Flutter based Smart Academic Assistant System

Mrs. Preethi G
Information Technology, PSG Polytechnic College
Coimbatore, India

Ms. Prathiusha V
Information Technology, PSG Polytechnic College
Coimbatore, India

Ms. Lavanya M
Information Technology, PSG Polytechnic College
Coimbatore, India

Ms. Suja S
Information Technology, PSG Polytechnic College
Coimbatore, India

Abstract - **The "FLUTTER BASED SMART ACADEMIC ASSISTANT SYSTEM" project is software that automates and engages in numerous day-to-day activities while also giving the quick data required for successful College management. In the general management of the college, the default component of the software will comprise recording data and keeping records of the college, teachers, students, and activities. The user's selected preferences can be used to create attendance reports. With the selected date and student ID, attendees can be viewed. When a student has to take time off, they can easily apply for leave through the app. Similarly, employees can request time off; administrators can review and approve requests. SMS will be issued once the leave has been authorized. If the leave request is denied, a letter will be written to the appropriate staff member or student. The program will include: User Creation & Login Module, Student, Attendance module, Leave Application, Approval, Absent student Listing, Status Monitoring, Alert Mail Module and Voice Report module. Staff and students can effortlessly search schedules by means of their voice. The project is being developed by means of Android as the front end and SQLite as the back end.**

Keywords: Smart attendance, Attendance alert, Voice recognition

I.INTRODUCTION

The proposed project would be utilized to keep track of all of the College administration's students and employees.

An application is a programme that can be accessed by anyone in the organization using a single login. College departments can use this programme as a request to manage student registration details for events. This project creates a student database. It also gives you the option of viewing the requested list of pupils separately depending on a certain inquiry. The login form performs user verification. Any information submitted by students can be searched by the administrator. It will also help with quick access procedures for departmental-related tasks. A secure login mechanism is in place to ensure that users are authenticated. If a user types in the erroneous username or password, Access will not be allowed to be used because of the software. Users can quickly view updates through the system if there are any upcoming events. Students will be able to participate in events such as workshops, workshops, sports, and seminars even if they are not there.

II. LITERATURE SURVEY

The research has come up with a number of tools for managing school attendance and to analyze student. As a result of this research, a number of methods for tracking school attendance and analyzing student data have been developed. During key occurrences at the institution, the programme keeps the learner and caregiver informed. [1] Another factor is that anytime a learner fails a test or a learner fails, the caregiver is notified. [2] The Learner Information Report System (LIRS) is an application programme that intends to meet learners, skills, parents, and college/school administrators by exchanging statistics directly and in a secure environment. Learner information is data (such as a student's semester registration identification number, gender, parent information, and personal demographic profile details) that is sent to the system with skills. Everything is saved in the application's database. The LIRS system is simple to implement. The LIRS programme is an internet application that anyone can access from the comfort of their own home without having to look at a map, allowing for seamless navigation.

This study provides details on the institute growth and business performance. This research reveals information on the institute's growth and financial success. Increased performance at appropriate educational institutions has resulted in a significant increase in learners. This task will result in speedier distribution, better learner tracking, and the desired outcome. Learners will be able to save personal information using this way. This task is less risky, more reliable, and easier to exploit.

The purpose of this survey is to determine the size of any individual tracking structure. It is a required process in the educational system that publicly imitates the growth of the learner. Managing school attendance at educational institutions is often a time-consuming task. There has been a significant increase in software engineering recently, which has provided institutes the ability to maintain an existing system using widgets, which is a fantastic method. We don't need to keep an attendance register because we utilize an attractive handset. It's simple to do using a mobile app. When the class begins, faculty will be present. They will initially use the portable app to log into the application. The presence will be relayed individually through GPRS once it has been successfully taken to class. Skills are also capable of carrying out the needed tasks. The chief point of this practice is to shrink the warning of manual endeavor.

This task is completed with the assistance of a computer software. The model demonstrates a significant role in the institution or operation of the college. These programmes provide comprehensive information about the learner, their abilities, and the educational institution. The user's foundation on their grouping is the third obsession in this work.

