

ANDROID BASED SMART STUDENT ATTENDANCE SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Computer Science and Engineering

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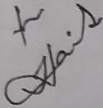
DHAKA, BANGLADESH

7th DECEMBER 2019

APPROVAL

This Project titled “**Android Based Smart Student Attendance System**”, submitted by Ahsanul Kabir, ID No: 161-15-7642 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 7th December 2019.

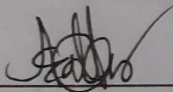
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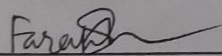
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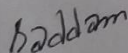
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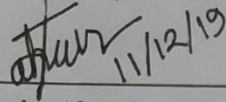
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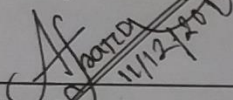
In this project I declare that, this project has been done by us under the supervision of **Ms. Tasnim Ahmed, Lecturer, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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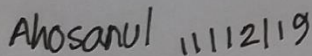
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Finally, I must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

“Android Based Smart Students System” is application based project with the support of smart phone .Students attendance system which is use for students present in class. It will become very important things begin successful all Educational Institution by engaging students and make sure regularly attendance that they will come. This organization kept, maintain and taking about students information report to their parents. Future this work will be keep about extended information about students those are:

- Information.
- Semester CGPA
- Attendance Count

And other activities involved in this system. Respect all parents their children’s will be upgrade attendance and another performance through this mobile smart application. In case, smart students attendance system is design and implement based on android based operating system. It compression different with other tradition attendance system, the proposed of system faster, reachable and cheaper system for students attendance and it automatically gather all students attendance report.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	i
Declaration	ii
Acknowledgements	iii
Abstract	iv
CHAPTER	
CHAPTER 1: INTRODUCTION	1-4
1.0 Introduction	1
1.1 Motivation	2
1.2 Objectives	2-3
1.3 Expected Outcome	3
1.4 Report Layout	3-4
CHAPTER 2: REQUIREMENTS SPECIFICATION	5-11
2.0 Introduction	5
2.1 Requirement For	5-6
2.2 Model For Use Case	6-7
2.3 Description Of Use Case	8
2.4 GUI Navigation Menu	9
2.5 Logical Data Diagram	10
2.6 Design Specification	11
CHAPTER 3: DESIGN SPECIFICATION	12-17
3.0 About Design	12
3.1 Add Notes	13
3.2 View Scheduler	14
3.3 Edit Profile	15
3.4 Add Attendance	16
3.5 End Design	17

CHAPTER 4: IMPLEMENTATION AND TESTING	18-21
4.0 Implementation Plan Of Database	18-19
4.1 Implementation of Design Front-End	19
4.2 Implementation of Interactions	19
4.3 Implementation Of Testing	20
4.4 Test Reports And Result	21
CHAPTER 5: CONCLUSION AND FUTURE SCOPE	22
6.1 Conclusion	22
6.2 Development For Future Scope	22
APPENDIX	24
REFERENCES	23

LIST OF FIGURES

FIGURES	PAGE NO
Figure 2.2: Model For Use Case	7
Figure 2.3: Description Of Use Case	8
Figure 2.4: GUI Navigation Menu	9
Figure 2.5: Logical Data Diagram	10
Figure 3.1: Add Note	13
Figure 3.2: View Scheduler	14
Figure 3.3: Add Attendance	15
Figure 3.4: Edit Profile	16

LIST OF TABLES

TABLES

PAGE NO

Figure 4.1: Implementation Of Testing

20

CHAPTER -1

INTRODUCTION

1.0 Introduction

Student maintenance and management information is a difficult challenge for any Educational Institution. Increasing of technology in this sector is most important. The respective classes consists of the student academic information of monitoring and progress periodically that seems handle and huge workload on lecturers upgrade on the subjects. Attendance is manually recording way of tradition and desktop application converting into it. Sometime this generation reports lead to error and technical fault. Sometimes apart from this, the attendance sheets are lost misplaced or wrong information entered for various reasons. In case, manual work and achieve more managing efficiency reduce to student information, using smart phone based mobile application solved this problem to make more easy and every way beneficial. Student information will sent and store to right person. A mobile based android attendance system development it help lot of them. This project will be help to teacher they can understand and easily collect student record. All student attendance management system this software development for university, schools and colleges. A particular class student attendance information to access if teacher wants. The operator is helps by the information that will be given by the teacher for every class. Evaluation of student attendance will also help this system. This android based attendance system will run android operating system. There are some modules are:

- Process user authentication.
- Process attendance making.
- Information collect about students.

Every day on each working days attendance will take in everywhere like colleges, schools and university it will be helped for kept information record without paper. In a simple reasons, our natural environment will be saved for our next generation.

