

# DEVELOPMENT OF A FEATURE RICH ANDROID APPLICATION FOR COLLEGE MANAGEMENT

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**Abstract** -The main objective of this project is to feature mobility and automating the method of managing student information in an institute. In a world scenario, like college campuses, the knowledge is within the sort of notice, hand-written manual and the verbal message is being spread among the scholars. Today it is of the essence to not only use the predictable sorts of the statement, but also new forms like telephone technology, for faster and easier communication among the students. The approach of communication is Android. The core idea of this project is to implement an android based Mobile Campus application for the advancement of the institution and academic systems. The application is going to be employed by students, teachers, and fogeys. In the previous system, all the knowledge is viewed as a hard file, or on the website. At an equivalent time while searching for any information it is too difficult to access and takes tons of your time to look at the actual website. Hence, to beat this problem a sensible phone-based application using Android is required to make this process easier, secure and fewer error-prone. More efficient information will be achieved through this system. When sensitive data is stored on the device, our application can make sure that they're stored securely using encryption. Apps also exchange sensitive information with remote servers. The Android platform provides a variety of algorithms for encrypting sensitive information. Some of these algorithms provide stronger cryptographic guarantees in protecting data than others. Cryptographic algorithms are harder to interrupt when there is more unpredictability within the random numbers generated for encryption. A way of introducing unpredictability in Android is to use the Secure Random class. The need for encryption is twofold. Firstly, encryption makes it difficult to read and use any sensitive information that an app stores on a tool. Secondly, encryption adds a further layer of security to sensitive information that is exchanged between the application and the remote server.

**Key Words:** Android Application, College campus, Cryptographic techniques, Encryption, Secure Random class.

## 1.INTRODUCTION

Our application provided information like assignments, timetables of examinations, result, notices and the department details. Here we tend to conjointly use Authentication, supported register id and password (plays a big role in authentication) and used to give the upper layer of security over static passwords. Students act is

additionally monitored by the application. We tend to conjointly propose an application that sends notification of recent activity to the students, workers, whether they are in on-line or offline. It's being developed for an engineering faculty to stay up and facilitate quick access to data. For this, the users should be registered with the system to access the information and can also modify the knowledge as per the permissions given to them. It assists in automating this manual system. This is often a paperless work. Moreover, we tend to research the characteristics of knowledge management in instruction and elaborate on the strategies to unravel the difficulties braving within the student's management of upper education. Finally, the key methodology and technology to carry out the knowledge management platform square measures given.

## 1.1.OVERVIEW

The main objective of this project is to manage the details of the entire college database. It manages all the information about college, faculty, course, session. The project is built at the administrative end and thus only the administrator is guaranteed access. The purpose of the project is to build an application program to reduce the manual work and to intimate the happenings via a better way. It tracks all the details about the transport, events, information, and placements.

## 1.2. LITERATURE SURVEY

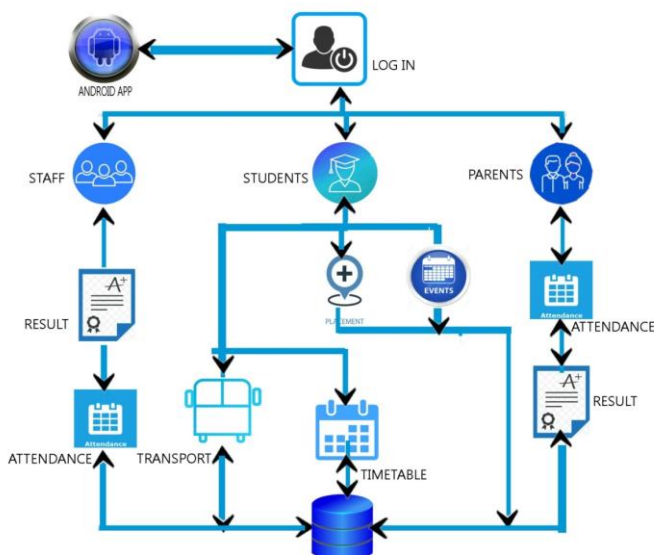
In a real world scenario, such as college campus, the data is within the sort of notice, hand-written manual, verbal message, is being unfold among the scholars. These days it's of the essence to not solely use the foreseeable styles of statement, however conjointly new forms like telephone technology, for quicker and easier communication among the scholars. The core plan of this project is to implement robot primarily based collage Management application for advancement of establishment and academic system. During this paper we tend to develop associate degree application that provided info like assignments, result and attending, notices and also the department details. Here we tend to conjointly use Authentication, just the once passwords (OTP) play a significant role for authentication and wont to give higher layer of security over static passwords. Student's attending is additionally monitored by the applying. We tend to conjointly propose the notification that send notification of recent activity to the scholars, workers or box whether or not them area unit on-line or offline.

