

A Survey on “SMART CONNECT” an Android and Web Based Application for College Management System

Amita Dhale, Madhav Mistry, Tushar Zore

Department of C.E., B.D.C.E., Sewagram, Wardha

Abstract: In recent years the Android Technology with web services has brought many drastic changes in the mobile application development field. This application provides a generalized solution to monitor the various works that are carried out by a College for managing it. “Smart Connect” provides a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students. The creation and management of accurate, up-to-date information regarding a students’ academic career is critically important in the university as well as colleges. Smart Connect deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details, placement details and other resource related details too. It will also have faculty details, batch execution details, students’ details in all aspects, the various academic notifications to the staff and students updated by the college administration. It also facilitate us explore all the activities happening in the college. Different reports and queries can be generated based on vast options related to students, batch, course, faculty, exams, semesters, certification and even for the entire college.

Keywords: Android Technology, administration, maintain records, Smart Connect

I. INTRODUCTION

The design and implementation of a comprehensive student information system and user interface is to replace the current paper records. College Staff are able to directly access all aspects of a student’s academic progress through a secure, online interface embedded in the college’s website.

The system utilizes user authentication, displaying only information necessary for an individual’s duty. Additionally, each sub-system has authentication allowing authorized users to create or update information in that subsystem. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, the system plans for student user interface, allowing users to access information and submit requests online, thus reducing processing time. All data is stored securely on SQL servers managed by the college administrator and ensures highest possible level of security. The system features a complex logging system to track all users’ access and ensure conformity to data access guidelines and is expected to increase the

efficiency of the college’s record management thereby decreasing the work hours needed to access and deliver student records to users.



Fig 1: Android Technology

Previously, the college relied heavily on paper records for this initiative. While paper records are a traditional way of managing student data and different work, there are several drawbacks to this method. First, to convey information to the students it should be displayed on the notice board and the student has to visit the notice board to check that information. It takes a very long time to convey the information to the student. Paper records are difficult to manage and track. The physical exertion required to retrieve, alter, and re-file the paper records are all non-value added activities. This system provides a simple interface for the maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using Smart Connect. The paper focuses on presenting information in an easy and intelligible manner which provides facilities such as profile creation of student, professor, principal and higher authority thus reducing paper work and automating the record generation process in an educational institute.

A. PURPOSE

The purpose is to design a college website which contains up to date information of the college that should improve efficiency of college record management and decrease the space between student and college.

B. OBJECTIVES

- Providing the online interface for students, faculty.
- Increasing the efficiency of college record management.
- Decrease time required to access and deliver notices.
- To make the system more secure.
- Decrease time spent on non-value added tasks.

C. ORGANIZATION OF THE PAPER

The paper is organized as follows: Section II provides Literature survey. Section III covers the details of the proposed work and Section IV is conclusion.

II. Literature Survey

All researchers have aimed to develop and **provide a generalized solution to monitor the various works that are carried out by a College for automation of various tasks**. They provided up to date information of the system which improved efficiency of college record management and decrease the space between student and college. The major contributions to this topic are summarized below:

S. Shivasubramanian, S. Sivasankaran, and S. Thiru Nirai Senthil [1] proposed one of the first computational schemes An Android Based Mobile Application to Monitor Works at Remote Sites. This application provided a generalized solution to monitor the various works that were carried out by a construction company at different geographical points. By using a Web Service the data was stored in the remote database. This mobile application requires General Packet Radio Service (GPRS) or Wi-Fi technology to reach the remote database. Using data in the remote database various reports were generated and projected as a MIS [Management Information System] web application.

Sanjay T. Attendance [2] proposed attendance Management System to generate an android application to calculate the attendance of the students in colleges and updating the result directly into the college server. The data would be stored in the smart phone if the internet connection

was unavailable at that time. When the internet connection was available, then the faculty could login into their college account and update the attendance result.

Shradha S. Chawhan, Mangesh P. Girhale, and Gunjan Mankar [3] worked on MPBAS that helped lecturers to take the attendance of students using Smart-phone. Lecturers would login to the phone application, get connected to the server and take attendance using Smart-phone. After taking the attendance in the mobile, lecturers would send it over to the server using GPRS and attendance list would be updated automatically. Lecturers would be able to edit the attendance by login on to the website. Students would be able to view their own attendance as well as curriculum details. To reduce the chances of fake attendance, the project would include Location detection using GPS. Also email would be sent to the students by the lecturers, notifying them of their regular activities.

S. R. Bharamagoudar, Geeta, S.G. Totad [4] worked on Web Based Student Information Management System that provided a simple interface for maintenance of student information. It could be used by educational institutes or colleges to maintain the records of students easily. The creation and management of accurate, up-to-date information regarding a students' academic career is critically important in the university as well as colleges. Student information system deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details, placement details and other resource related details too.

Eiichiro Tsutsui, Kazuharu Owade, Yusuke Kondo, Michiko Nakano [5] A Proposal For A New-Dimensional Online Feedback System: Focusing On Individual Learner Differences purpose of this study was to create a new method of assessing individual learner differences in the contexts of language learning. Their questionnaire-type items used in that system was based on SILL (Strategy Inventory of Language Learning) questionnaire items.

Namrata Shahade, Priya Kawade and Satish Thombare [6], proposed Student Information Tracking System an Android application to manage student attendance on mobile. In many colleges teachers used to take attendance manually. Main objective of this project is to add mobility and automation in the existing attendance process. This system helps teachers to take attendance through mobile and also keep in touch with student in some aspect. This System allow teachers to take attendance, edit attendance, view student's bunks, send important documents in pdf format such as exam time table, question bank etc. and also helps teachers to inform students about the events that college was going to organize. This system also helped students in specifying bunks, deleting bunks, viewing their bunks. This system gives a prior

intimation to student as soon as his attendance goes below the specified attendance deadline in the form of an alert. This system helps students to keep in touch with the events that college was organizing.

