RFID BASED STUDENT MONITORING SYSTEM USING WEB APPLICATION

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APPROVAL

This Project titled **"RFID BASED STUDENT MONITORING SYSTEM USING WEB APPLICATION"**, submitted by **Sobayer Abedin Amit, ID No: 151-15-5371, Pitash Kumar PK, ID No: 151-15-5427, Md. Shams Uddin, ID No: 151-15-5465** 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 2nd May, 2019.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Fahad Faisal, Assistant professor, Department of CSE** Daffodil International University. We 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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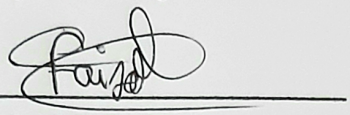

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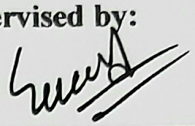

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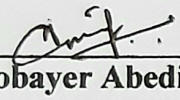

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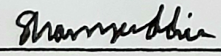

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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

"RFID Based Student Monitoring System Using Web Application" is an Embedded based project with the support of web application. The existing conventional attendance system required a manual paper-based process when a student attends a class. As common as it seems, such system lacks of automation, where a number of the problem may arise. Developing a system which has the ability to capture student's attendance automatically by flashing their student ID card at the RFID Reader can really save a huge hassle. In the meantime, while a student flashes his/her student ID card at RFID reader then an SMS (Short Message Service) will be sent to their respected guardian about their children attendance. Looking at a bigger picture, developing the system throughout the academic teachers will benefit the academic management as we know that the student attendance to a class is one of the maiden factors in improving the quality of teaching and monitoring their student's performance. Besides respected guardian will be updated about their children's attendance and another performance.

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CHAPTER -1
INTRODUCTION

1.1 Introduction

From the very Beginning of the modern civilization Education sector is always plays a significant role throughout the world. Development of technology in this sector is the most important factors of all. The major reason for the system is to provide respected institution attendance of the students with a proper report and notification system. This type of process is still based on paper documentation. RFID can improve this system and perform various action automatically.

In this report, there is a proposal to improve student monitoring system using RFID technology that will provide safe and secure services for both parents and respected institute with a lower operational cost.

RFID stands for Radio Frequency Identification, Radio-recurrence distinguishing proof or known as RFID utilizes electromagnetic fields to naturally recognize and track labels connected to objects. The labels contain electronically-put away data. Aloof labels gather vitality from an adjacent RFID per user's questioning radio waves. Dynamic labels have a neighborhood control source, (for example, a battery) and may work many meters from the RFID per user. Not at all like a scanner tag, the label requires not to be inside the observable pathway of the per user, so it might be implanted in the followed question. Fundamental RFID has three parts:

1. An Antenna or curl
2. A transmitter (with decoder)
3. A transponder (RF tag)

RFID tags will be helpful for contributing to the student monitoring system. Everywhere in this world, RFID plays an important role in digital factory or Industry, RFID has also been found to be of great help in improving the records of student attendance where the digital of these operations improves their efficiency and safety. This contribution reviews the state-of-the-art of RFID for monitoring applications, describing the contributions to improve monitoring services and discussing the limitations. We already know that a lot of effort has been put into software development, but most of the time a detailed study of the physical layer is not properly conducted. It describes a basic RFID system for tracking and monitoring system in educational institutions & provides additional details about implementation aspects that must be considered to ensure proper functionality of the system. The scope of the RFID system described in this contribution is restricted to a little area but the architecture is fully scalable to cover the needs of a monitoring system in the Educational Institutions.

This monitoring system is a growing trend in the Educational Institutions ensuring the attendance of every student. The method of authentication by manually is ineffective in Educational Institutes environment. Using smart cards improves the authentication system between students and Institutions reducing time costs which makes this technology more efficient. RFID technology can improve the monitoring facility by ensuring the link between the Educational Institutions and the students and also with parents. This paper presents an RFID based student monitoring system with the web-enabled secured system.

1.2 Motivation

Education is the main key to developing a country around the whole world. Every country in the world always tries to build their best education system so that they can make their nation great. In Bangladesh, several steps have been taken for developing this major sector. But the modern facilities regarding this sector for the educational institute and also for the students is less modern than they required. Through our student's monitoring system, we want to take these modernization process one step ahead. Now a day’s maximum institute is under the paper-based attendance system. Although some of the institutions take a few initiatives which are not completely automated.

The process they use is like when a student entered into the classroom and the teacher is done with attendance process manually which is paper-based then the respected teacher submit the attendance update to authority. After that authority send an SMS (Short Message Service) to the responsible guardian about their children's attendance. But this process is too slow and time killing process. Sometimes this SMS process becomes irregular, which affected this process badly. After thinking about this process we came to a point to work on student attendance monitoring system which one is time-saving, user-friendly and low budget and also this system will carry a strong authentication on security purpose.

1.3 Objectives

The most well-known way of tracking student attendance in the classroom is conducting by a respected teacher manually with the assistance of paper-based procedure. There are various disadvantages of utilizing such this paper-based manual process. For example, lecturers with a vast class may discover the hassle of having the attendance and the manual signing of attendance by teachers are burdensome and most likely distract them from teaching and getting full attention from the students. As a results of that, the lecturer can no longer trace the students overall attendance record throughout the particular semester. Apart from that, a lecturer also has limited access to the single-copy record only at the workplace. In terms of attendance analysis, the lecturer also has to perform a manual procedure to obtain the students' attendance percentage, which normally consumes a lot of time. Besides respected guardians do not get any kind of notification about their children's attendance and this thing can create a scope for bunking classes which can lead a student in a bad way.

Having said the limitations imposed by the conventional attendance recording system, we propose a solution in the form of an attendance tracking system based on RFID technology.

1. The main idea behind the system is to capture student attendance in a semi-automated way where the students are required to flash their student card at the RFID reader upon entering the classroom. This way, the student ID is instantly captured by the reader, after which the data is sent to the online server for recording purpose.
2. Such a system promotes a more organized and systematic student attendance recording. Having the attendance data instantly uploaded to the online server prevents data loss while allowing the data to be available and accessible to the lecturers or other academic staffs as long as they are connected to the internet.

3. When a student swap or punch his/her student ID card using RFID an SMS will be sent instantly to their respected guardian with the help of web application. There will be also a real-time operation which helps to notify the guardian about their children's late punch or swap.
4. The system also helps to automatically compute the percentage of attendance for each individual student.
5. Utilizing this framework there is no possibility of losing any data as its put away in our database and in the event of database disappointment, we additionally have reinforcement database so zero chance of losing any sort of data.

1.4 Expected Outcome

1. We will get daily attendance of students with time through the RFID scanner.
2. Parents will get a notification instantly through SMS(Short Message Service)
   While their children flash the student ID card.
3. The system will generate an individual monthly report automatically regarding the attendance of respected students.
4. Respected parents will get the monthly report summary about their children's attendance.
5. Through the system, the user can get the students evaluation, such as
   - Percentage of monthly attendance.
   - Percentage of yearly attendance.
   - Attendance ratio of the whole institution.
6. User and guardian can get the alert about the late punch.
7. Putting away all the information in a committed database and utilizing the RFID card for the attendance task of the institution there won't be any utilization of paper.

1.5 Report Layout

Chapter 1: Introduction

In this chapter, we have discussed the motivation, objectives and the expected outcome of the project.

Chapter 2: Background

We discuss the background circumstances and hardware details of our project. We also talk about the related work, comparative studies, scope of the problem and challenges of the project.