## 2. EXISTING SYSTEM

The system which is used now-a-days has some drawbacks which need to be improved for better performance and the system through which the feedback is taken are not good enough. The views of every student are not expressed through these systems as technology is developing day by day we need to use this technology so we can get an efficient result in inadequate time. For attendance management in the present system, all the work is done on paper. The whole session attendance is stored in the register and at the end of the session, the report are generated. We are not interested in the generating a report in the middle of the session or as per the requirement because it takes more time is calculated. At the end of the session the students who don't have 75% attendance get a notice. This is a very time consuming process. In the present system, the result is viewed on the notice board. It required a lot of paperwork and is time consuming. Moreover, there is no system still present through which students can take advice from senior student. College cannot even provide urgent notification to student in case of emergency.

## 3. PROPOSED SYSTEM

The proposed work has three modules: 1. Student 2. Parent 3. Staff. In the staff's module activity like providing notes to their students, update result and maintaining the attendance details. In the Student's module activity like viewing the details of an event, placements held in the college, transport facilities, food provided details, time table and notes provided by the staff can be used by students. In the parent's module activity like attendance of their particular children can be viewed and the academic result can be noticed.



## 4. REQUIREMENT ANALYSIS AND SPECIFICATION

### 4.1. INPUT REQUIREMENTS:

In the login module, the input that is required is registration number and password, also the department to be selected. for the new entry, the input required are Id no., registration number, dob, mobile number, address, etc. In the transport module, the input is route number, driver name, driver's contact number, bus description. An event module input given is event name, address. contact number. In admin login inputs are username and password are given. In student module input given are student Id no, room number, seat number, subject code, session, exam date, year, department, etc. In time table module input required are key id/day order, department, semester, staff description. In information module input given as you can type your message. In staff module input required are staff name, complaint. In attendance module inputs are a branch, department, class, no of present and absent.

### 4.2. OUTPUT REQUIREMENTS:

The output of the login module is the student can be logged into the app and he/she can view the pieces of information. In the transport module, the output viewed by the student is the particular student's route, reporting, availability of buses, driver name, driver contact number, bus description. In the event module, the output viewed are events conducted like conference, function, college day, cultural, farewell day, etc. In the student module, the output can be the student register number, exam date, department, subject, etc. In the timetable module, the output viewed is semester details, staff description, etc which is updated by admin. In staff module output viewed are staff details like staff name, designation, department name, mobile number, email id, etc. In attendance module the output is an attendance report of the student perspective department, the class is noted and viewed.

### 4.3. FUNCTIONAL REQUIREMENTS:

The three main functional activity is done in our project by staffs, students, parents. Here students can log in into the app for getting various information, and details. Also, entry of the new students can register in it. Here staff can update the student's attendance and academic details such as exam marks can be viewed to their parents. Also, the admin can update the details of the timetable of their examinations so that it can be get know by the students. Details of the event conducted can be intimated through this app so that student can get pieces of information in prior. Transport details like routes, route number, driver contact number, driver name, bus description, etc can be known to the students. Also, day to day pieces of information about the individual student can get noted to their parents.

#### 4.4. HARDWARE ENVIRONMENT

Processor	:	Intel (R) Core(TM) i5-3340M
Hard disk	:	32 GB
Ram	:	8 RAM

#### 4.5. SOFTWARE ENVIRONMENT

Operating System	:	Android
Front end	:	Emulator
Language	:	Java
Back end	:	SQL Server

### 5. MODULE DESIGN SPECIFICATION

#### 5.1. LOG IN

The Login Module is a portal module ,in this module users could type their corresponding username and password . This module could be added to any module tab ,which allow users to log in to the system. The module will be available only till the users log in. This module is used to check whether the user is an authorized person to use the system or not. The Student Registration Form is designed for registering the new student's details and course details.

#### 5.2. SIGN IN

Logging in or signing in is the process where an individual would gain access to the corresponding. This is the process where an user identifies and authenticates himself. Sign up means to register and create an account. In general, sign in and login compliments each other with the meaning of opening a session with an account that is already created.

#### 5.3. TIMETABLE

The main objective of the Timetable Management System is to manage the details of Timetable, Subject, Student, Course. It manages all the information about the Timetable, Semester, Course. Here admin updates the timetable and student they update.

#### 5.4. EVENT

The main objective of the event module is to update the information of events conducted on our campus so that the students are intimated before. Events like conferences, functions, etc.

