

PROXY-Attendance Management system

(Android App Development)

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Abstract—Student Attendance Management System named Proxy is an application on the Android platform to manage student attendance on a smartphone. Handling the attendance using traditional approach is really a burdensome process. In many colleges teachers take attendance manually. Main objective of this project is to mobilize and automate the existing attendance process and improve it, thus, optimizing the procedure. This system assists the teachers to take attendance using a smartphone. This system allows teachers to cumulate attendance, manipulate it, generate Excel sheets, and gradually convey a message to the parents, via social media like WhatsApp, Hike etc, to keep an eye on, whether their ward is present or absent.

Keywords— Android;Automation;Mobility;Attendane

I. INTRODUCTION

Over the years, it has been analyzed that the process of manual attendance has been carried out across almost all educational institutions. The so implemented, process is not only time consuming but also sometimes inefficient and prone to errors resulting into the false marking of attendance. In this Digital era, we need not maintain a pen and a paper based attendance register. Keeping this idea in our minds, we have proposed an attendance monitoring system which is implemented as a mobile application over Android.

- Our project ensures to offer an efficient and a user friendly environment to the user.
- The application will be installed on the user's (in this case teacher's) smart phone.
- It intends to provide an interface requiring minimal details for input, to mark the attendance of the attending class.
- Easy storage and retrieval of information fastens the work and enhances the overall response time of the procedure.

II. ALGORITHM AND IMPLEMENTATION

Select Class

Enter the number of students and click OK

If:

You want to take attendance

- Buttons are created of entered number.
- Green Buttons indicates Present students and Red Buttons indicates Absent students.
- By default all students are marked as Present.

- A list of Absent students will be displayed and can be send through social media or Excel Sheet is auto-generated.
- Attendance of students is also stored In Database.

End

Else:

Check details of Student

- Display details of students
- Staff can access database with Unique Login & Password.

End

End Main

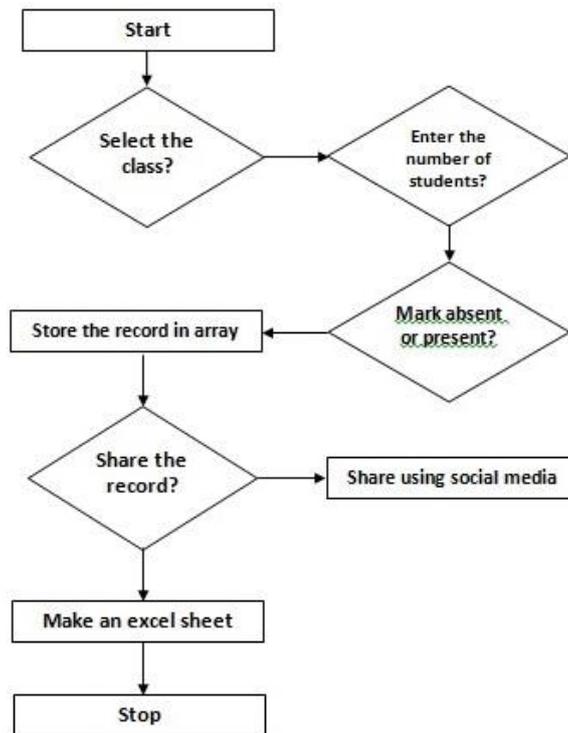


Fig 1. Architecture

III. UML DIAGRAM

3.1 Use Case Diagram

Fig2 describes the facilities enjoyed by the user in our case mobile user.

The use cases shown below are:

1. Create Class
2. Search Attendance
3. Delete Class
4. View attendance
5. Take Attendance
6. Insert Student
7. Edit Student

These are the facilities that are provided to the user by our application. The use cases shown below use functionalities provided by other use cases to get the work done.

