



Smart Attendance and Absence System

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Introduction

This method can cheat in the presence of some professors. Attendance can be misplaced in an easy way. It prevents studies that can easily cheat about attendance and call individual names and can check if only one student is present or not, this process can be very time consuming. This kind of attendance kills time and is unable to complete the syllabus on time. The purpose of the smartphone-based attendance system is to computerize the traditional method of attendance recording and to provide an easier and smarter way to track attendance in enterprises Nowadays, the most popular device considered in marketing and business is smartphone devices. Moreover, it houses a lot of them running Android OS.

Main objective

Attendance and Absence System is an android application: user and admin application. It is developed to take and store the attendance of the students on a daily basis in the college. Here the professor who deals with the subjects is responsible for recording the attendance of the students. Every member will get an android app which is used to take attendance and generate total attendance status. An accurate report is generated based on students' attendance. Student attendance report is generated on daily, weekly or monthly basis as desired. The main objective of the proposed system is to provide a faster and accessible system for students' online attendance and automatic generation of attendance reports.

Advantages Smart Attendance and Absence System:

- Time saving.
- User friendly.
- Provide better security.
- Maintenance of the system is easy.
- Generate the result quickly.
- Provide accurate and efficient data.
- Easy accessibility to data.
- The application can be developed later

PROBLEM STATEMENT:

- Decreased errors, The smart attendance system deliver accurate data with minimal human intervention and can reduce redundant errors as well as eliminate manual works. Also, Loss of instructional time to look for students in the attendance sheet.
- This application is built for automating the processing of attendance. It also enhances the speed of performing attendance task easily.

Feasibility

- **Economic feasibility:** The developed system is time effective because attendance is marked automatically. It is also cost effective because of no use of paperwork.
- **Technical feasibility:** The system is economic and it does not use any other additional Hardware and software.
- **Behavioral feasibility:** The system is user friendly.

Methodology

To achieve the above discussed objectives, a step-by-step methodology has been followed. The details of methodology are given below:

- Develop android application using student details such as student name, student ID and professor code.
- Develop an Android app that take the attendance with respect to the specific subject and generate the student attendance sheet as per attendance details.

System Tools:

1) Software requirement:

- Ux/UI to figma
- Android Studio to flutter
- Xampp to My SQL Database
- Visual Studio to PHP

2) **Hardware requirement**

- Android Smartphone running Android OS

3) **Input/output**

- **Input:** student ID and professor code.
- **Output:** app sheet.

System Users

The system is categorized into two major subsections: teacher subsection, student subsection. Each of the subsections has a different user privileges to use the system.

1) **Teachers:-**

A teachers creates a username and password, then creates a course name that he gives to students. Then the teacher can generate a code and show it to students and miss them using an app. The teacher can view the attendance report through an application, and after confirmation, the teacher will add it in the database.

2) **Students: -**

The student creates a username and password, then enters the codes of the courses he takes, and the student enters a code from a doctor for his attendance, and the student can view his daily or semester attendance for all his courses by entering an application.