#### 5.5. INFORMATION

Information is like announcing placements. The placement management system creates student and company databases. It allows students to update the details of bio-data and invite many companies for placements. The student list can be retrieved from the database of the management software based on the selection criteria of the company. Placement management module also manages the interview schedules, students data list, records of various

training and placement activities. This module of an education ERP solution can assign login rights to the department staff.

#### 5.6. ATTENDANCE

The purpose of the attendance entry module is to enter the attendance details of each student so that the presence of the student is noted correctly. .In this module, the lecturer takes the attendance and can intimate their absences to their respective parents.

#### 5.7. TRANSPORT

The college transport management system allows you to track passenger information accurately. Manage vehicle allocation during the academic year with the proper allotment of vehicles to students including the boarding points and destinations in particular routes. Assign multiple routes to students at different timings.

### 6. PERFORMANCE ANALYSIS:

#### 6.1. TEST CASE 1 – USER LOGIN

- **Incorrect Input:** Incorrect username.
- **Pass Criteria:** Invalid username is identified by generating an appropriate message.
- **Correct Input:** The correct input would be a valid username of the user and a correct password associated with the username which he uses to log in.

#### 6.2. TEST CASE 2 – USER REGISTRATION

- **Incorrect Input:** Format entered in the input fields is wrong for the registration page.
- **Pass Criteria:** Wrong format in the specific input field should be identified by generating an appropriate message.
- **Correct Input:** The format entered by the user into the input fields of the registration page must be correct.
- **Pass Criteria:** The pass criteria for College Management System.

#### 6.3. TEST CASE 3 – USER REGISTRATION

- **Incorrect Input:** The data field is blank in the registration page.
- **Pass Criteria:** An error message stating the fields are required to be filled in order to get registered must be generated.
- **Correct Input:** The customer should enter the correct data in all the fields in the registration form.
- **Pass Criteria:** The pass criteria for the system would be that it accepts all the new user details and then registers the user and helps him log into the system.

#### 6.4. TEST CASE 4 – EVENT UPDATE

- **Incorrect Input:** Incorrect search criteria or incorrect format of data entered into the data entry fields of the event update page is the incorrect input.
- **Pass criteria:** A message indicating the wrong entry has been made in the fields must be generated.



- **Correct Input:** The correct format data is entered in the data entry fields.
- **Pass Criteria:** The pass criteria for this test case would be that data will be added to the database and event will be generated.