Chapter 3: Requirement Specification

In this chapter, we discussed the requirements like the use case model of the project and their descriptions, the logical data model and the design requirements.

Chapter 4: Design Specification

In this chapter, we discussed all the designs of the project with proper descriptions. We also discussed about individual design descriptions.

Chapter 5: Implementation and Testing

This chapter contains the implementation of the interaction design and UX, implementation of requirement, testing implementation and test results of the project.

Chapter 6: Conclusion and Future Scope

We discussed the conclusion and the scope for further developments which can make a vast sector for this system.

CHAPTER- 2

BACKGROUND

2.1 Introduction

RFID Based Student Monitoring System is a very well- decorated Embedded based project. Through this system, we can get the necessary information about the student's attendance. The system is open for Admin users. This system will save time as well as provide hassle-free service. This project is developed using the embedded system along with a Web-based platform and aimed at evaluating the performance of student's attendance. In this part, we endeavor to give a related thought regarding **"RFID Based Student Monitoring System Using Web Application"**. This is the project which is centered around the field of automation and the use of Embedded Programming System to run the application on them.

2.2 Related Work

This project is to build a system and through the system, the user can monitor the student 's attendance system and evaluate the attendance report easily also parents will be updated about their children's attendance.

2.2.1 RFID Based Attendance System [1]

In this paper, they were works with an RFID reader which will help to take the attendance of students. And they also connected the RFID reader with the computer through Universal Serial Bus (USB). There was an alternative way of viewing the recorded attendance by using Hyper Terminal Software.

2.2.2 Web Based Attendance System Using RFID Technology [2]

Into this paper report, the design of RFID based automated attendance system. They were tried to show a way of having a system that can capture the student's attendance automatically. There will be another feature which is an online system accessible anywhere and anytime with the help of the internet which will help the lecturer to track their student's attendance.

2.2.3 RFID Based Student Monitoring and Attendance Tracking System [3]

Through the whole paper, they describe a procedure which helps the authority to stop a student from bunking classes. They build an idea of a prototype which describes the RFID based attendance system with GSM module exclusively catering the needed of teachers.

2.3 Comparative Studies

Our implemented application is developed on the basis of student attendance monitoring with the help of RFID reader. We have studies a lot throughout developing this project. We have studies each and every requirement and system process of that site to work our system in an efficient and proper way. In the "Related Works" section we discussed some very well-known projects prototype papers which are very good and popular. But in our system, we focused on the easy process and which helps our educational institutions to become modern and developed. All of the mentioned papers in "Related Works" section are porotype base and less available in our country. With the help of those paper, we also added more feature which will take this system one more step ahead. With the help of this system users not only can be able to get the information about attendance detail of the respected students but also can access the system easily and they can create students evaluation and also parents will become tension free about their children's attendance

2.4 Scope of the problem

As we wanted to create an automated system, which means users of the system will look into the student's attendance also system will make a monthly evaluation report. Besides parents will get a daily notification about their children's attendance. So the system needs a connection with RFID reader by which the system will take the data of attendance. We will provide a strong and authentic server that will work for the database storage and complete the process through a web application. With these,

- If provided data is incorrect system will not work properly.

• Android application requires internet access permission.

• Internal process error.

2.5 Challenges

As we are students, our main challenge is maintaining time on a daily basis. With these,

- Make sure to the user comfortable with the web application's UI.
- Make sure about hardware quality and smooth working.
- Make sure about our database's security.
- Protection of our database's privacy.
- Template connecting the Database.
- Making the design beautiful and user-friendly.

2.6 Hardware Requirements

Here we added the detail about the hardware's which is needed to implement our project.

2.6.1 Raspberry Pi 3 Model B

Figure 2.6.1 Raspberry Pi 3 Model B [4]

The Raspberry Pi is a single-board PC manufactured in the United Kingdom by the Raspberry Pi Foundation. The purpose of the foundation is to advance the educating of fundamental computer science in schools and in developing countries. Raspberry Pi 3 Model B is the upgrade version of Raspberry Pi 2 Model B. It is the first 64-bit single board PC manufactured by the Raspberry Pi Foundation also comes with built-in Bluetooth and Wi-Fi. This vastly used in Robotics and can be integrated with other components and sensors.

2.6.2 RDM6300

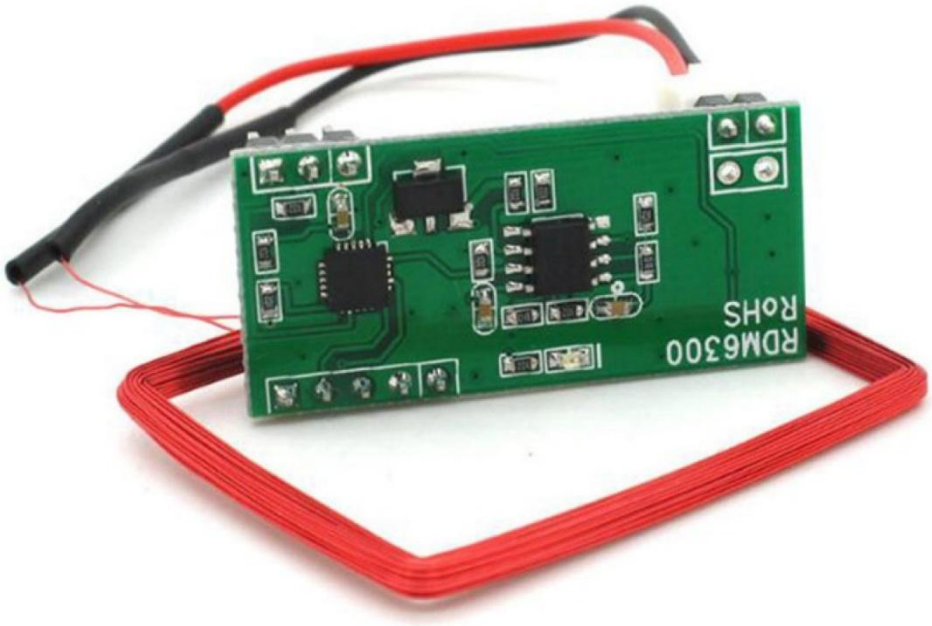

Figure 2.6.2: RDM6300, 125Khz RFID Module – UART [5]

RDM-6300 mini RFID module is designed for reading code/data from 125Khz RFID tags. It is the upgrade version of RDM-630 with higher sensitivity and longer read range. This mini module comes with 2 pin connector coil antenna. It runs on 5v dc power and send unique serial number of a tag via TX pin. It is cheaper than other products available in market with same specification. It can be applied in personal identification, car parking management, anti-forgery, production control systems, access control etc.

