provides its benefits to all those who are owning a mobile phone and are registered with the system using the provided mobile application. As, different users may work on different platforms and so, this application is developed using "Phone Gap" is available to all the users working on all the platforms. Applications provide a good replacement for the traditional work process and are available mainly for teachers and students to use.

2. TRADITIONAL SYSTEM

Initially, the complete process was carried out without the proper management of the activities. Each activity was carried out without the proper synchronization of activities and tracking became a cumbersome problem. Following modules were previously conducted as:-

(a) **Attendance Module:** Complete attendance module was carried out manually and so, it was very tedious for a single teacher to keep a track of all the classes that he/she teaches. It

was also difficult to calculate the percentage of each student and display them every

(b) Month as a defaulter list and after every 3 months as a critical defaulter list. Attendance was recorded on a piece of paper and so maintaining and handling was also not very easy.

(c) **Practical Submission Modules:** Practical submitted has much information written such as Name, Roll Number, CO, PO, DOP, DOSUBJECT, SIGN, and MARKS. Filling all these details and then submitting to the teacher. Teacher checks and then enter the marks also keeps the record of the same on another marks sheet. At the end of the semester, the average is calculated again and maintained. This causes repetition of tasks.

(d) **Internal Assessment Marks:** Marks of both the unit test were displayed on a sheet of paper. Calculating the average for the same and then displaying. This caused lots of inconvenience for both teachers and students.

(e) **Reports:** Displaying the reports was one of the major tasks. Previously everything was displayed on notice board. Making and preparing the list for the same was also a task.

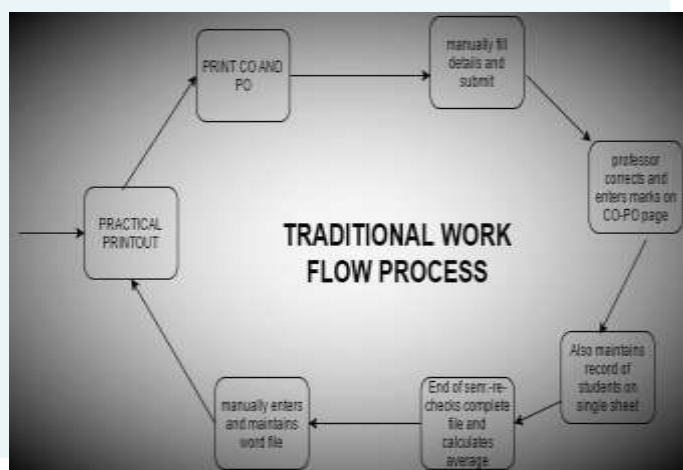


Fig. 1: Traditional Work Flow

3. SYSTEM ARCHITECTURE

The overall system design consists of the following them modules which provide a complete solution for the main problems faced by the educational department. The mobile application consists of two mobile applications which provide complete one-to-one interaction between teachers and students.

(a) **Login Module:** This module is mainly for authentication of the user. A user can be a student or a teacher. But both have their username and password and so this acts as a verification door to their respective user-interface.

(b) **Database Module:** Database used here is MySQL, where the complete information obtained, is stored. Apache Tomcat Server is used due to it's easy to use and flexibility. For any request, the data can be fetched easily and delivered as data is stored in the form of connected tables. It consists of authentication i.e login data, attendance record, practical data and internal test credentials

(c) **Attendance Module:** This module is a feature where a particular teacher logs in successfully will have to select the class and the system will generate the list of all the students for the entered particular class. A toggle button beside every student will have the Absent and present option of which

either can be selected for a particular student. The data is stored in Database after the submit button is clicked.

(d) **Practical Submission Module:** This service allows the student to generate a QR code of all the credentials that a student enters in the student application. This allows the teacher to scan the QR code and enter the marks. Student when submits the practical usually fill the details on the CO-OP page. But now has to enter the details in the “Student-Mobile Application” and click on the generate QR code. A QR code generated, the printout is taken and submitted. Teachers using its mobile application scans the QR code and enters the marks of the particular practical and saves the detail. This will be saved in the database.

(e) **Internal Assessment Module:** This module mainly serves a purpose for teachers as they can enter the marks of each of the student of their class only of their particular subject and store it. The average of two can also be calculated by the application and student can view the same in “Student-Application”.