1.1 Motivation

If a country will be develop around all over the world education is the main key for development. In the world every country tries to build their best education system so that they can build up their great nation. In our country, this major sector have been taken several steps. Modern facilities for the educational institute and also less modern student is their required. Follow this attendance system, we ahead one step process in modernization. Attendance system is under the paper based maximum institute now a day's. Take a few initiatives some of institution are not automated completely.

When a student entered into classroom and teacher collect the attendance all of student the process look like this which is submit paper based attendance upgrade authority. Then that authority responsible to send SMS to their parents about their student attendance. It is a long process and killing time and slow process. This process badly affected sometimes this SMS become irregular. Our project work on student attendance system which is user friendly, time saving and low budget and also carry authentication on security purpose strong.

1.2 Objectives

Student attendance in the classroom collected by respected teacher manually with paper based procedure already known well. Paper based manual process have lot of disadvantages of utilizing. Here example: Manual signing of attendance discover the hassle of having lecturers by teacher most likely teaching from distract and full getting attendance all students. The lecturer can't track all student attendance record throughout particular semester. A lecturer has also access single copy limited only at work place. In attendance analysis, the student percentage obtain to procedure and lecturer has also has perform manual which is normally lot of time. Respected parents don't get any kind notification about the attendance of their children's and this thing can create bunking scope which a student can a bad way. The conventional attendance collecting system by having the limited imposed, we find out of the solution form of an attendance system is based on android operating system.

There are some facilities:

- ❖ Very easy to get attendance this system to help teacher.
- ❖ This system is also help for each individual student automatically count percentage.
- ❖ This framework has no possibility of losing any data that is put away in our database and reinforcement database so zero chance of losing data.

1.3 Expected Outcome

This project help us to solve problem in educational institution. Here are:

- ❖ An individual monthly attendance report automatically generate for respected student.
- ❖ The monthly attendance report summary will get respected parents about their children's.
- ❖ This system will help to get student evaluation ,such as
 - Monthly attendance percentage.
 - Yearly attendance percentage.
 - Whole institution ratio attendance.
- ❖ All the information is saved on database for the attendance task of institution without any paper.

1.4 Report Layout

Chapter 01: Introduction

This chapter, we discussed objectives, motivation and expected outcome of the project.

Chapter 02: Use Requirement

This chapter, we discussed about requirement like use case model and description design specification and logical data model.

Chapter 03: Specification of Design

This chapter, we discussed about all project design with proper example and description and also discussed individual description of design.

Chapter 04: Implementation Plan and Testing

In chapter, we discussed about implementation plan of interaction design and UX, testing implementation and test results of the project.

Chapter 05: Conclusion and Development For Future

In final chapter, we discussed about conclusion and development for future which can be made a vast sector for this system.

CHAPTER -2

REQUIREMENTS SPECIFICATION

2.0 Introduction

“Android Based Students Attendance System” for mobile application is design by project that will help to provide monitoring students attendance. Which will be very helpful for Educational Institutions as well as the respected parents also. This system will be count present students evaluation based on their attendance with the help of android application. A mobile application based, our application support to run smoothly any android device without any lagging. So, the discussion will be helped about the Use Requirement for our project build up.

2.1 Requirement For “Android Based Students Attendance System”

There are some minimum software and hardware requirements to complete this android based attendance system. If we run our project this requirement have to needed order. General list of software and hardware component which requirement we are using to build our project. This are :

- Some hardware those are given :
 - ❖ Personal laptop/ desktop.
 - ❖ Minimum memory size 2 GB.
 - ❖ Smartphone- Android mobile.

- Some Software those are :
 - ❖ Database Management-SQL Server.
 - ❖ Android Studio (Application Development).

- Some Programming Language and other :
 - ❖ Java Script.
 - ❖ My SQL.
 - ❖ API.
 - ❖ NDK.
 - ❖ SDK.
 - ❖ XML.
 - ❖ Pure Java.

2.2 Model For Use Case

The use case model diagram shows given idea about the relation between users and how to use in this system.