## 7.REPORT:

### 7.1.LOGIN FORM FOR THE USER

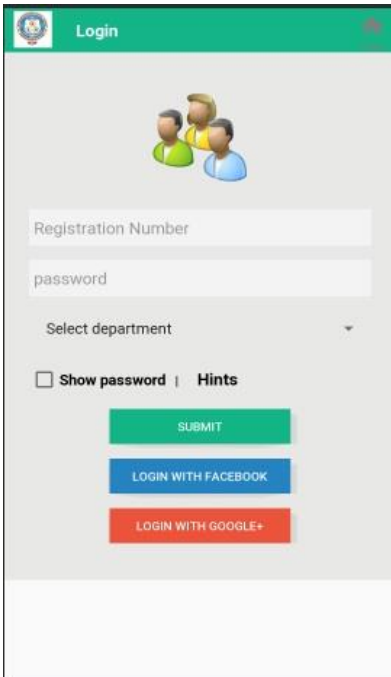


Fig.1

### 7.2.REGISTRATION PAGE FOR THE USER



Fig.2

### 7.3.PAGE USED TO UPDATE TIMETABLE

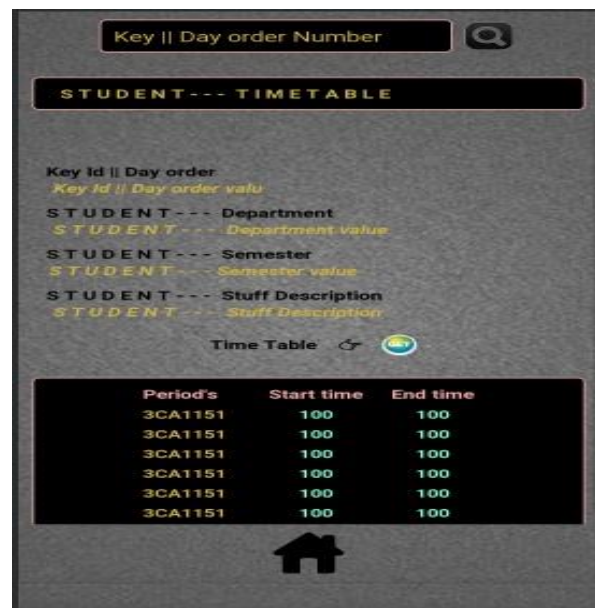


Fig.3

### 7.4.PAGE USED TO UPDATE TIMETABLE



Fig.4

7.5. INFORMATION PROVIDED BY THE ADMIN

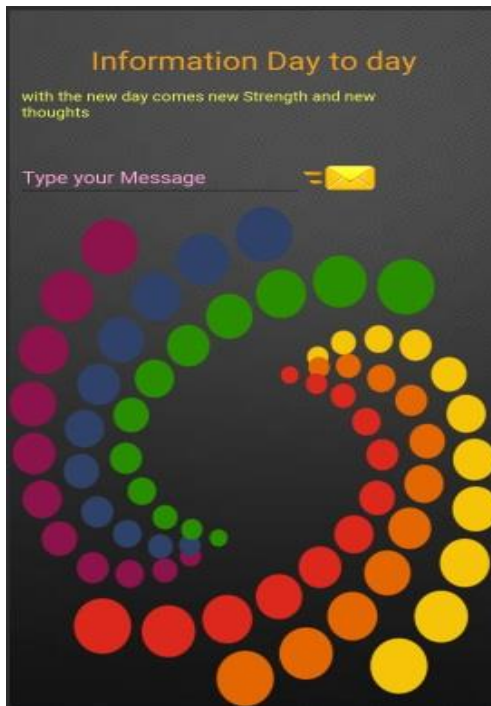


Fig.5

7.7. ATTENDENCE DETAILS OF THE USER

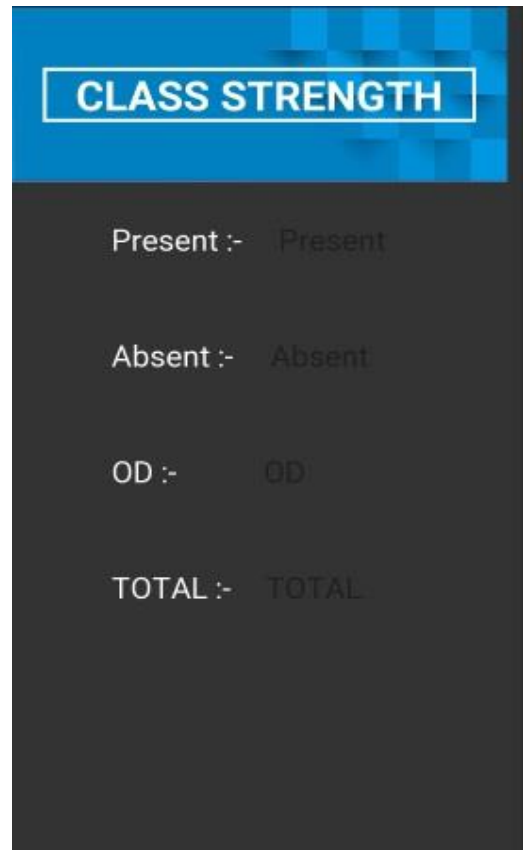


Fig.7

7.6. EVENT CREATION PAGE

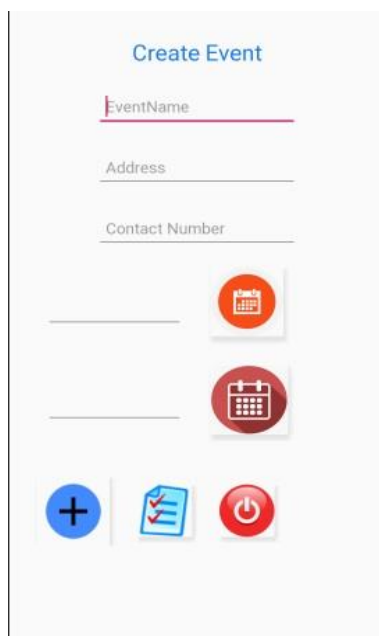


Fig.6

8. CONCLUSION

We proposed a system on an online service that enables staff to update Attendances, complains of the particular student. Also, transport details like the availability of buses, routes, bus descriptions, etc can be intimated. The event conducted can be updated before the students and students according to their interest can participate accordingly. placement conducted by the college can be intimated through this app. Also, the time table for the scheduling of their examination can be noted by the student by the college administration. This system deals with the issues related to a particular institution. Awareness and right information about any college is essential for both the development of the student as well as faculty.

9. FUTURE ENHANCEMENTS

- Updation of note in this android application can be done as a future enhancement for this college management system.
- Library management can also be include to use the digital library in an efficient way

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