(f) **Report Module:** This module serves as a purpose of displaying notices that are generated by teachers or system itself generates it periodically. As the internal assessment marks are thee entered by the teacher. They can be displayed here, which is available for all the students for viewing it. Same also applies to the practical marks. Defaulter list is periodically generated at the end of every month and critical defaulter list is generated at end of every 3 months. This is a system generated the list.

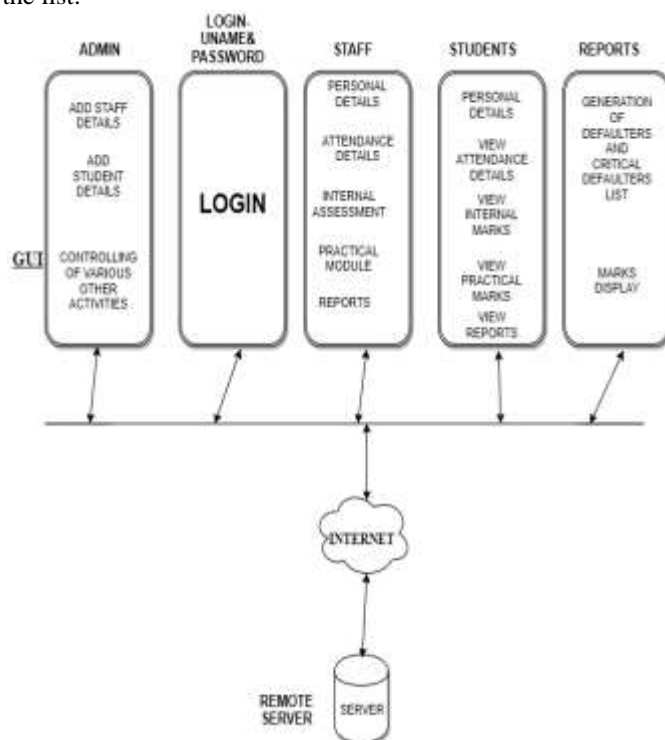


Fig. 2: Block diagram

4. TECHNICALLY HOW QR CODE IS IMPLEMENTED USING MOBILE APPLICATION

- The application for the same is built on the Phone Gap Framework. Phone Gap is beneficial as developing mobile application will not be limited to one particular OS Platform.
- A plug-in called BARCODE SCANNER for ngCordova is added to the framework using CLI. The Barcode Scanner Plugin opens a camera view and automatically scans a barcode, returning the data back to you.

- The Data from the QR Code is handled using JScript at the Client Side. Cookies are also maintained using JScript.
- The communication of data from the client to server is done through a JSON.
- PHP is used on the server side to send an appropriate response for the request from the QR code back to the client.

5. SYSTEM EVALUATION

5.1 Advantages

- a) Centralized storage of complete information.
- b) Paper-less and fast transaction.
- c) Ease generation of reports.
- d) Use of QR Code makes it a foolproof solution and results in no late submissions.
- e) Authorized access only.
- f) Students can check their attendance record and marks periodically.
- g) Ease calculations and maintenance.

5.2 Disadvantages

- a) Too many users can be a challenge for the server and may require continuous up gradation of services as the number of users goes on increasing.
- b) The current system is a manual process.

6. CONCLUSIONS

This paper assists in modifying the existing processes and collaborating them in an app-based system. The new system works completely paperless. It reduces manual work and also provides accurate information. The proposed system is a very helpful tool for both teachers and students. Similar tasks can be carried out in simplified and with more speed. The app has a responsive and attractive user interface.

7. REFERENCES

- [1] Srikant Patnaik¹, Khushboo kumari Singh², Rashmi Ranjan³, Niki Kumari, "College management system", IRJET Vol. 3, Issue 5, May 2016.
- [2] Vishwakarma R Ganesh, "Android College Management System", 2016, IJARCET, Volume 5, Issue 4, April 2016.
- [3] R. M. Leod, Management Information Systems, Third Ed., Science Research Associates, 1986, pp. 17-19.
- [4] Sharmila Devi, Mohammad Rizwan, Subhash Chander "Mobile Applications & its implications in Education" 2010 International Journal of Advanced Research Computer Science and Software Engineering. Volume 2, Issue 3, March 2012, ISSN: 2277 128X.
- [5] A. J. Kadam, Aradhana Singh, Komal Jagtap, Srujana Tankala, "Mobile Web-Based Android Application for College Management System", International Journal of Engineering and Computer Science ISSN:2319-7242 Volume 6 Issue 2 Feb. 2017, Page No. 20206-20209.