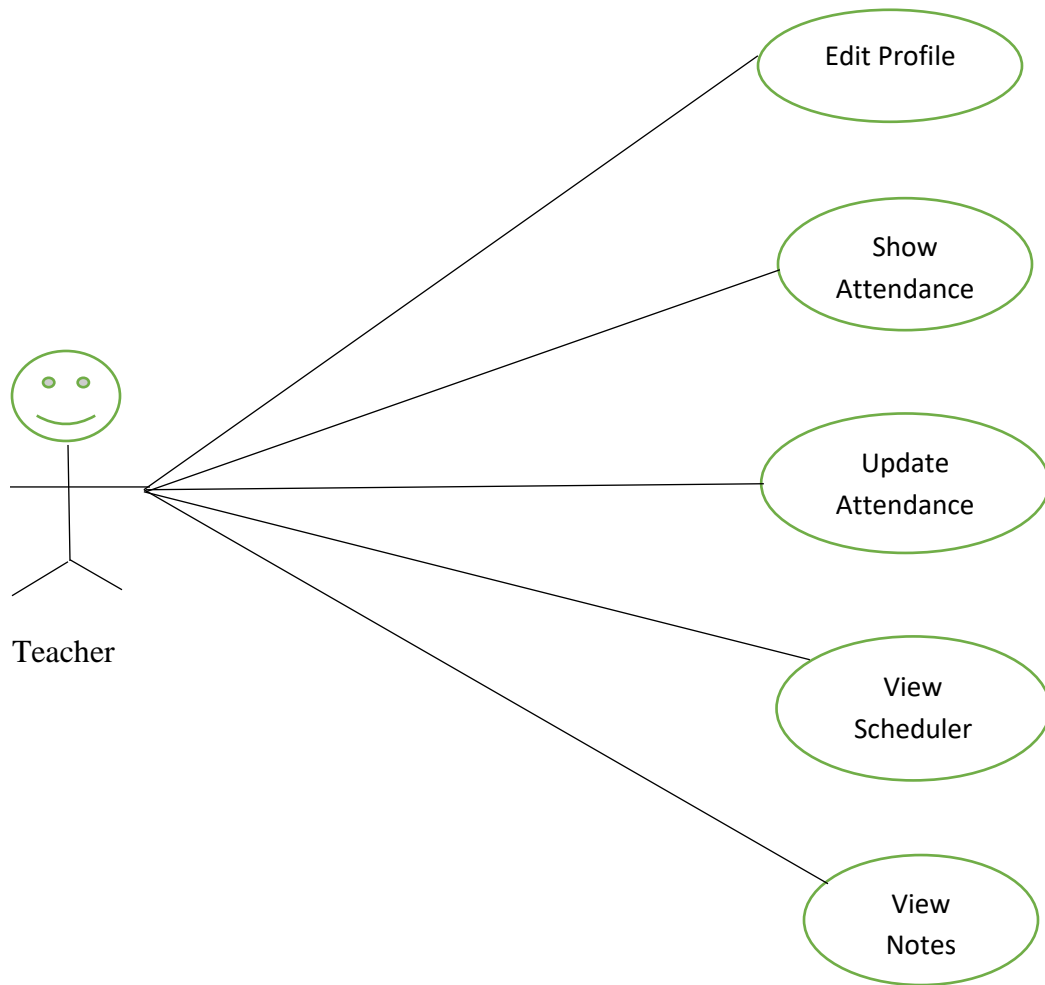


Figure 2.2: Model For Use Case

2.3 Description of Use Case

Teacher

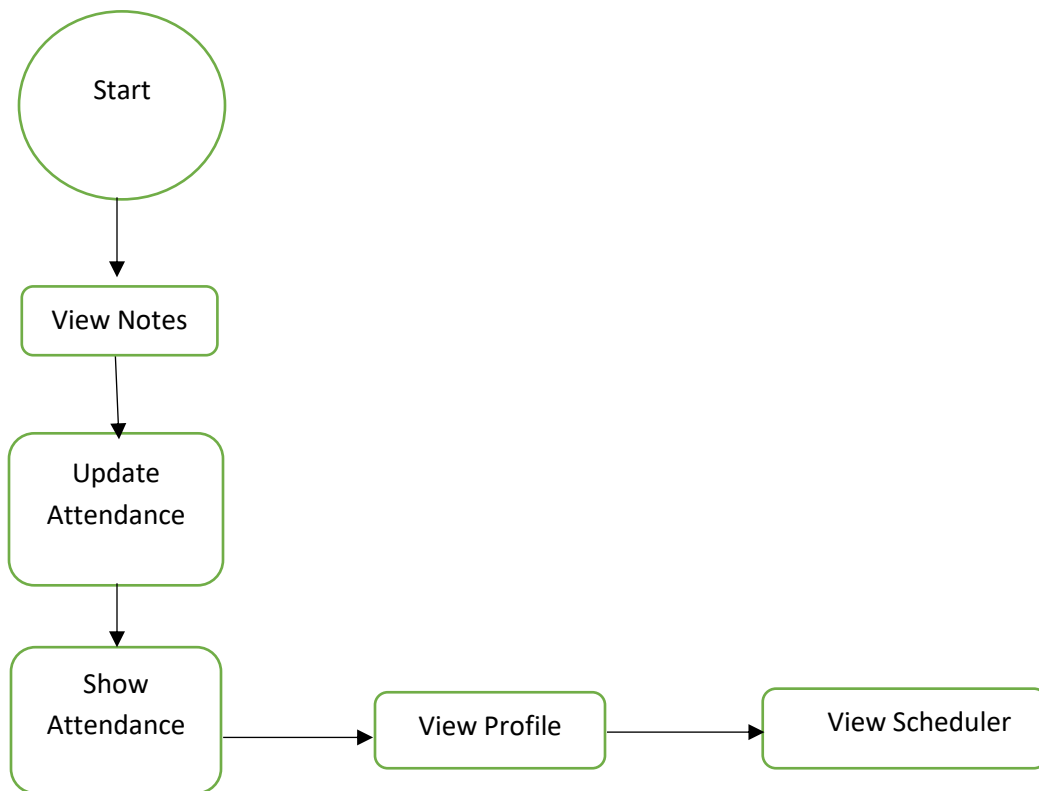


Figure 2.3: Description of Use Case

NOTE: It is for done by teacher. User can follow this step to use this system.

2.4 GUI Navigation Menu

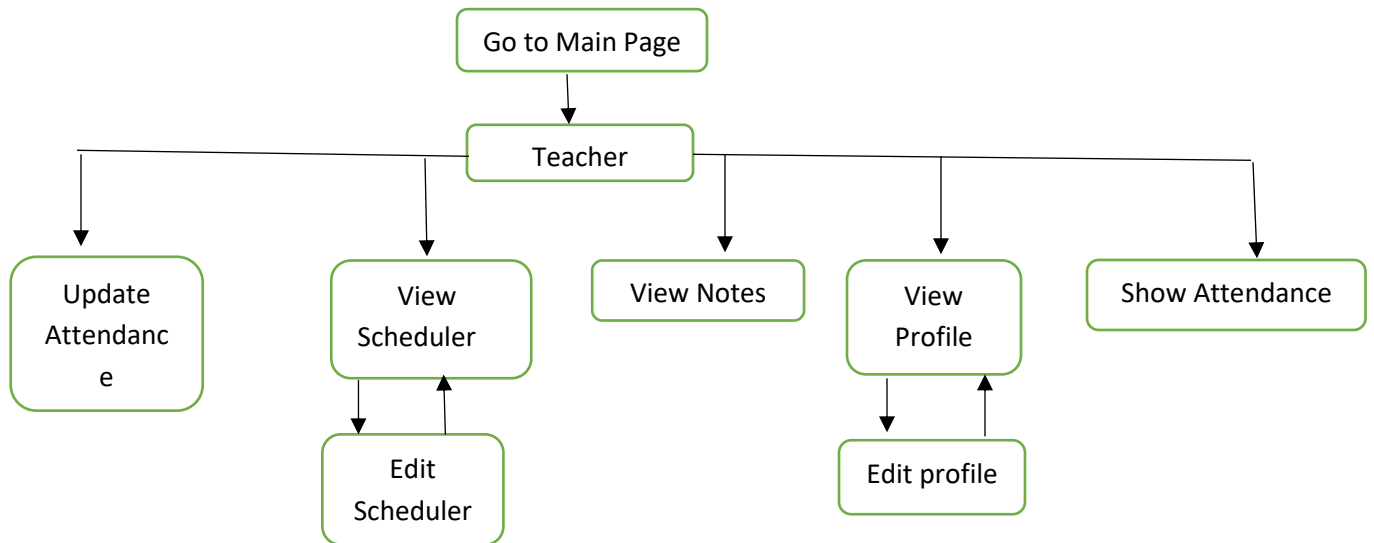


Figure 2.4 : GUI Navigation Menu

2.5 Logical Data Diagram

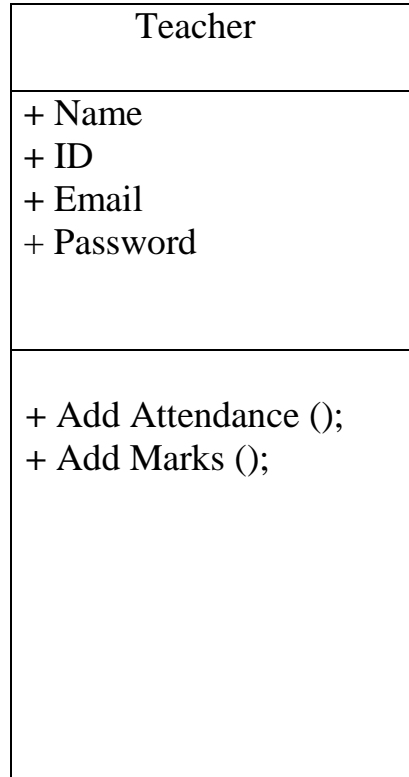


Figure 2.5 : Logical Data Diagram

2.6 Design Specification

Design specification gives information details about the project characteristics of developers will need to meet. Structure or a system product it's use is called where has to be specially made to meet a need. Use case diagram is given working procedure figure and use case demonstrating relationship of framework. Use case is scenario of a model where a developer can understand how to use in this system in project.