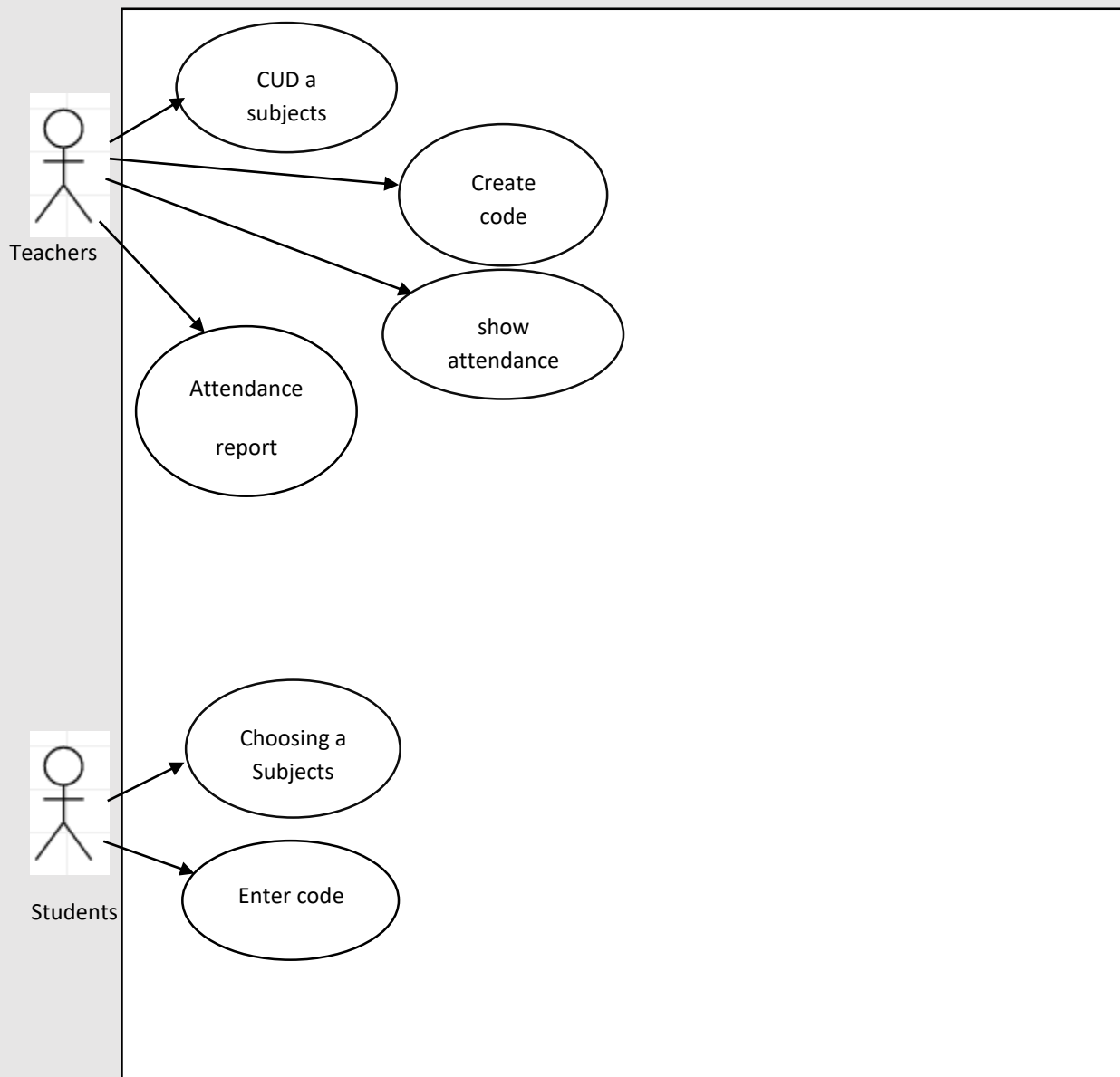
System DBMS Development :

We need to manage huge data of students and teachers for generating results, attendance reports etc. or any other type of management systems. MySQL server is used to implement the back end of the system that is the DBMS is developed using MySQL structured query language. The server uses relational database management system that offers a variety of administrative tools to ease the burdens of database development, maintenance and administrations. The DBMS automates the process of data handling, thus, saving a great deal of time, it also minimizes the chances of human error. The best thing about DBMS is that it can be accessed from anywhere 24/7. It keeps the digital track of all data, thus reducing paperwork. Cloud-based student database management system is way more secure and reliable than manually stored information. Moreover, role-based access prevents unauthorized access to the highly confidential files.

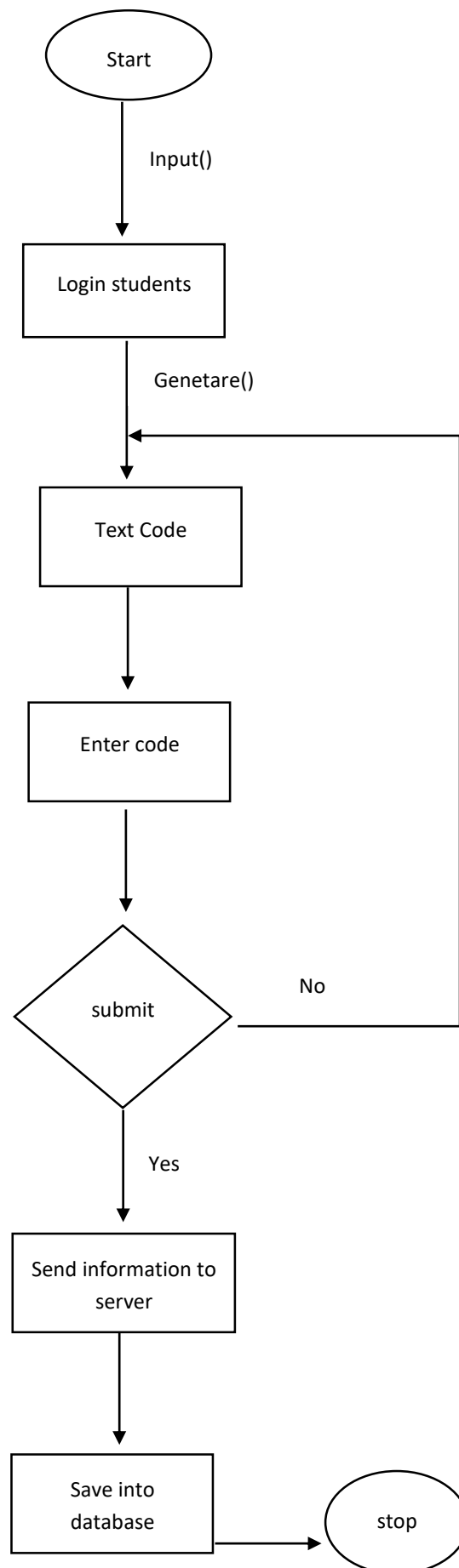
Web Application Development:

In this work, the web application is mainly developed using PHP, MYSQL and flutter programming languages/ technologies. The overall logic is implemented using PHP Laravel framework. MYSQL is used to provide the database functionality in the system to store data. Flutter are used to design the front end reliable web application. By using the dart, all the front end design settings are stored in a single dart file and whenever there is need to make any change we don't need to change it at every page so we change only on value in the dart file and this change is made in the whole website. When the development is completed, all the features and content management system are strictly tested. When the initial testing is done, we then allow to the multi-browser check. and finally we launch the website to the server which is available for every user.

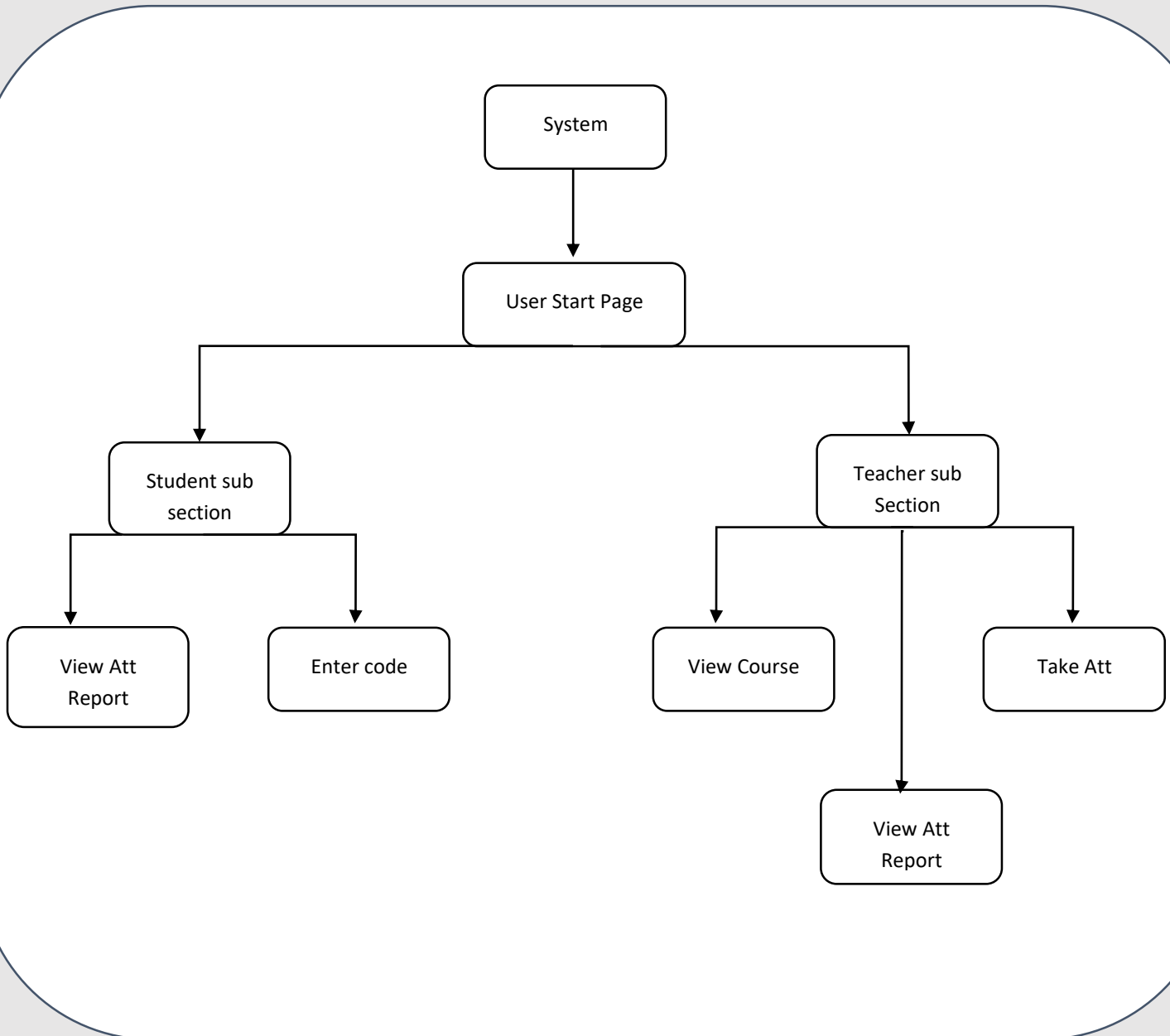
Use Case Diagram :