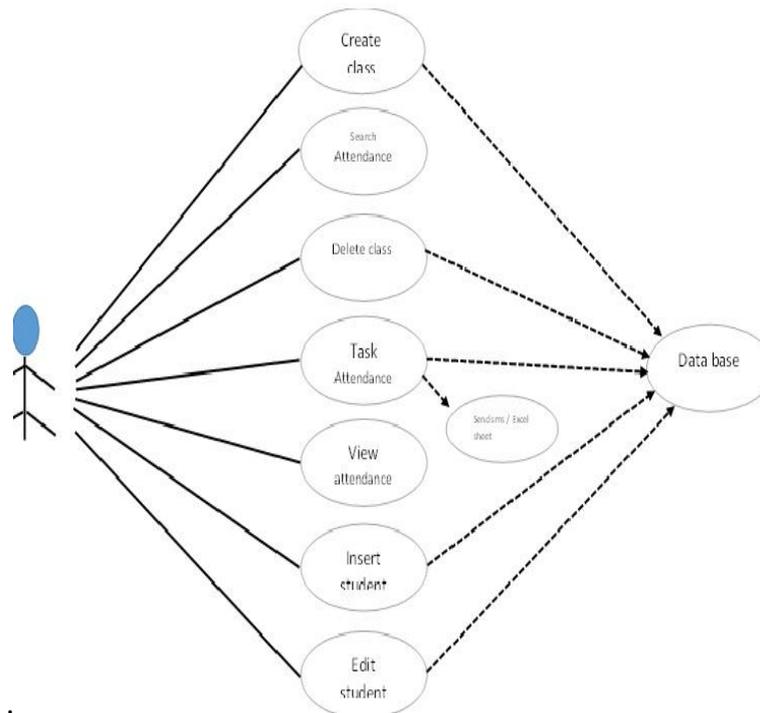


Fig 2. Use Case Diagram [2]

3.2. ER Diagram

The E-R Diagram is very useful in mapping . E-R diagram can explain the overall logical structure of a database graphically. The E-R diagram consists of following major components .

- 1) Rectangles – represents entity set.
- 2) Diamond –represents relationship set.
- 3) Circles –represents attributes of a particular entity.

In the diagram there are mainly four entities namely Teacher, Subject, Attendance & Students which are represented in rectangles. The entity teacher contains the attributes “Name and Teacher id ” . Subject entity has the following attributes “ S.Name, S.Code , Teacher id ”. Attendance has attributes “Status, Month, Student id , Subject , Semester ”. Student entity consists of “Student id, Name , Course, Semester”.

The Diamond indicates relationship sets such as a relationship between a teacher and student is Teaches. The relationship between the subject and student is studied as a student may study many subjects and a subject may be studied by many students.

In our project, the teacher logs in with his/her login id & Name, then selects the subject for which he/she teaches and for which the attendance is to be taken .Also, if teacher wants to see information of any student then it analyzes student id, name, course, semester. After the attendance is taken, a list of absent student is displayed and can be sent through social media and Excel Sheet can also be generated. Attendance of student is also stored in database.

E-R Diagram helps to depicts overall logical structure.

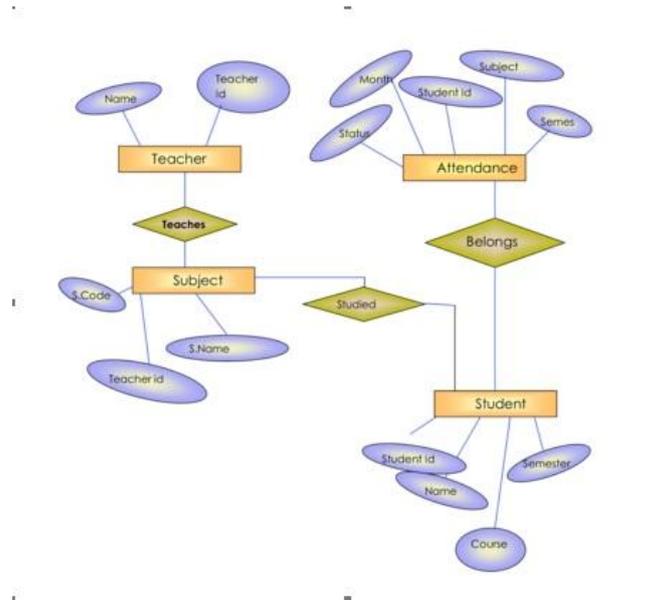


Fig 3.E-R Diagram[1]

3.3 Collaboration Diagram

Fig 4 represents the collaboration diagram for whole system which is also a type of interaction diagram that focus upon the relationships between the objects. They are very helpful for visualizing the way several objects collaborate to get a job done and for comparing a static model with a dynamic model. Collaboration and sequence diagrams describe the same information.

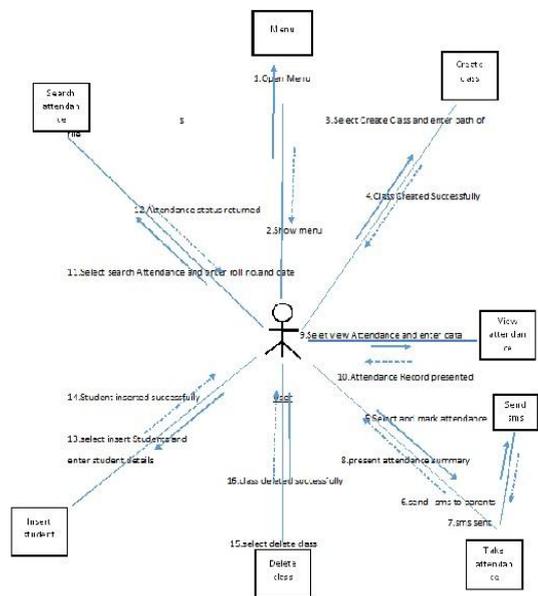


Fig 4 Collaboration Diagram [2]

It also identifies internal data stores that should be present in order for the system to do its job, and shows the flow of data information between the various parts of the system.