Yohei KAWAGUCHI , Tetsuo SHOJI , WeijaneLIN, Koh KAKUSHO , Michihiko MINOH proposed a system that took the attendance of students for classroom lecture. Their system took the attendance automatically using face recognition. However, it is difficult to estimate the attendance precisely using each result of face recognition independently because the face detection rate was not sufficiently high. Here they propose a method for estimating the attendance precisely using all the results of face recognition obtained by continuous observation. Continuous observation improves the performance for the estimation of the attendance .They constructed the lecture attendance system based on face recognition, and applied the system to classroom lecture.

[6]	Yamate, Suita, Osaka	AN ATTENDANCE MANAGEMENT SYSTEM USING MOBILE PHONES	Aug 2005	Digital equipment provides stimulus to monotonous classes. Using digital equipment during class would improve the percentage of attendance.
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III. PROPOSED SYSTEM

A. Issues in existing system

Attendance is a very important task for maintaining the record of student. In present system maintenance of record is done manually or by using CCTV camera. Manually maintaining the record is quite a time consuming task and using of high technology cameras in every class increases the cost required for maintenance of devices. Moreover other details of student are stored in different records which increase redundancy.

In the present system the feedback is issued from student using the web application or manually. Since there is no authentication to user there arises complication as data may not be consistent and this is a time consuming process.

In college events and other information are displayed on notice boards and thus it become very important for students to check the notice board regularly. This process of displaying notices does not guarantee that every student have received the message. Other than that is requires lot of time.

The existing system uses emails for communication between students and teacher. Thus there is no direct communication between student and teachers directly. And if teacher want to communicate with student or deliver an important message it becomes difficult for them.

Thus there is a great need for a fast, reliable, efficient and easy automated system which will help in updating and provide the best way for interaction in short duration of time.

B. Proposed Work

The proposed Online “SMART CONNECT” An Android and Web Based Application that Manages College System is designed to provide more easier way to the users to add and retrieve information quickly. Once the user open this Android and web application, at the front end all the schedule/event are available to everyone in a precise manner. There are mainly five types of users. They are Student, Parent, Teacher, Higher Authorities and Administrator of the college. The administrator is the master user; he gets the most number of priorities than the other users. The different functions involve in the case of an administrator are updating college

Sr. No.	Name of Author	Title of Paper	Year	Description
[1]	Arulogun, Olatunbosun, Fakolujo, Olaniyi	RFID-Based Student Attendance Management System	Feb 2013	An application based on Radio Frequency Identification (RFID) to manage student attendance.
[2]	S. R. Bharamagoudar, Geeta, S.G. Totad	Web Based Student Information Management System	Jun 2013	SIMS provides a simple interface for managing college.
[3]	Bongani T. Mabunda , Johnson O. Dehinbo	Enhancing Online University Class Management System with Instance Email Feedback Alert	October-24-26 , 2012	Manages the class, attendance and provides instant email alerts and updates student records.
[4]	Yohei, Tetsuo, Weijane, Koh, Michihiko	Face Reorganization Based Lecture Attendance System	Dec 2011	This system takes attendance automatically using face reorganization.
[5]	Eiichiro Tsutsui, Kazuharu Owade, Yusuke Kondo, Michiko nakano	A Proposal For A New-Dimensional Online Feedback System: Focusing On Individual Lerner Differences	March 2008	Using online feedback system learners will become aware and will be responsible for their own learning.

information, approvals, events etc. The administrator can view and approve the various records.

Students can use the Android application with the some authentication. Students can view and enter information around the clock and from any location. Students can edit their Profile, and update them constantly. Students can very flexibly search for other student and view College schedule and details, and interact with other student and also teacher via messaging. They can also send a feedback to higher authority. A registration of Student is done by the class Teacher. Student will be kept in touch by an automated notification by message. They will have access of forum, with which they can post queries, reply queries. This will help the student as there will be sharing of ideas by wall. Students on notification will also use the system to read important announcements, to obtain information on performance, to see the results of assessments recorded in the system.

The teacher can also use the Android application with some authentication. Teacher can edit their Profile, and update them constantly. Teacher can view College schedule, events and details. They can take Attendance using the application, and also update the performance of student. Teacher have authority to provide an authentication to student, also interact with students via messaging. Teacher has access of forum, with which they can post queries, reply queries. This will help the student as there will be sharing of ideas by wall.

Higher authority uses the web application and can assign specific work to the teacher. The higher authority can set the events also send a queries on wall and the very important thing is that they can read the feedback which are sent by students. They can sent the queries to student, teacher and can see the performance of overall class or particular student and also interact with them via messaging. They are second higher authority who will control the departmental work.

Administrator is connected with this system using web application. He has centralized control on this system. He will have the authority to allocate the higher authorities to various departments. He can check the department wise performance and send the queries on wall and also interact with others via messaging. He arranges the events, set the notices using this system. The guideline is approved by administrator which follows by other.

Using this system the faculty could easily inform or interact with the parents of student and also parents can communicate with the management. They can view student performance easily using this system. They can send queries to the management and also get information about events organized by college.

IV. CONCLUSION

This smart connect application in automating the existing manual system. This is a paperless work. It can be monitored and controlled remotely. 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. The data which is stored in the repository helps in taking intelligent decisions by the management. So it is better to have a Web and Android Based College Management system. All the administrator, authorities, faculty, student and guardians can get the required information without delay. This system is essential in the colleges.

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