CHAPTER-3

SPECIFICATION OF DESIGN

1.0 Design

Design is involved everywhere what users sees in application. Actually, design deal with layers those are connection with presentation layers. Which is only one connection of our system? The main things of our system is front design it make sure when the application is open to user, they will find out all information about it all easy format. Our front develop we are using this method to create front design.

Those are:

- ❖ Main Activity.
- ❖ Welcome Message to the Main Activity.
- ❖ Add Button in Main Activity.
- ❖ Create Second Activity.
- ❖ On Click Method.

3.1 Add Notes

It will help to kept information store in this application. It will need to follow this:

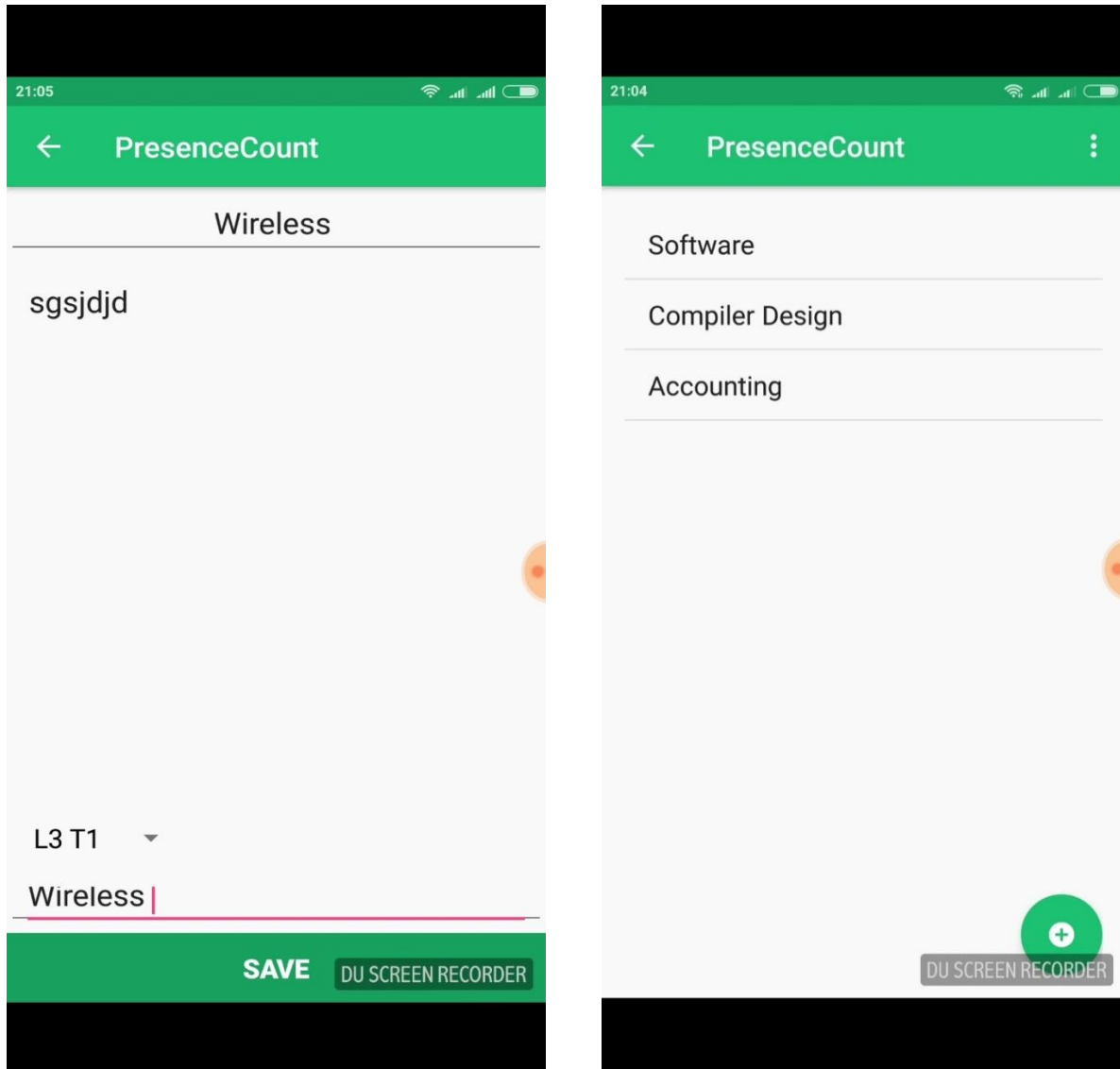


Figure 3.1: Add Note

3.2 View Scheduler

View Scheduler will be shown here all information to help user.