Features:

- Support external coil antenna
- Maximum reading range 50mm
- Less than 100ms decoding time
- UART TTL interface

- Support EM4100 compatible read-only or read/write tags
- Built in Bi-color LED

2.6.3 USB UART Converter

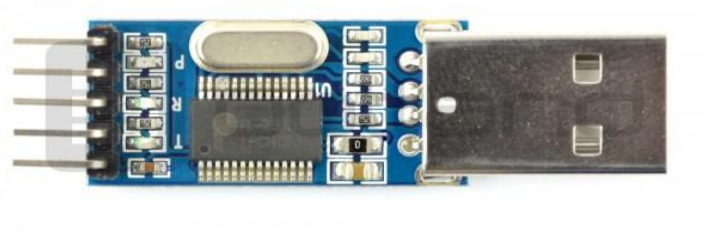

Figure 2.6.3: USB UART Converter [6]

This device used as USB to Serial UART (TTL level) converter module. It allows connection between two popular interfaces, serial port, USB and UART.PL2303 circuit is the root component of this module. This module designed to be easy to plug into a breadboard directly. It required no external power supply, self-powered by using power from USB port. The system is running Windows 7, no device installation required. Drivers are available for other operating systems the module can be used to exchange data between the computer and the system which use microcontroller or programming sets the electronic device from the remote serial interface

2.6.4 Female/Female Jumper Wires

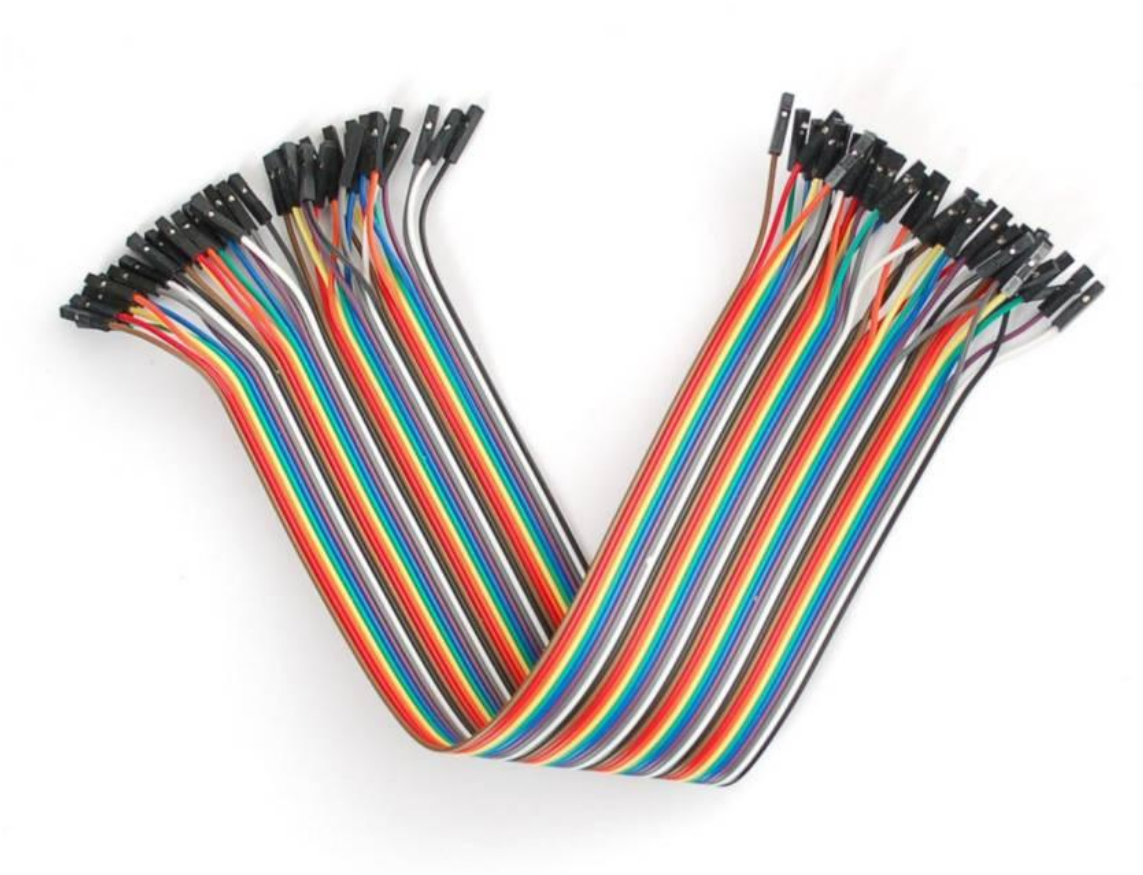

Figure 2.6.4: Female/Female Jumper Wires [7]

Jumper wire is a basic electrical component made with an electrical wire which has pin or connector at each end. Jumper wire also known as jump wire or jumper. It normally used to connect components in a breadboard internally or with other components/equipment, without soldering. Various types of jumper wire available in market. A female to female jumper wire has female pin at each end and connect two male pin of other electrical components.

2.6.5 MFRC-522 RFID Module

Figure 2.6.5: MFRC-522 RFID Module [8]

MFRC522 is a low cost RFID mini module. It is very easy to use and can be used in wide range of application. It used for contactless communication at 13.56 MHz. It can read data from RFID and NFC tag. This module can be implemented in different sectors like Access management, tracking goods, Tracking persons and animals, Toll collection and contactless payment, Machine readable travel documents, tracking sports memorabilia to verify authenticity, Airport baggage tracking logistics and etc.

2.6.6 RFID Tag

Figure 2.6.6: RFID Tag [9]

RFID tags are a kind of tracking system that uses smart barcodes which helps to identify items. The tags have electronically stored information. There are two types of RFID tag passive tag and active tag. As we know, RFID tags utilize Radio Frequency technology. These radio waves transmit data from the tag to a reader, which then transmits the information to an RFID computer program. RFID tags are frequently used for merchandise, but they can also be used to track vehicles, pets, and even. An RFID tag works by transmitting and receiving information via an antenna and a microchip — also sometimes called an integrated circuit or IC. The microchip on an RFID reader is written with whatever information the user wants.

CHAPTER-3

REQUIREMENT SPECIFICATION

3.1 Introduction

"RFID Based Student Monitoring System Using Web Application" is very well designed Embedded based project that will provide monitoring results of student's attendance. Which will be helpful to the Educational Institutions as well as the respected guardians. This system will also be able to generate student evaluation based on their attendance automatically with the help of Web Application. AS a Web Application Embedded based, our project needs some hardware and software resources and support to run smoothly without any interruption. So, in this chapter of our report, we will go through the discussion about the Requirement Specification for our project.

3.2 General System Requirement of "RFID Based Student Monitoring System Using Web Application"

There are some minimum requirements for both hardware and software to build our android application. These requirements have to fulfill in order to run our project. A general list of hardware and software component is given below to get an idea of what we used to build our project-

- Hardware :

- Raspberry Pi
- RDM6300, 125Khz RFID Module- UART
- USB UART Converter
- Female/Female Jumper Wires
- MFRC-522 RFID Module
- RFID Tag.

- Software :

- Windows Operating System (Windows 10).

- XAMPP Control Panel.
- Browser (Firefox, Chrome)
- Raspbian OS for Raspberry Pi

➢ Programming Language and Framework :

- JavaScript.
- HTML CSS
- PHP
- Laravel
- Bootstrap
- MySQL

3.3 Use Case Model

The following use case model diagram shows how many users are going to use the system and also give an idea about the relation between these users in the system.

