College Management System

Rushikesh Basatwar[1], Aakash Patil[2], Rushikesh Taiwade[3], Prateek Sahu[4], Prof. Priyadarshani Patil[5]

Students, Department of Computer Engineering[1,2,3,4]
Assistant Professor, Department of Computer Engineering[5]
D. Y. Patil College of Engineering, Pune, Maharashtra, India

Abstract: *Technology has changed our daily life routine as well as living style. So, student of school or colleges or university require application that supports smart phone to get all type of information related to examination, lecture notes, placement regarding question, notification, events, transportation etc. instead of calling system because almost all mobile users has smart phone now days. Each and every educational institute provides limited services to their users including students, parents, guardian and public. If provided services are more than ease of using is very difficult. That is why student's interest towards using college or school or university is decreasing day by day. We designed an application to fulfil the requirement of students or parents or employee based on present scenario of market and latest technology like java, android, GPS etc. to solve the students' problem. A portion of the highlights that it can incorporate into this Application system.*

Keywords: Login id, Attendance, Exam updates

I. INTRODUCTION

There are several services required for the students in an application. Most of them are schedule of new session, time table of the class, schedule of examination, registration in new semester, examination form, new admission, study materials, placement materials common or company wise, list of company coming for placements, scope of technology in present and future, scope of courses, real time transportation status, real time placement status, real time performance status, real time attendance status, results, infrastructure like lab, workshop, gym, classroom, smart class, Wi-Fi, hostel, dispensary, bank, post office, library etc. But, mostly all school and colleges providing services of infrastructures, results, admission, and placement but not up the mark, study materials (very few institutes) as shown in figure.

For accomplishing big projects, the number of developers work collectively on different modules. Their efforts when combined together gives the final outcome .However, a member working on one module may encounter the need to understand other modules. Hence, he may feel the need of telling the concerned member to explain his module. It may be time consuming and troublesome for the concerned member to explain the entire code of the module a need for a tool like CLASS BROWSER which gives the class diagram of the entire module (project). It is quite reliable and easy to understand. It also helps in debugging large projects.

The traditional view of software development takes an algorithmic perspective. In this approach, the main building block of all software is the procedure or function. This view leads developers to focus on issues of control and the decomposition of larger algorithms into smaller ones. There is nothing inherently evil about such a point of view except that it tends to yield brittle systems. As requirements change and the system grows, systems built on algorithmic focus turn out to be very hard to maintain.

The contemporary view of software development takes an object-oriented perspective .In this approach, the main building block of all software systems is the object or class. Simply put, an object is a thing, generally drawn from the vocabulary of the problem space or the solution space; a class is a description of a set of common objects. Every object has identity, state, and behaviour.

II. BACKGROUND

With Technology & Time advancement, there is a essential for rapid information dissemination. Due to the raise of benefits of automated system, huge process which done by the humans are automated now. Recent days, there is a huge necessity needed for automated system which includes their role in academic infrastructures like schools & colleges that needs to change the role of their manual system to mobile computing systems . The Computer Technology changes uses the

databases & application of the Information System of students, which helps to make their documents and records as centralized. Android play a vital role. It leads to the inventiveness to the processing of traditional – transactional systems. For example attendance management in the existing organization is done on paper sheets.

II. DESCRIPTION OF THE PROBLEM

2.1 Problem Statement

Basically, all school or college or university has their own websites. Some of them are providing very basic services like admission, notification, infrastructure and availability of courses. Some of them providing extra services like result, online study materials, research facilities and training and placement (only for advertisement purpose). Organization are not designing and developing tools or application according to the requirement of present era students using latest technology with latest services to help students, parents and others. That is why students visits their school or college or university websites only for notification and result purpose.