A physical DFD shows how the system is actually implemented, either at the moment, or how the designer intends it to be in the future (Required Physical DFD). Thus, a Physical DFD can be used to describe the set of data items that appear on each piece of paper that move around an office, and the

fact that a particular set of pieces of paper are stored together in a filing cabinet. It might be possible that a Physical DFD can include references to data that are duplicated, or redundant, and that the data stores, if implemented as a set of database tables, would constitute a de-normalized relational database. On the other hand, a Logical DFD tries to capture the data flow aspects of a system in a form that has neither redundancy nor duplication.

3.4 Class Diagram

A class diagram is an illustration of the relationships and source code dependencies among classes in the Unified Modeling Language (UML). In this context, a class defines the methods and variables in an object, which is a specific entity in a program or the unit of code representing that entity. Class diagrams are very useful in all forms of object-oriented programming (OOP).

The concept is several years old but has been refined as OOP modeling paradigms have evolved. Unified Modeling

Language (UML) is a type of static structure diagram that explains the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

The class diagram is the main building block of object oriented modeling. It is used for general conceptual modeling of the systematic of the application, and as well as for detailed modeling translating the models into programming code.

Class diagrams can also be used for data modeling. The classes in a class diagram represents the main objects, interactions in the application and the classes to be programmed.

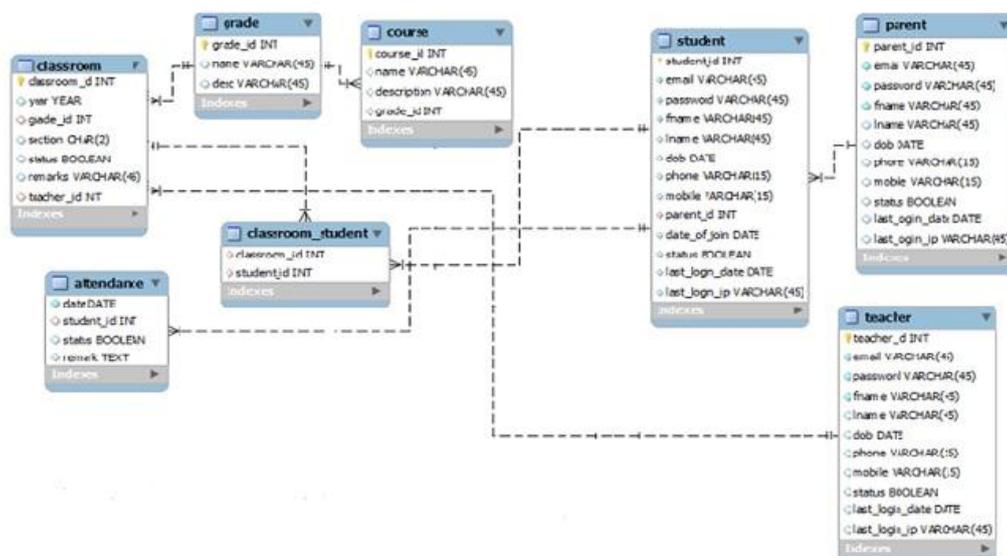