Flow Chart Diagram



Data Flow

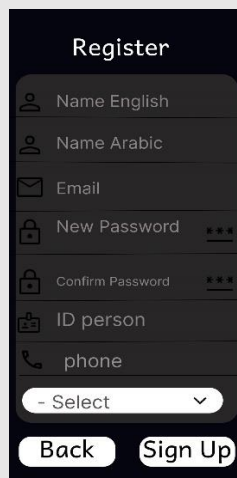


IMPLEMENTATION AND RESULT

This sub-section refers to how the main parts of the system are being implemented. There are several interfaces that make up the entire system that are briefly described below.

Registration

Registering a person through a name in English and Arabic and his description, whether a doctor, a faculty member or a student. These options are very important and necessary for any higher official in the university such as a doctor, department head, dean of the college, and so on shown in Fig. 1.



The image shows a registration form with the following fields and elements:

- Title: Register
- Input fields: Name English, Name Arabic, Email, New Password, Confirm Password, ID person, phone.
- Dropdown menu: - Select
- Buttons: Back, Sign Up

Figure 1

Login Page

For security purpose each type of users have to login by inputting username and password to access the system. Only authorized teachers and students can enter into the application and any visitor user can view the university main website shown in Fig. 2.

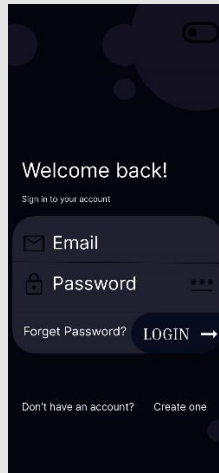


Figure 2

Forgot password

When the user signs into APP and he forgot his password there is an option to create a new one to log in to App and he need top pass through number of Steps to Create new password.

1. Click on forgot password in sign in page shown in Fig. 2.
2. enter his available Email to send him a code shown in Fig. 3.
3. Put a verification code which sent to his phone number to confirm this is a real username shown in Fig. 4.
4. Create his new password and this is a last step shown in Fig. 5.

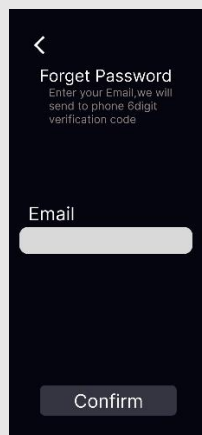


Figure 3

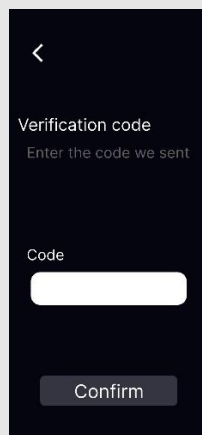


Figure 4

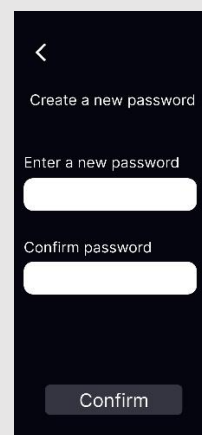


Figure 5

courses

First, the teachers generate the material they are studying, which is shown in Figure 6 ,7,8 and 9. Then the student

We can add the subjects he will study after taking a code from the teachers shown in Figure 10.