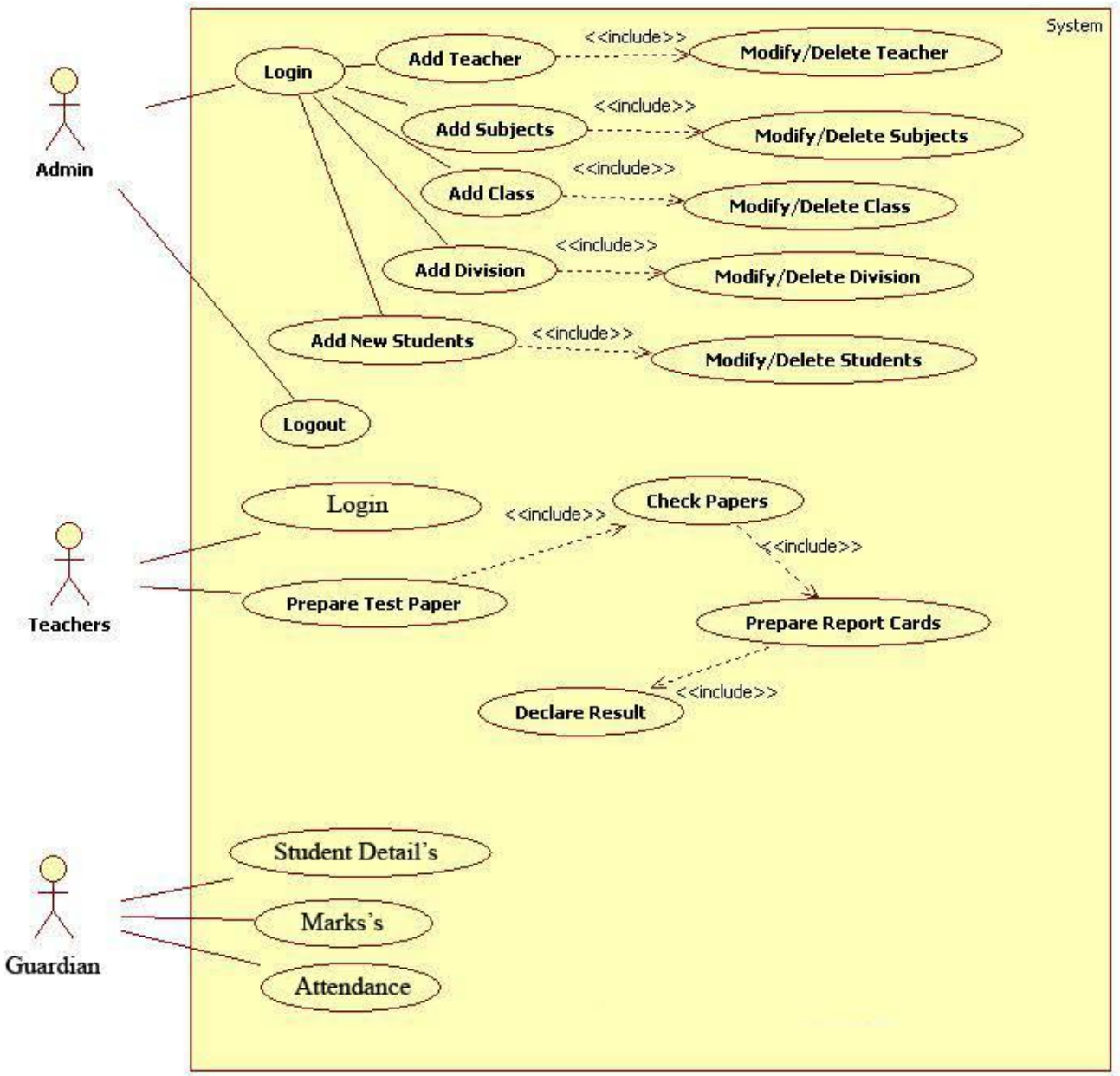

Figure 3.3: Use Case Model of the system

3.4 Use Case Description

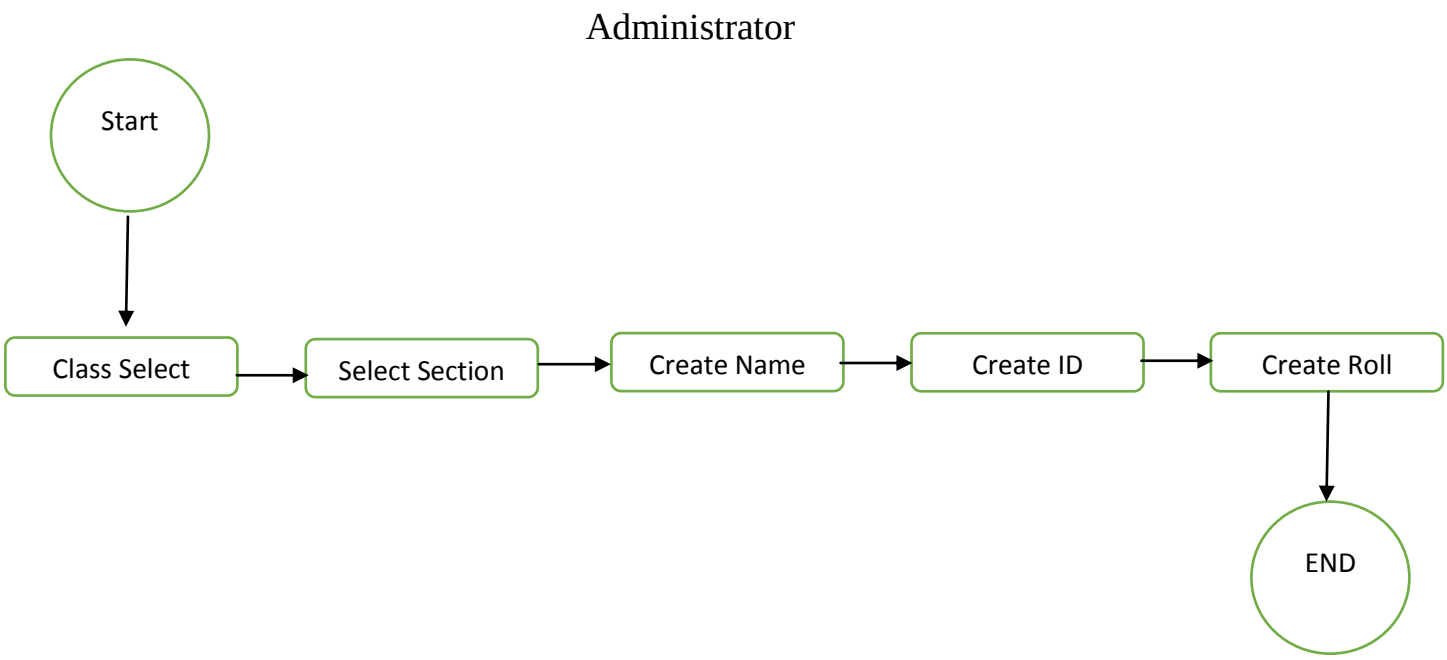

Figure 3.4.1: Use case model of Administration

NOTE: This part is done by the Administrator. It doesn't involve any use of RFID card. Admin can do it from any location as long as the website is accessible.