2.2 Proposed System

Pillai HOC app is an Android Application which provides a common, easy to use platform for college students to develop a better interaction with fellow students, faculty and administration.This work has unique and helpful feature of raising queries, where students can put up their queries and anyone can answer their queries. For keeping a check over the inappropriate posts a feature of report is also provided which informs the admin about inappropriate posts and actions which could be taken over it accordingly. Furthermore, it provides user a help option which helps them in discovering any information regarding labs, faculty and lecture halls. Pillai HOC app also creates a platform where user can view daily updates of his/her attendance syllabus, and time table.

The system college management system can be used to manage data of all type of education institute. It will support both stand alone and also networking environment. The application reduces as much as possible to avoid error while entering the data. No formal knowledge is needed for the user to use this application. Thus it provide user-friendly environment for everyone.

The proposed system for college information system is fully an automated one using Wireless Android. In this system, we are using firebase 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.

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.

2.3 Objective
- To study websites of school or colleges or university
- To analyse the requirement of students
- To study latest technology and framework of websites design
- To design and develop an app based on android to fulfil the requirement of student
- To provide all assistant regarding attendance, Payment gateway, Online practice for examination etc.

2.4 Purpose

Our College Management System application provides an autonomous solution of the paper based work. This is controlled and monitored by admin. The man power is reduced by using this application. It provides accurate information all the time as faculty member or student needed. The college management can make useful decision using the data that are stored in the university database server. So it is better to have a Android Based College Management system like Pillai HOC app. All the administrator, authorities, faculty, student and guardians will get the desired data directly.

III. METHODOLOGY

The first phase of software project is to gather requirements .Gathering software requirements begins as a creative brainstorming process in which the goal is to develop an idea for a new and modules that no other software vendor has thought. New software modules ideas normally developed as a result of analysing the project The main function of requirements gathering phase is to take an abstract idea that fills a particular needs or that solves a particular problems and create a real world project with a particular sets of objectives, timeline and team.

The main function of the analysis phase is to look carefully at the requested features with an eye towards the issue that each may create in the actual coding. This phase is the time during which reasonably deliverable thoughts of each team member can decide.

IV. LITERATURE REVIEW

PILLAI HOC APP a app and it is very helpful for the college management.. The Pillai HOC app uses XML, Android studio as the frontend tools. Firebase is an open source, a powerful backend management from Google which is used for creating dynamic websites, web applications and static websites and android apps. Using Firebase we can perform so many things such as connect to the database and retrieve information, sending emails to users of a website, encryption of data, storing data in database etc. Firebase is the most popular database used for storing all the information about users etc.

The detail workflow of College Management System Application is described as follow:

A. Safe and secure login for user This app provides user a secure way to login. During registration of new user, user is asked to fill some fields which are used in firebase database and retrieved from it while user is logged in. it also provides a feature of Google or Facebook sign in for authentication of guest users. An otp is also sent to user to the provided e-mail id and only if it is authenticated user is allowed to register.

B. Adding new post and displaying of posts This apps allows users to post any image with a description which is then stored in firebase database and on the main screen all the posts bythe user which are approved by the respective authority will be displayed to all the users. The image button allows users to select image from the gallery and post it.

C. Authentication of Apps Whenever a post is uploaded, before being displayed it is sent to respective authority for authentication. Only if it's authenticated it will be displayed in post section.

D. Adding and Posting of events. A feature to add new event is also provided in the app but it is accessible to only few people. They has to fill fields like name of event, date of event, venue of event, description and then it is uploaded to the database from where it is accessed and displayed to all logged in users.

E. Adding and Posting of notices A feature to add new notices is also provided in the app but it is accessible to only few people. They has to fill the description of the notice and then it is uploaded to the database from where it is accessed and displayed to all logged in users.

F. Help menu Help provides access to all the contacts of the college and a brief layout of the college.

G. Menu Option It contains user's profile, syllabus, attendance, change password, help and support and logout. Attendance, syllabus are the respective information of the user. Using an algorithm the branch and stream of student is detected and then displayed respectively. Profile contains the user information and a profile picture of user which user can upload him from the gallery. After the user is logged in he can also change his password by using change password function and the data is also updated in database when update button is pressed.