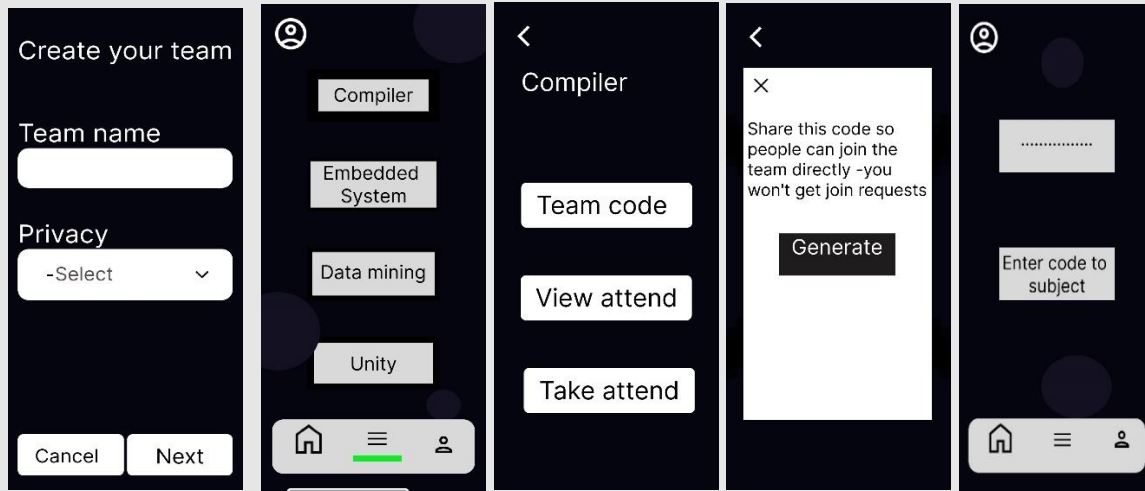


Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Profile Page

After the user create his account on APP, he will have a profile that contain four options such that: -

Home: Go back to the main page.

Setting: Include the information of the user.

Help & feedback: More information or help that a user needs.

Dark theme: Allow user switch to the dark mode instead of light mode which is default.

Log out: Allow user to close his profile and return to the sign in & register page shown in Figure 11.

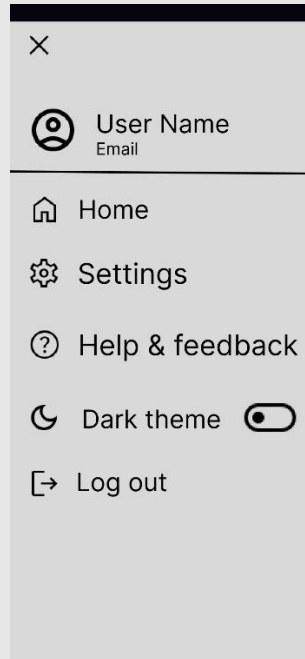


Figure 11

Attendance

A teacher works Generate Code in a period of time, then a student attends show in figure 12 and 13 and 14.

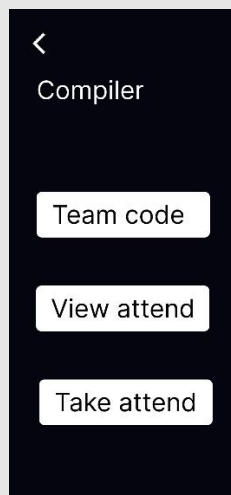


Figure 12

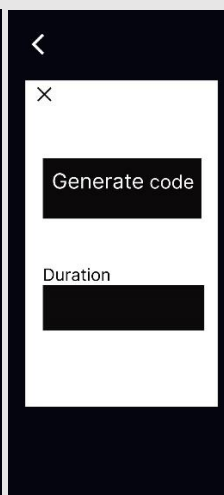


Figure 13

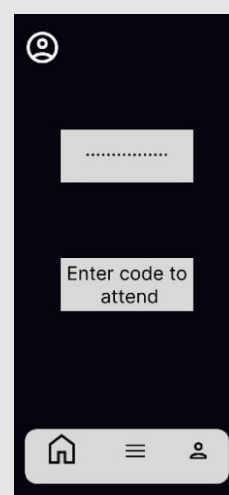


Figure 14

Conclusion

It can be concluded from the above discussion that a reliable, safe, fast and efficient system has been developed in this research work for student attendance which has replaced the manual and unreliable system. That is why the database management system is complex and difficult to link together. But our system shows the best way how to handle total attendance. Our proposed system saves time for his lecturer, who puts a lot of time into his lecturer for attendance or absence, and provides information based on the data he collects, and the ability to create personal reports. At the same time . Our system also facilitates data storage as it can be kept in electronic form as well as printed on paper. This automated system will save time, reduce workload, and eliminate the need for paper tracing and file maintenance. As a result, this system can make working life easier for students and teachers.

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