Student

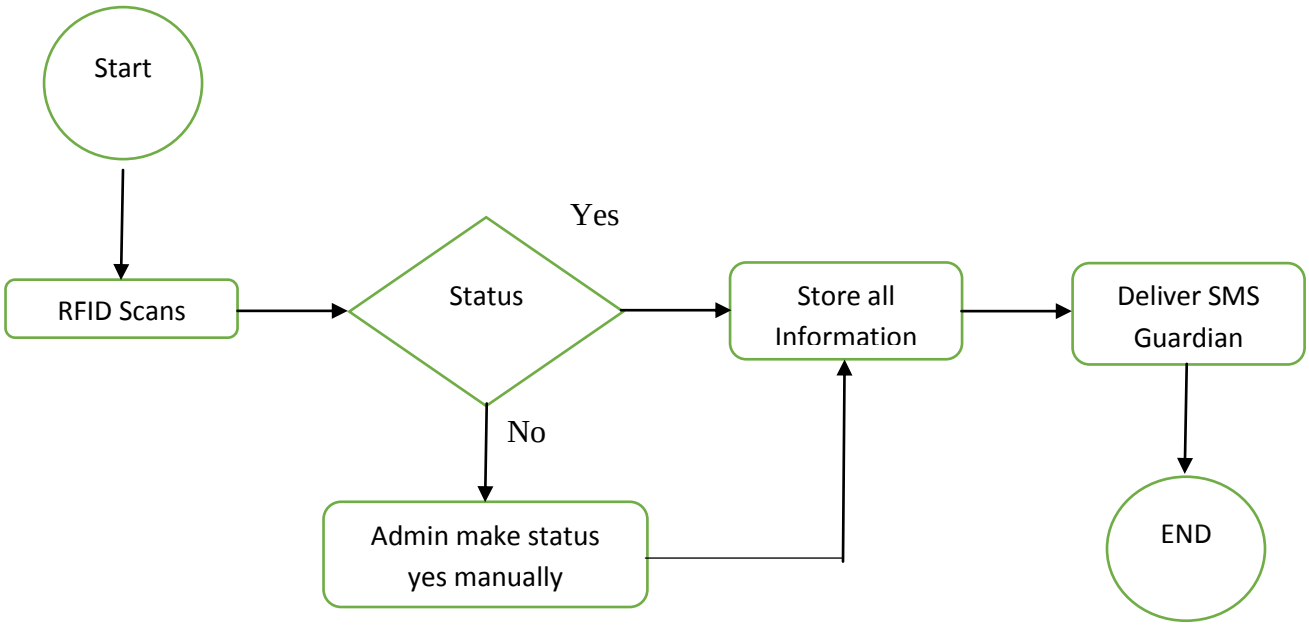

Figure 3.4.3: Use case model of Student

Teacher

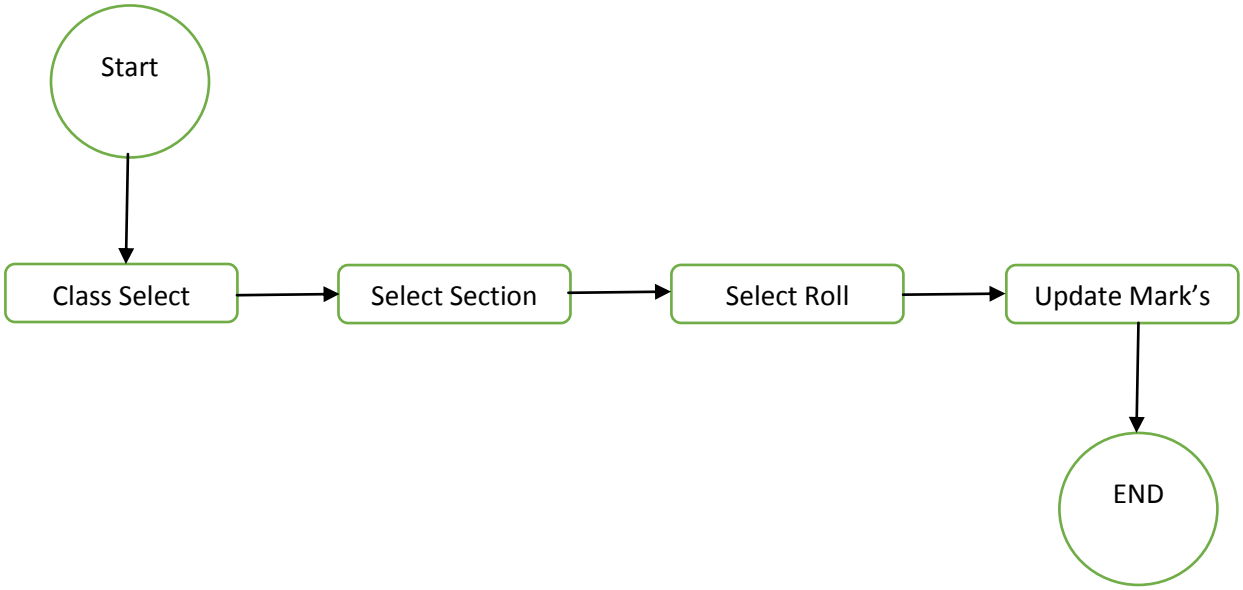

Figure 3.4.4: Use case model of Teacher

NOTE: This part is done by the Teacher. It doesn't involve any use of RFID card. The user can do it from any location as long as the website is accessible.

Guardian

Figure 3.4.5: Use case model of Guardian

NOTE: This part is done by the Guardian. It doesn't involve any use of RFID card. The user can do it from any location as long as the website is accessible.