The end user will appreciate the smooth navigation and easy access provided by this effort. The concept clarifies the storing of data for student scholastic reports. This representation includes a variety of events, such as a timeline of college courses from first grade through graduation day. It also allows students to register for specific courses online, pay fees online, view exam results, and be notified of significant events.
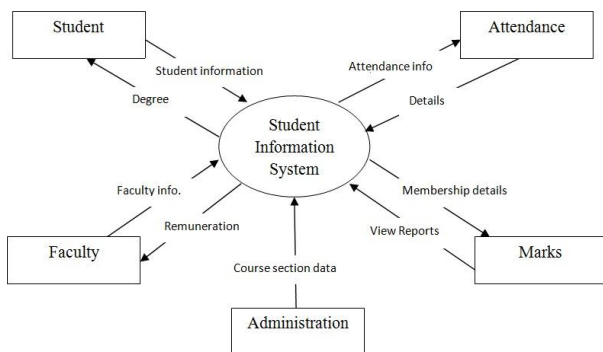

Fig 1 Block diagram of smart academic assistant

3.1 MODULES

1. User Creation and Login Module
2. Maintenance module
3. Learner module
4. Attendance module
5. Leave Application Module
6. Leave Approval Module
7. Absent Staff or learner Listing Module
8. Leave Status Monitoring Module
9. Alert Module &
10. Voice Report module

3.1.1 USER CREATION AND LOGIN MODULE

Administrator is creating a new user account with this module. After account creation, users will be able to log in and use the website. Users of my system are as follows.

- Admin as HOD
- Staff and
- Learner

The administrator account was created in such a way that the administrator could access the entire system. Employee or learner information, employee details and other key details are handled by the administrator only. The module is also used for system login. Used for user authentication. Once a user is authorized, they can access

the system. In order to view and edit information stored on the proposed system, the user must have permissions. Once the user is logged in, all rights such as viewing, adding, deleting and modifying tasks will be granted. Only the administrator has the authority to do so, the administrator can be an employee or root user in charge of the system.

3.1.2 MAINTENANCE MODULE

It is used to maintain the system of the entire college department. Here the administrator obtains access to the Flutter Embedded Smart Academic Assistant (College Application). It contains forms such as registration form, staff information form, savings and notification form.

3.1.3 LEARNER MODULE

It is used to manage learner information separately in the College Application. The various activities that can be done with this module are learner attendance, semester mark keeping and learner maintenance.

3.1.4 ATTENDANCE MODULE

Module is used to add attendance information to College Application. Here the administrator obtains the rights to add or change the information in the College Application. Learner presence can be managed wisely for an hour and a day.

3.1.5 LEAVE APPLICATION MODULE

When the staff or learner applies leave, leave application is used for managing it. This module is handled by the user which can be a faculty or an operator. Staff and learner has a right of making applying leave, is done in attendance module. User verification is done with the login entries of staff table. Initially staff or learner has to register with the system in order to use which is done by the administrator. Staff or learner views the available leave details and then can apply for leave with the help of this module. Once the application is filled, leave application letter will be automatically generated with the help of template generated through this module. Leave should be applied by the staff or learner before 9 AM otherwise leave cannot be applied by the learner. Hence alert message will be displayed to the learner or staff.

3.1.6 ABSENT STAFF OR LEARNER LISTING MODULE

HOD or admin can access this module after login. Once user logins, HOD or admin will be able to view the absentee staff or learner details. Overall staff or learner report can also be generated through this module.

3.1.7 LEAVE APPROVAL MODULE

HOD can access this module after login. Once HOD logins, staff or learner details of the corresponding department can be viewed and altered. HOD will be able to view the leave application of staff or learner and can confirm the status. Leaves can be approved and disapproved with the help of this module.

3.1.8 LEAVE STATUS MONITORING MODULE

Leave information of the staff or learner are managed through this module. Leave and attendance information are managed through attendance form. Leave status checking process are carried out through this module.

3.1.9 ALERT MODULE

Alert mails can be sent for leave approval and leave rejection. SMS will also send if the leaves are approved.

3.1.10 VOICE REPORT MODULE

It is used for viewing reports of the College Application. Various reports that can seen be generated like learner report, staff report, fee report, semester marks report, and attendance report. Especially, Staff and learners can easily search schedules as voice report through their voice.