V. SYSTEM DESIGN AND FLOW

Purpose of College Management System for a College (CMS) Design Document is to describe the design and the architecture of CMS. The design is expressed in sufficient detail so as to enable all the developers to understand the underlying architecture of CMS. Logical architecture of JDBC driver, Server, DML, DDL, Session and Data Store are explained. CMS requires Java JRE 1.5 or higher. Since CMS is written in Java, it can run on any platform that supports the Java runtime environment 1.5 or higher. The compiled files are contained in Java Archives (JAR's) and have to be defined in the CLASSPATH environment variable.
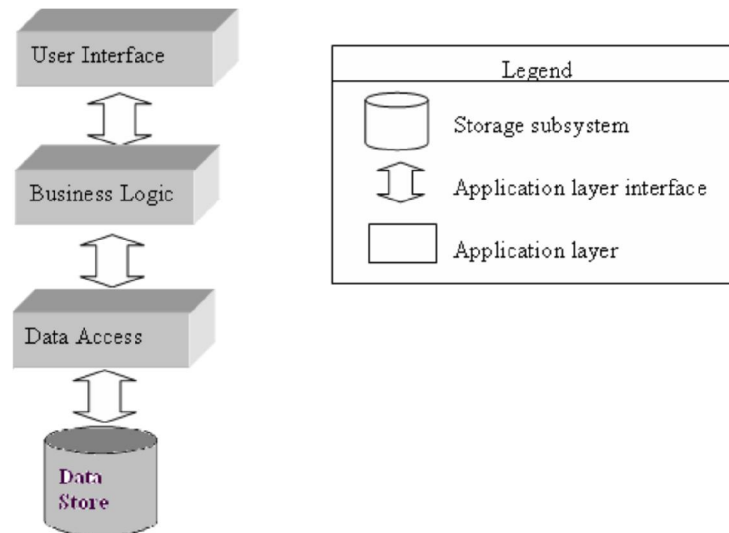
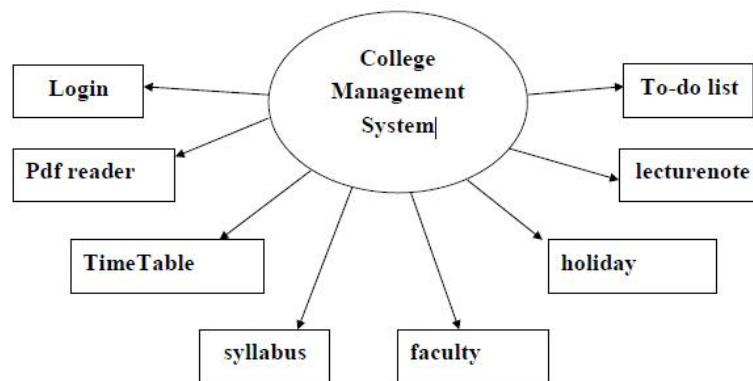**Figure 1:** Abstract view of CMS (College Management System)

Figure 2: Flow Diagram.

VI. PROJECT IMPLEMENTATION

In this module, creation of student input records about academic career from SSLC, HSC and all semester with facilities to modify the records and viewing changed records. The Student views the company details and verifies particular company details and provides valid details for registration. The student module enables you to store all personal, academic, and professional and history data regarding a student, his/her parents. In manual college management system they are facing the problem related maintaining the record of student. Sending assignment and notification to the student and so on. So in this student module they have the facility like registration there account in our college management system with there data.

This data of register student are store according with there department. When the student complete there registration they have facility to login there account with register email address and password. If student doesn't have there password our system have the facility to forgot there password with register email. After the login account student have many options related to section like assignment section, notification section, office section, library section and profile section. The main part in the student section is the complete the profile section is first it is necessary part. When the student done the complete profile part the our college management system create the student account in the various section like in office section, library section, bus section if student have the bus facility and hostel section it is also depend on the student. This all data of the student are maintain using there department, year and current year. Student module has the facility to update the information.