3.5 GUI Navigation Menu

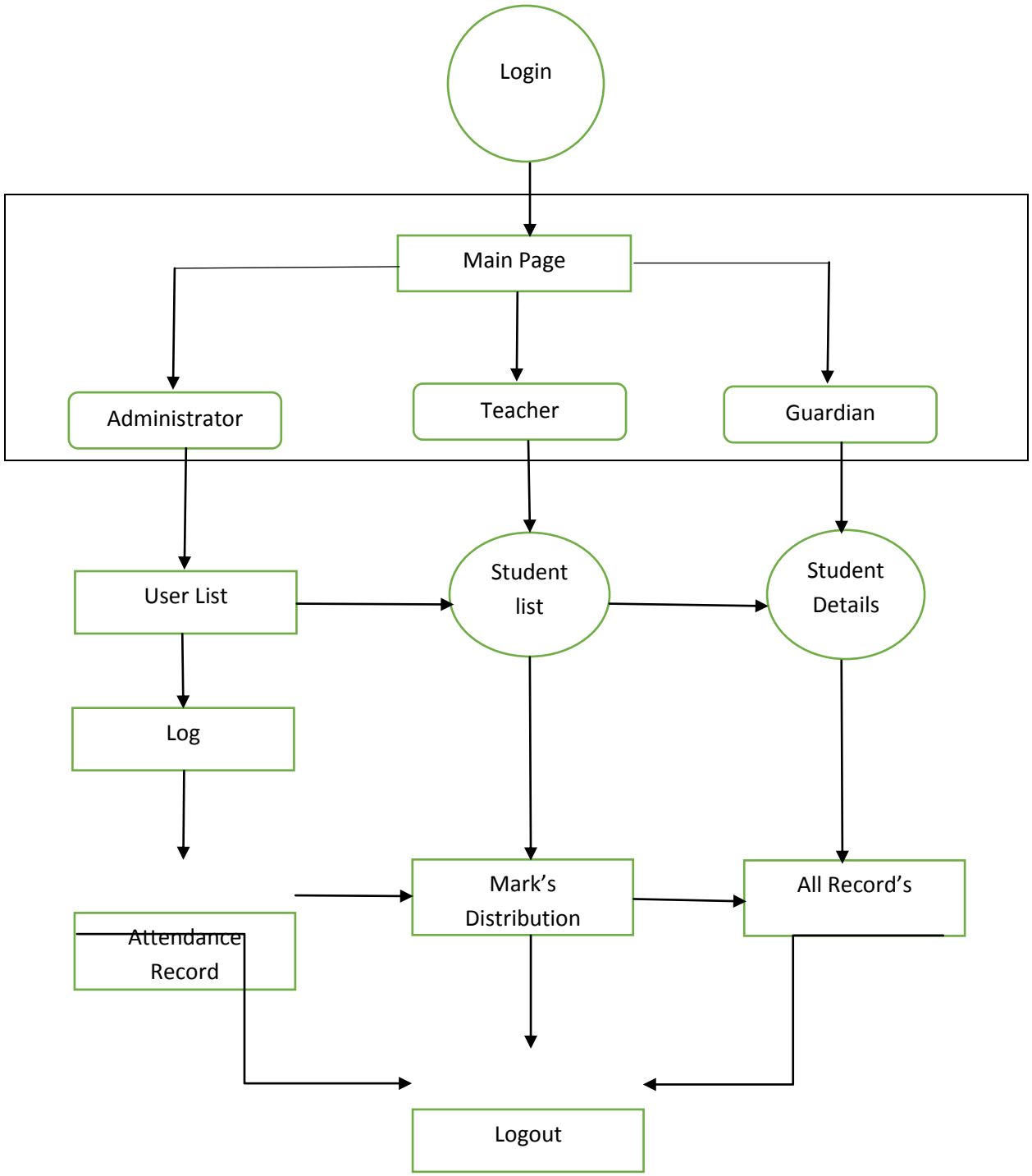

Figure 3.5 : GUI Navigation Menu

3.6 Logical Data Model

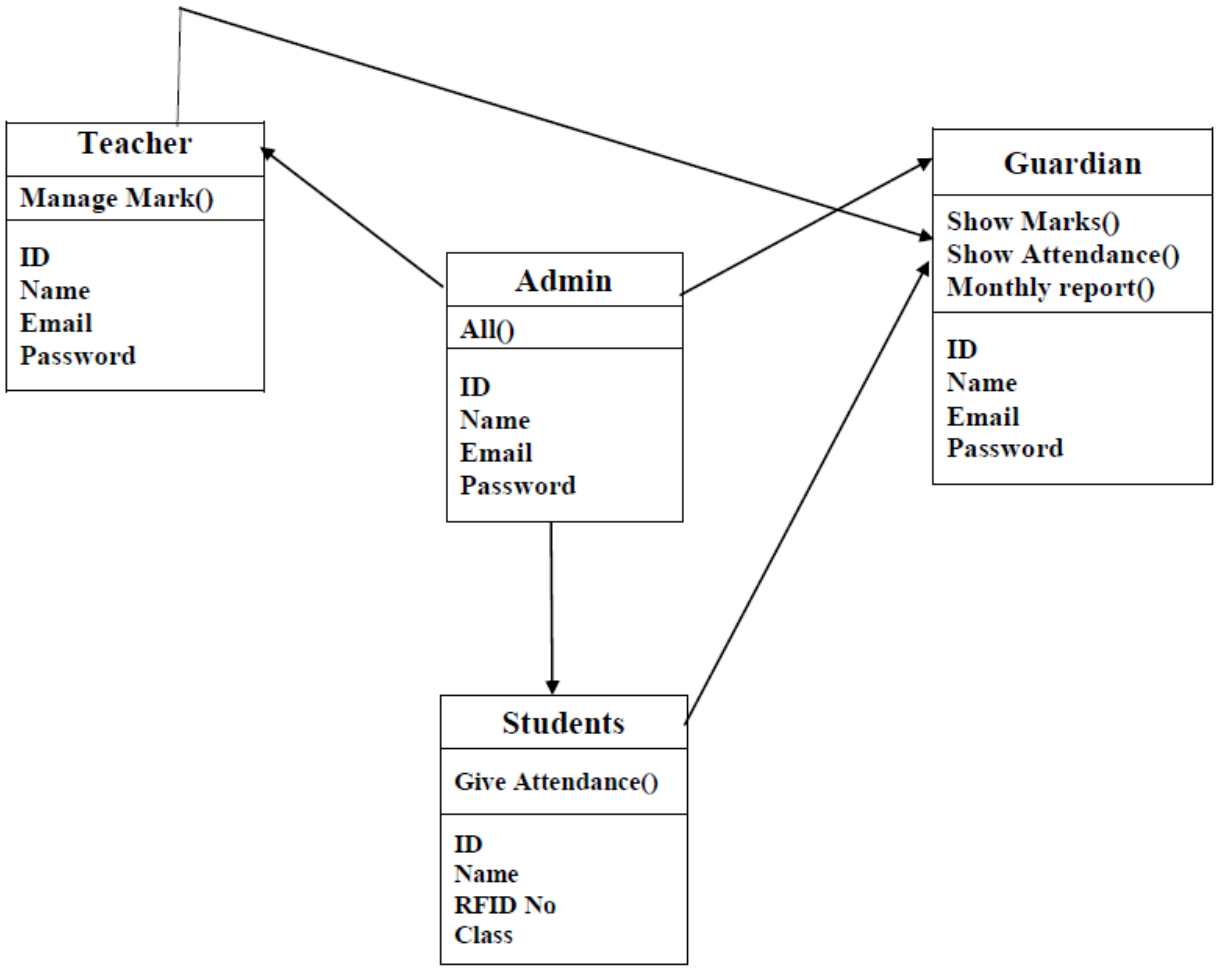

Figure 3.6 : Logical Data Model

3.7 Design Requirement

A design specification gives details information about the project characteristics to set criteria of the developers will need to meet. Its use is called where a structure or a system product has to be specially made to meet a need. Use case diagram has given a review of a framework by demonstrating the working procedure figure and use case is demonstrating the relationship of the framework by their capacity.

CHAPTER -4
DESIGN SPECIFICATION

4.1 Front-end Design

The Front-End design is everything involved with what the user sees. Basically, this design dealt with presentation layers. Which is the only way to connect with the system? Front-End design is the most important and crucial part of our system. The main theme of the front-end design is to make sure that when a user opens the site, they will able to find all the information with an easy format. We develop our Front-End by

- HTML
- CSS
- Bootstrap
- JavaScript

4.1.1 Add New Student

If we want to add new student name in our system then the user will use the page to add a new student. But user has to fill up the following requirement to keep the student list authentic.