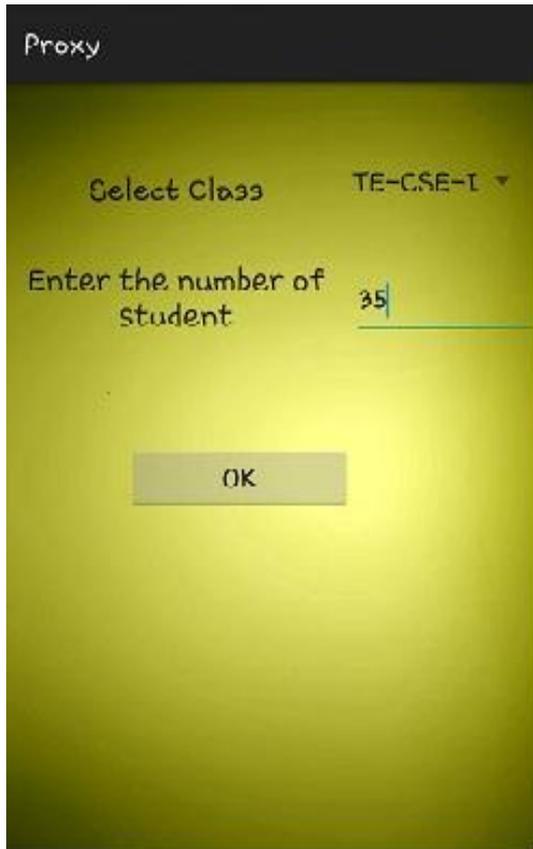
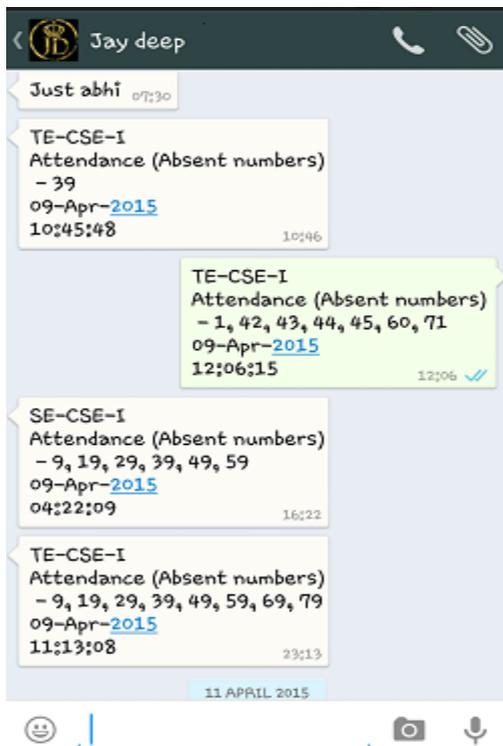
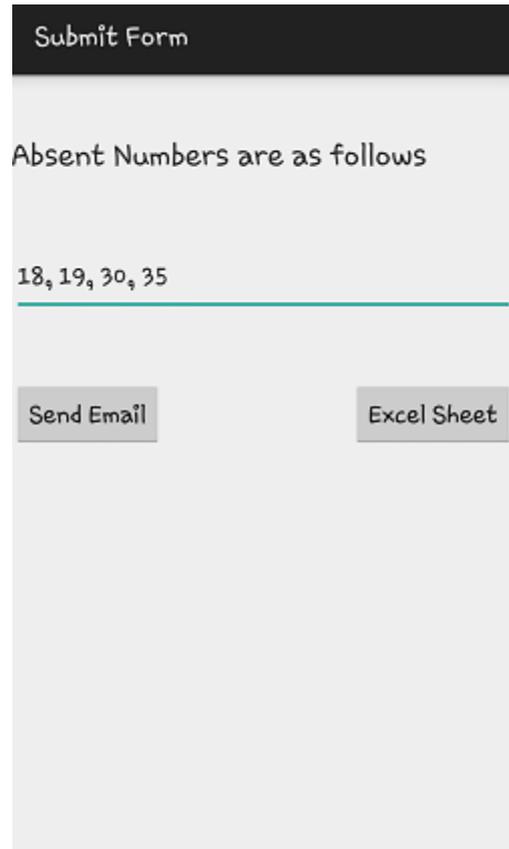


Fig 5 Class Diagram[1]

IV. RESULTS





	A	B	C	D	E
1	Roll No	30-Apr-2015			
2	1	P			
3	2	P			
4	3	P			
5	4	P			
6	5	P			
7	6	P			
8	7	P			
9	8	P			
10	9	P			
11	10	P			
12	11	P			
13	12	P			
14	13	P			
15	14	P			
16	15	P			
17	16	P			
18	17	P			
19	18	A			
20	19	A			
21	20	P			
22	21	P			
23	22	P			
24	23	P			
25	24	P			

V. ADVANTAGES

- This application aims at taking attendance in mobile phones.
- Can be used in any educational institutions.
- Can be used by any teacher to make separate sheet or copy of attendance record of each subject.
- Easy and efficient to use and provides accurate results.

VI. CONCLUSION

An Android based mobile application for Attendance Monitoring is presented. The application offers reliability, easy control and is time saving. It can be used as a base for creating similar applications for tracking attendance colleges and in offices or any workplace. And seminar will help the lecturers to reduce their workload by reducing the time and calculations required to update the attendance manually. And students can also see their attendance at any time if teacher share the details on WhatsApp or any social media.

VII. FUTURE SCOPE

- The app can be made more advanced by using sensor technology.
- The sensors can be put on each and every student's desk and then their finger prints can be scanned to take the attendance during lectures.
- Another scope can be of voice recognition.
- Teacher will ask the students to call their names, and while their voices were already stored in the database the voice sensor will just scan the database and if the present voice matches then the student will be marked present otherwise absent.

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