Figure 3: After Clicking Faculty

Figure 4: After Clicking Holiday

Figure 5: After Clicking Syllabus

Figure 6: After Clicking Timetable
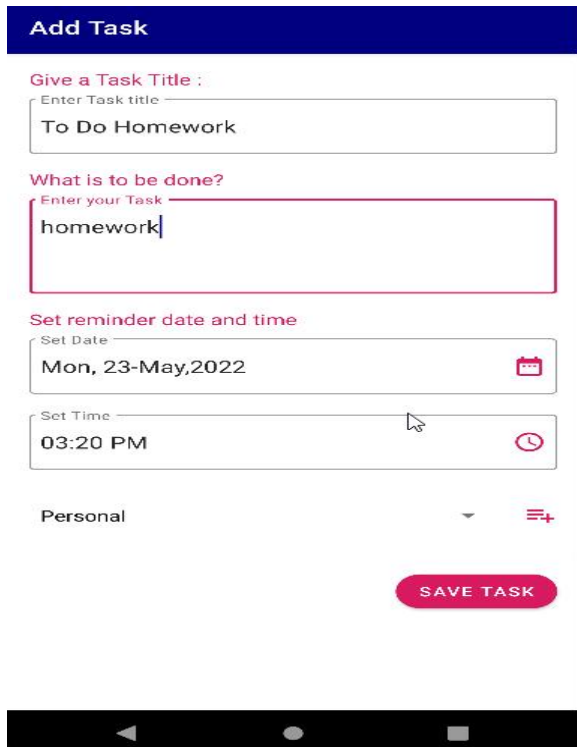
Figure 7: After Clicking To Do List
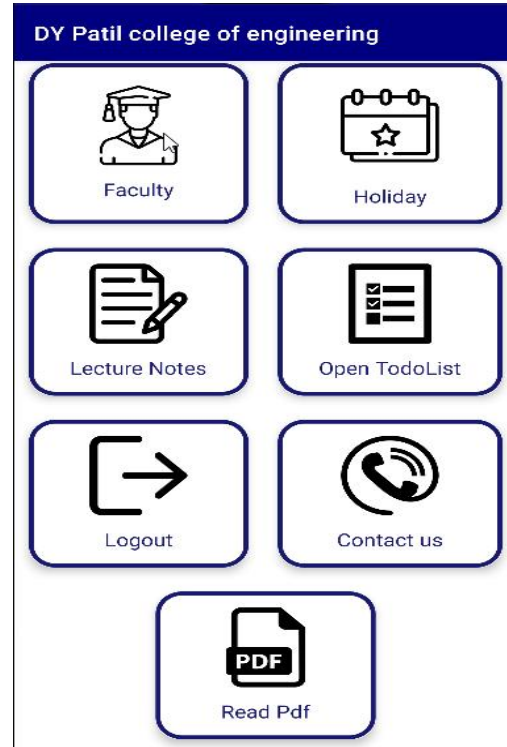