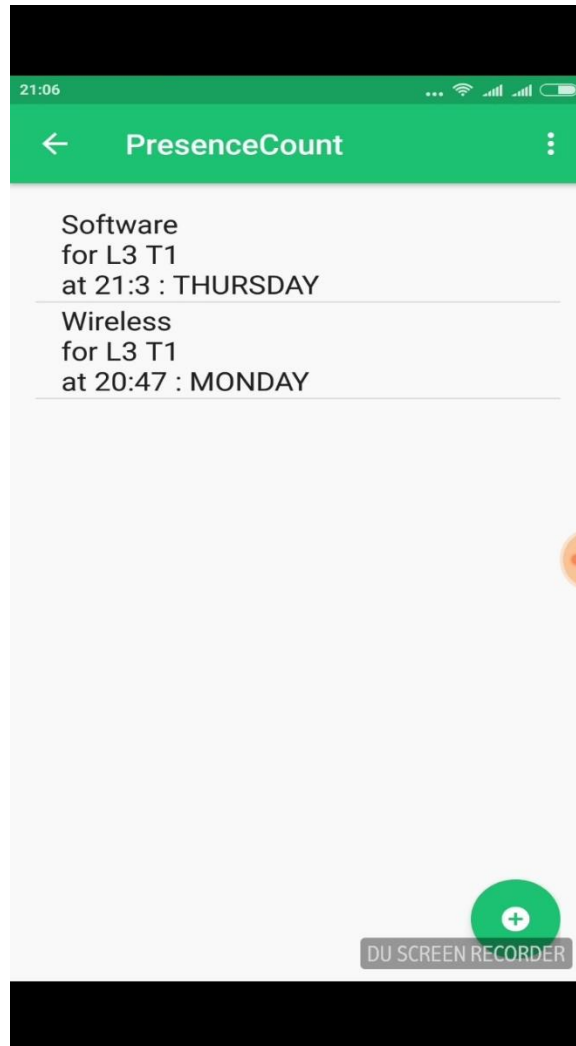


Figure 3.2 : View Scheduler

3.3 Add Attendance

Student attendance can be collected through this system. The user must follow the steps.