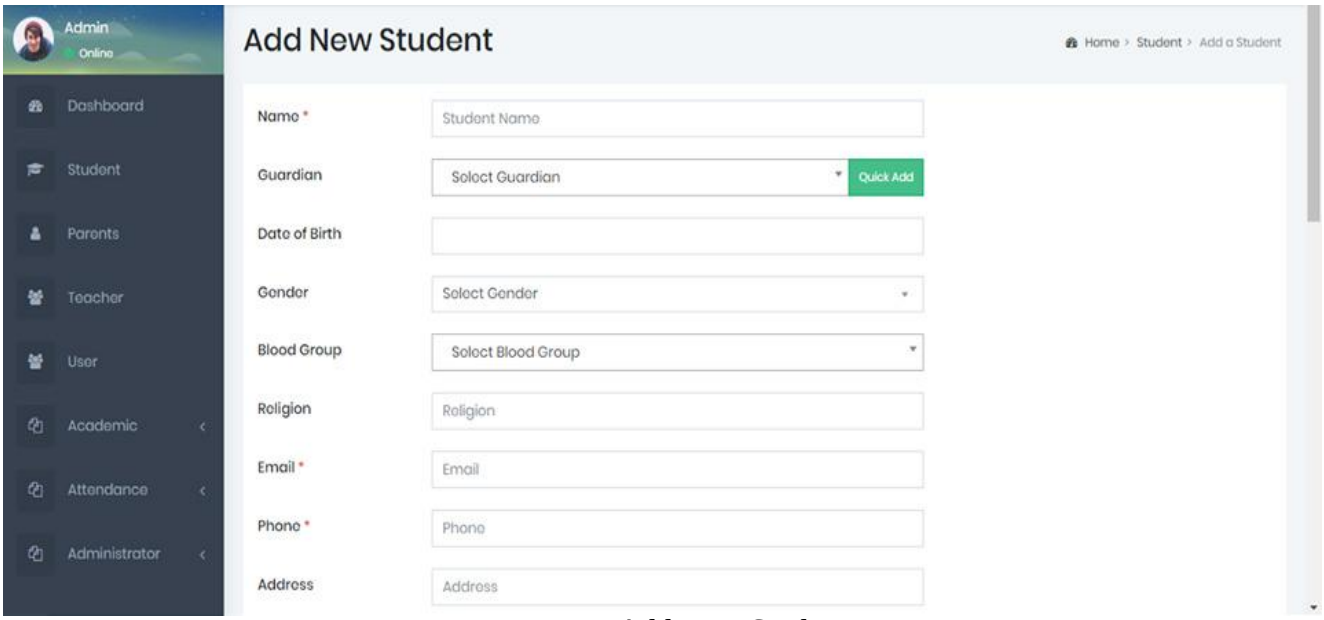

Figure 4.1.1 Add New Student

4.1.2 Student List

The whole student list will be visible here. Also, user can check student information through this page.

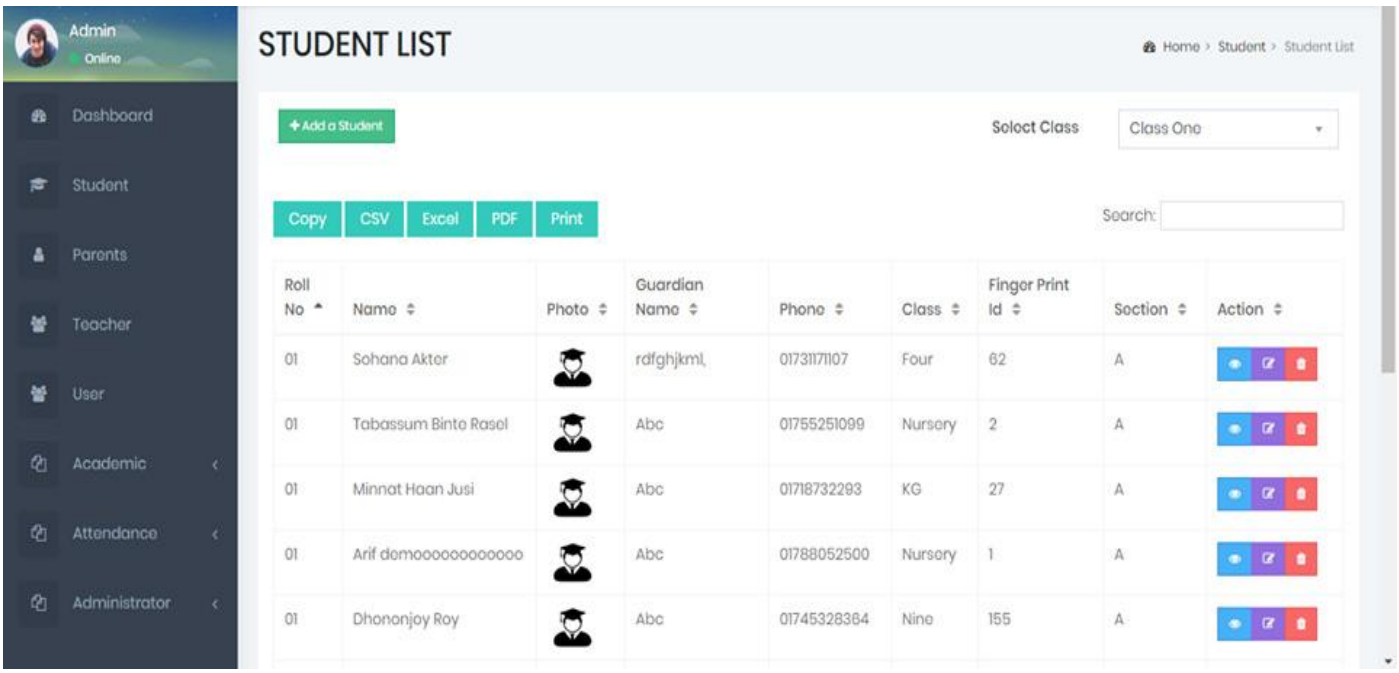

Figure 4.1.2 Student List

4.1.3 Student Attendance

Though student attendance will be collected through RFID reader if the user wants to check indicated student attendance update then he can check it through this step.

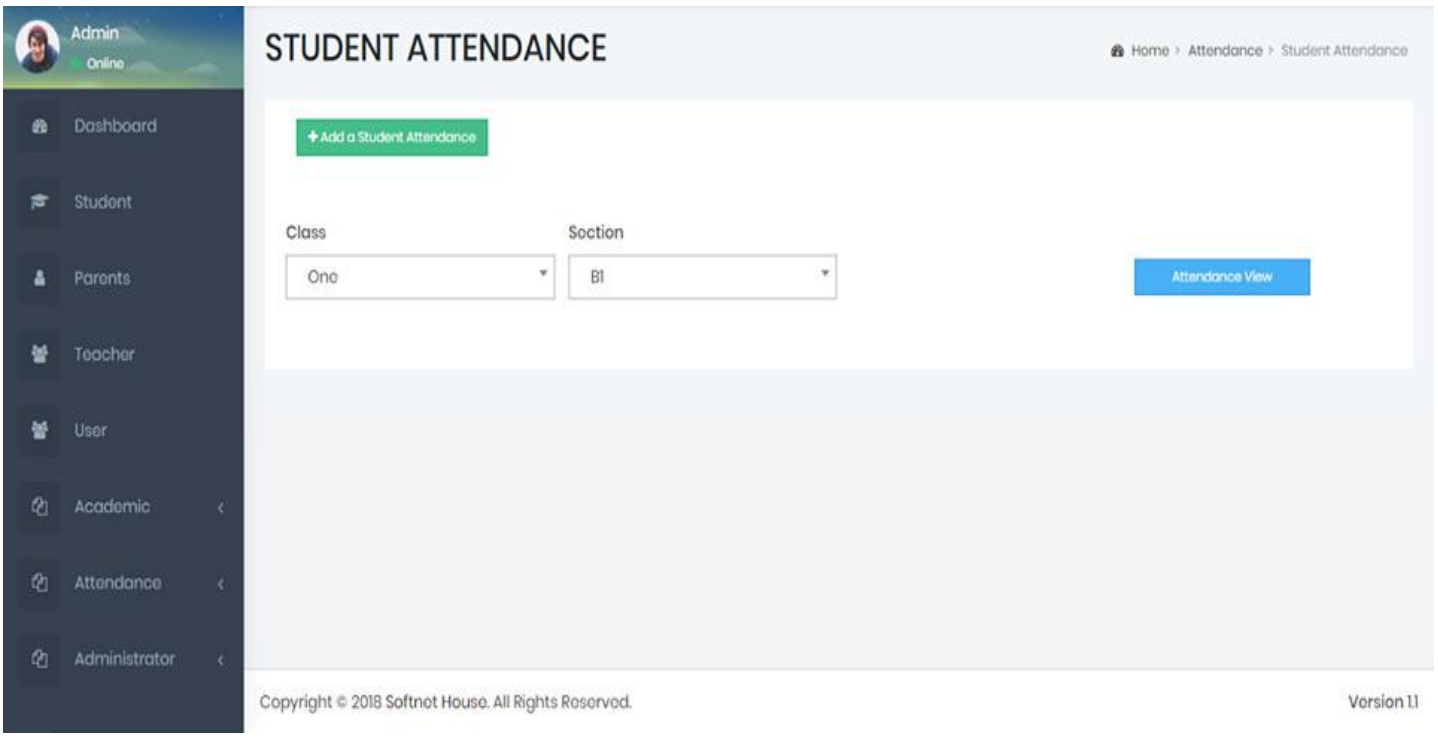

Figure 4.1.3 Student Attendanc

4.1.4 Dashboard

Through the Dashboard, user can check the summary of every day's attendance. Also, the user will get the update list of absent students list.