IV. RESULTS AND DISCUSSION

We wanted to develop a application that is more secured and to save the time of staff. Finally, we have developed the application.
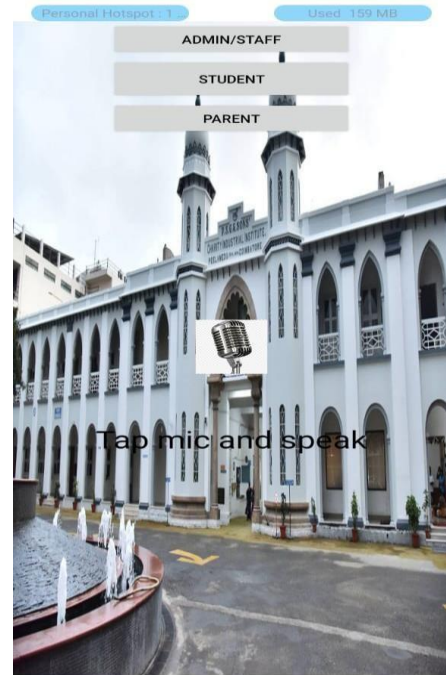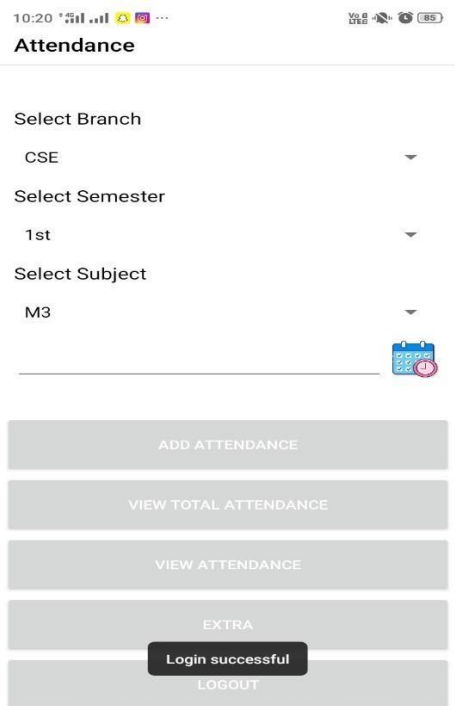

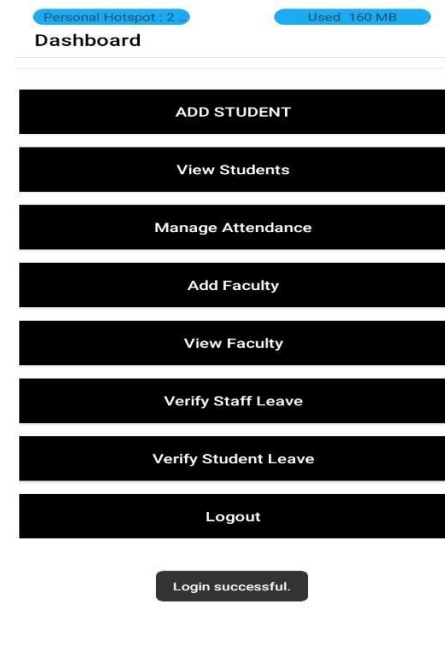Fig 3 Displays the login page

Fig 2 Displays the staff login details
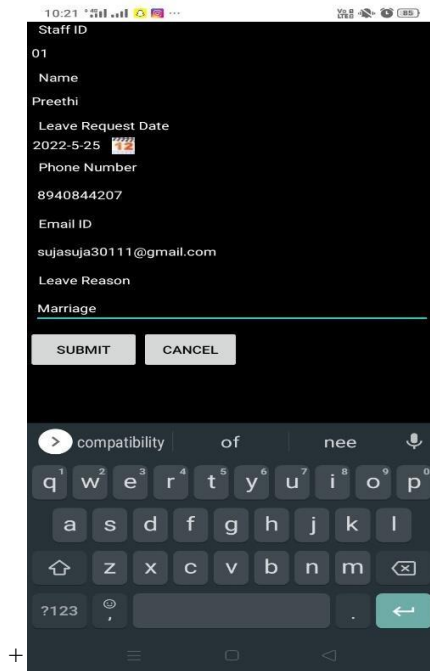

Fig 4 Dashboard of Admin login

Fig 5 Applying staff leave

V. CONCLUSION

College Application is an application that covers a wide range of academic and non-academic activities of the College. The program can be accessed by all learners / skills / staff of the institution through portable devices with the help of username and password. Every user will have a custom homepage with profile management resources. With the links shown on the home page the user can access various program options provided.

The system is built using Flutter Dart as a storage tool. The program is fully operated by the menu and is easy to use as it is enhanced by the efficient Firebase locking tool. Appropriate error messages are also provided to guide the user in a proper and friendly manner. An attractive visual user interface is provided where the learner profile and attendance details can be easily managed. It is easy to track who is not with the app. Missing learners will receive information about job posting via email alert. Learners can easily search class schedules with the help of voice.

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