Figure 8: After Login 2

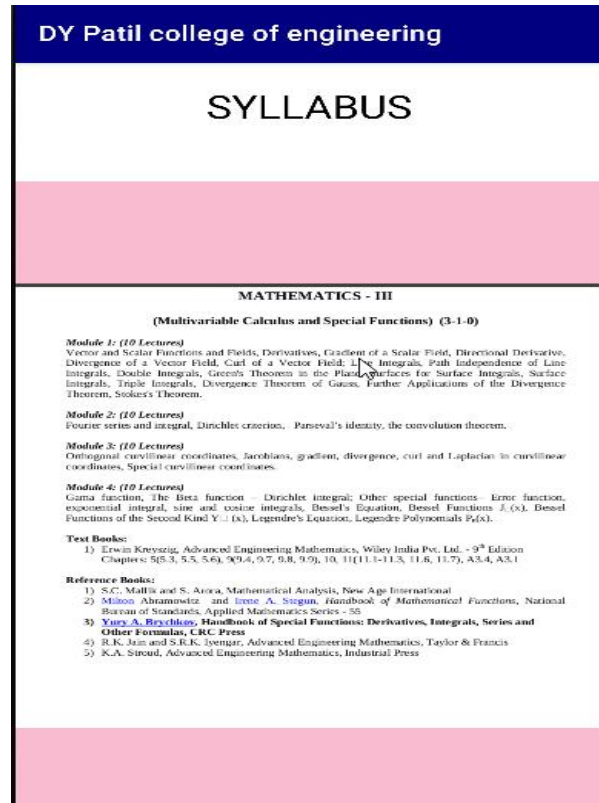**Figure 9:** After Login

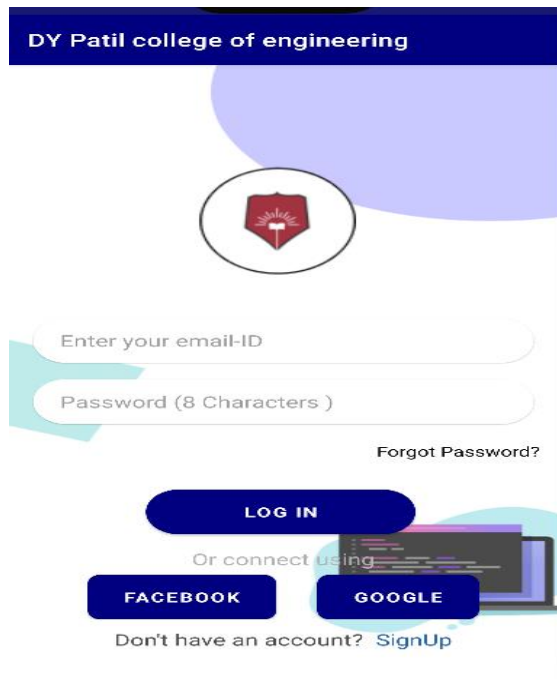**Figure 10:** After Clicking Syllabus
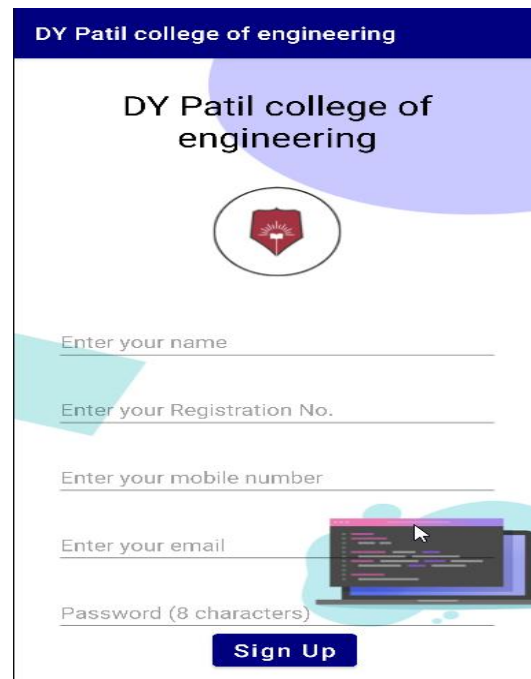
Figure 11: Login Page Screenshot

Figure 12: Signup Page

VII. CONCLUSION

Our College Management System application provides an autonomous solution of the paper based work. This is controlled and monitored by admin. The man power is reduced by using this application. It provides accurate information all the time as faculty member or student needed. The college management can make useful decision using the data that are stored in the university database server. So it is better to have a Android Based College Management system like Pillai HOC app. All the administrator, authorities, faculty, student and guardians will get the desired data directly. The proposed app is much better then existing Android based application or the web based application in terms of features of the application, requirement of the students, parents and public, technology and design pattern used in design and development of application, usability of web pages and ranking of web pages.

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