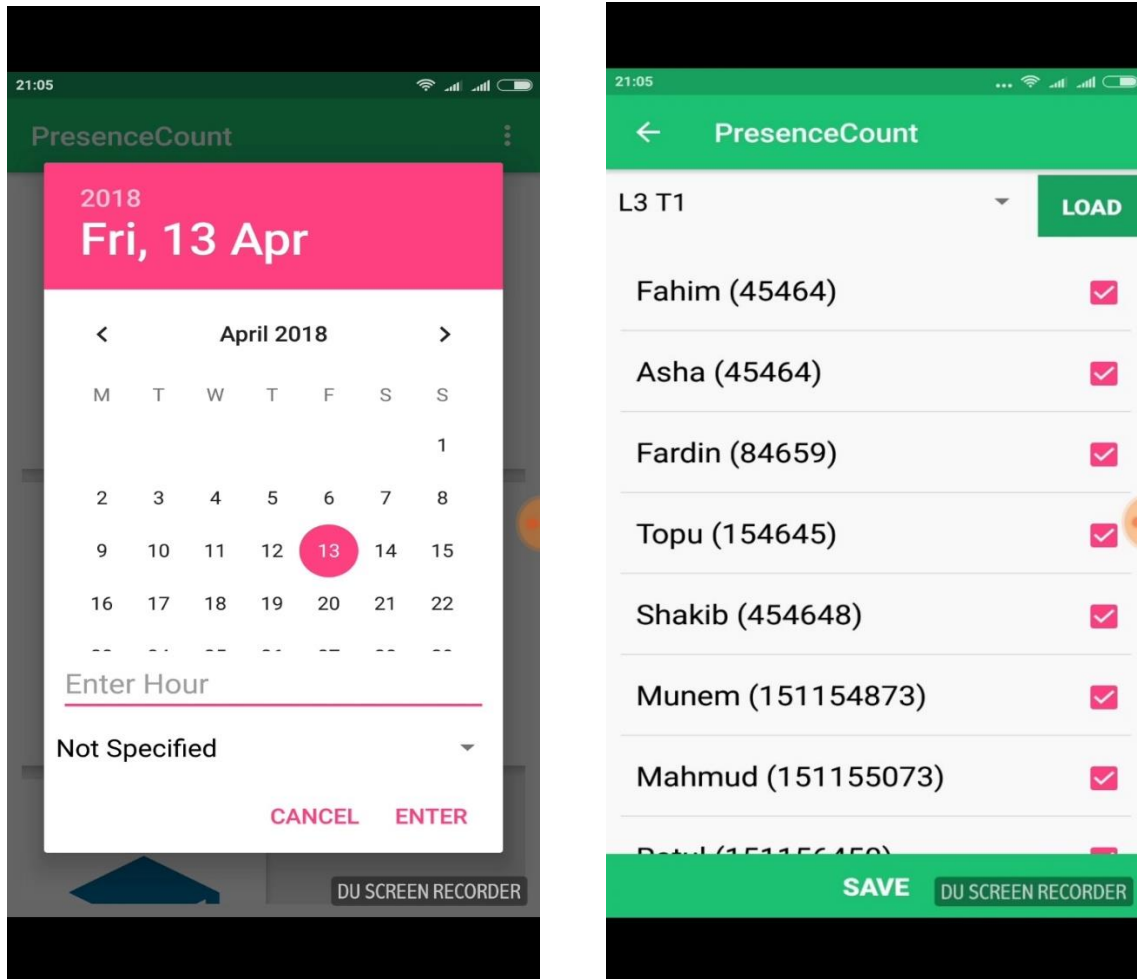


Figure 3.3 : Add Attendance

3.4 Edit Profile

Through the application, user can edit profile and update information about students.

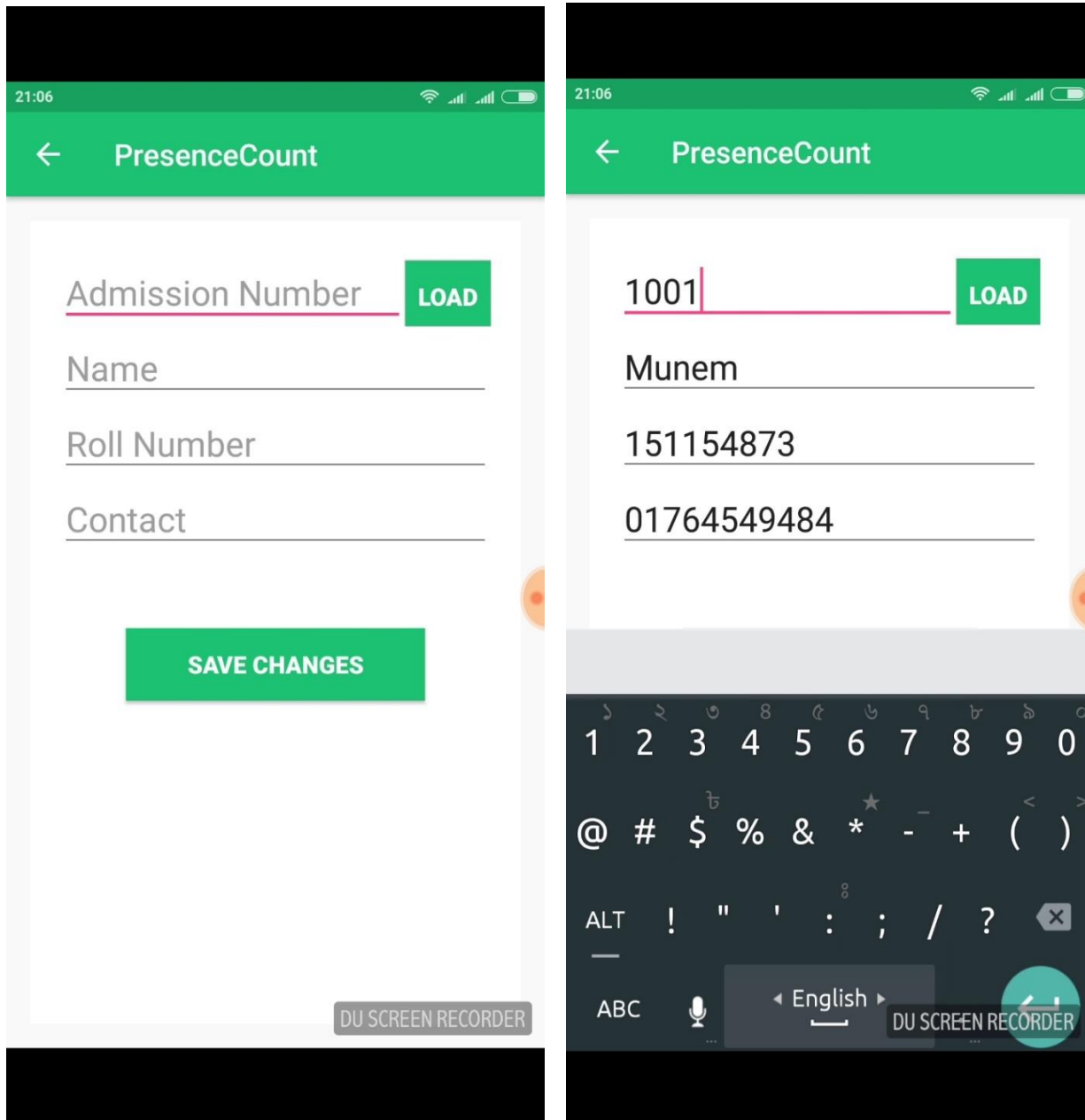


Figure 3.4 : Edit Profile

3.5 End Design

End design is using of programming where logical data creates implementation of information system that is any kind of website, application and software. End design development refers where you are fundamentally create centered around the server how the site functions. Code is writing by developer that is thing conveys the data to program on end design of database. Everything you can't see without effectively. Example: Servers and databases create by end design developer. Our end design are using those language:

Here some language we are used:

- Java Script
- My SQL
- Pure Java

CHAPTER-4

IMPLEMENTATION PLAN AND TESTING

4.0 Implementation Plan of Database

The implementation plan stage place DBMS is introduce to equipment requirement, here database programming stage and equipment that on best run, burden and database make sure information about it. Information could be underlying and new information has clearly or imported any DBMS data existing. Moreover developer can develop database in this stage and diverse customer that is security recognized access appropriate engineer's to their necessities.

To follow those steps to implementation plan are:

- ❖ Install DBMS.
- ❖ Turn on equipment, programming and some conditions by demonstrated setup factors.
- ❖ Create tables and database.
- ❖ Load using data.
- ❖ Set security and users.
- ❖ Implement regime backup.

4.1 Implementation Of Design Front-End

Design of front-end is advancement the manner which is familiar plan for android platform gets actualized. Brad frost says- Between design somewhere – polish, pixels and personas of a world – and engineering – Linux, loops and logic of a word – lies design frontend. Frontend design creating to involves API,XML ,NDK and Java Script code that use to makes users interface. Android application development we built our front-end by Java Script. Our application core design java Script. Because it is lightweight interpreted or JIT- programming language compiled with first class function. Which is most known scripting language most for use mobile pages. Java Script is multi-paradigm, supporting object-oriented, declarative styles and prototype based. Why we use java Script there are some reasons.

Those are here:

- ❖ Client side language is Java Script.
- ❖ Easy to learn Java Script language.
- ❖ No needed compilation.
- ❖ Test and debug to easy.
- ❖ It is based on event based language.
- ❖ Programming capabilities procedural.

4.2 Interaction of Implementation

Our system make in order (Android Based Students Attendance System) interaction us to make sure responsive the users interface. Also hassle free service to build as well as strong server. The system design is users friendly. Users will use as long as logged in the system.

4.3 Implementation Of Testing

Testing is the most important part, particulars specialized testing alludes to the route toward usage. Toward is putting an activity executing arrangement detailed. When the arrangement ought finish than our destinations ought to be planned in the arrangement clear testing every last one before execute to be usage trying.

Table 4.1: Implementation of testing

Test Name	Input	Outcome Expected	Outcome Obtained	Result	Date
1.Profile	Add student Name, ID , Class, Department	Successful save	Successful save	Successful	10 October, 2019
			Successful save	Successful	10 October, 2019
2.Attendence	Save student attendance using android phone – student id & Name, date, class	Successful save	Successful save	Successful	10 October, 2019
			Successful save	Fail	10 October, 2019

4.4 Testing Report and Result

To reflect testing result report is wanted in formal way, that is given estimated scope testing results very fast. Implementation is only one way for detailed arrangement for towards putting an activity. We implement the arrangement ought have finished before our goal ought to be clear for testing every last one of this activities to be execution trying planned in the arrangement. If all types system passes of all testing then it is ready to launch so that we will benefits of testing usability results.

CHAPTER -5

CONCLUSION AND DEVELOPMENT FOR FUTURE

5.0 Conclusion

This attendance system can help information about of students. It can help time save and difficulties reduce. It was intended to solve specification as requirement. In future attendance system it can be used everywhere of the educational system and it can be designed for cross platform. This project is intended to replace the age old system of attendance register with a digital register which can be shown its features and ease of use. Through the system Educational Institutions will be paperless under attendance system. With due course of time we intend it to establish a connection with the college server so as to access and update the attendance over the college LAN. Features like sending warning messages to the students with low attendance, and a student portal to check their attendance are planning to get added.

5.1 Development For Future Scope

- If this system update day by day for a best experience.
- The new will be added features to user experience.
- This application will have updated for new user interface if needed.
- Security will be upgrade in future.
- In future we will alert security improvement in this application.
- We will take responsible more security information for database.

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APPENDIX

Project Reflection:

From the Fall-2018 Semester, we had started our journey to make a system through that we can monitor the attendance system so that it can be helpful for the Educational Institute. Also, parents can get a notification about their children attendance randomly. Which helps to digitalize the attendance system. We also thought about an easy and hassle-free system so it can be saved valuable time. We followed the model to implement and monitor our system with the all hard work and spending a lot of time and finally, we were able to reach our goal at last. This is our keen believe that our “Android Based Student Attendance System” Using mobile Application will have a useful and positive thing for the users. Very soon we will ready to upgrading our system with a regular basis as it required.

attendance

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