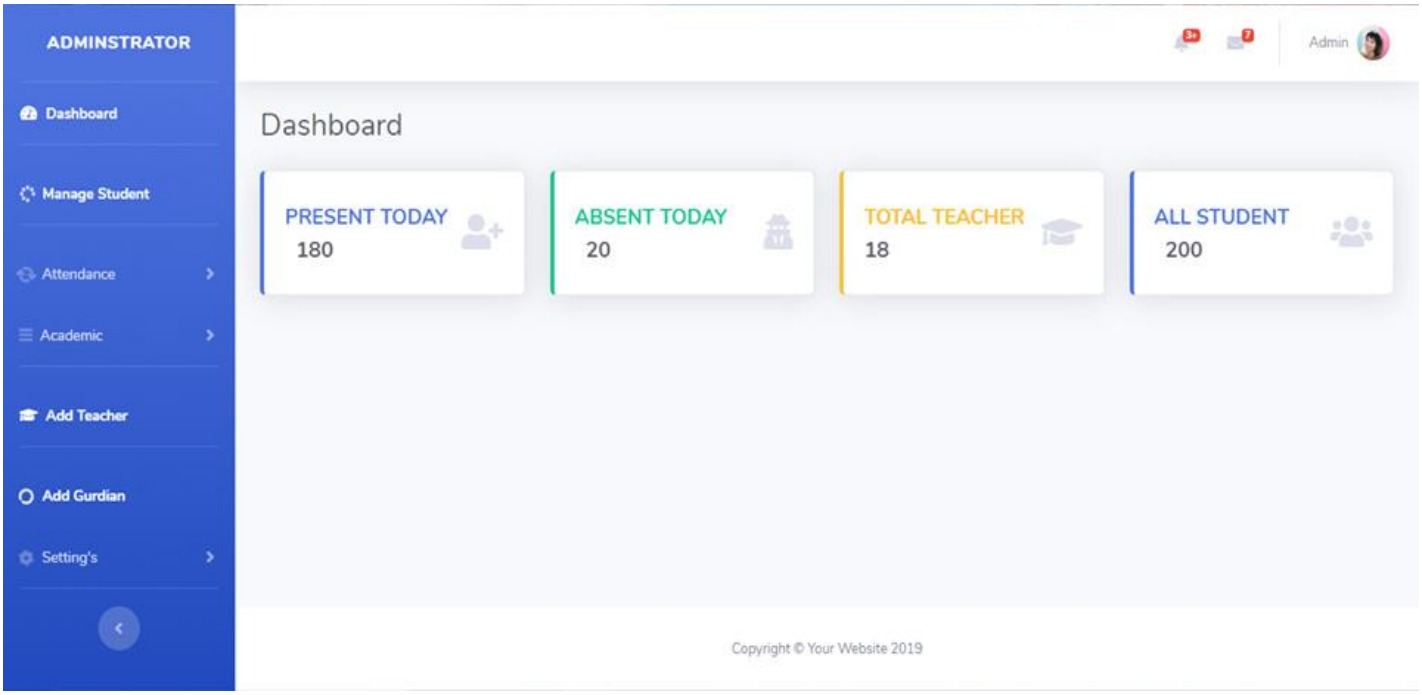

Figure 4.1.4 Dashboard

4.1.5 Add New Teacher

When user will add new teacher then he/she (user) have to fill up the following requirement regarding the new teacher.

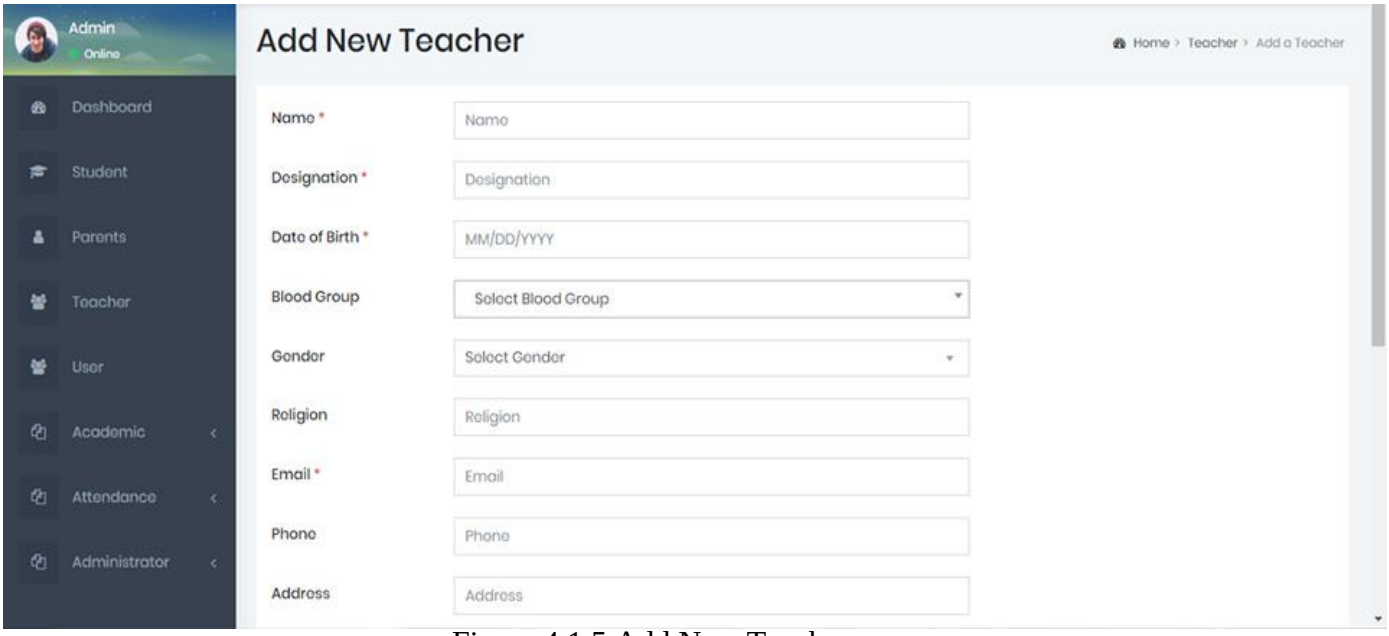

Figure 4.1.5 Add New Teacher

4.1.6 Add Parents

When a new student will join the institute then a new parents name will also be included in the server. Through the parents, information system will send SMS (Short Message Service) to the parents.

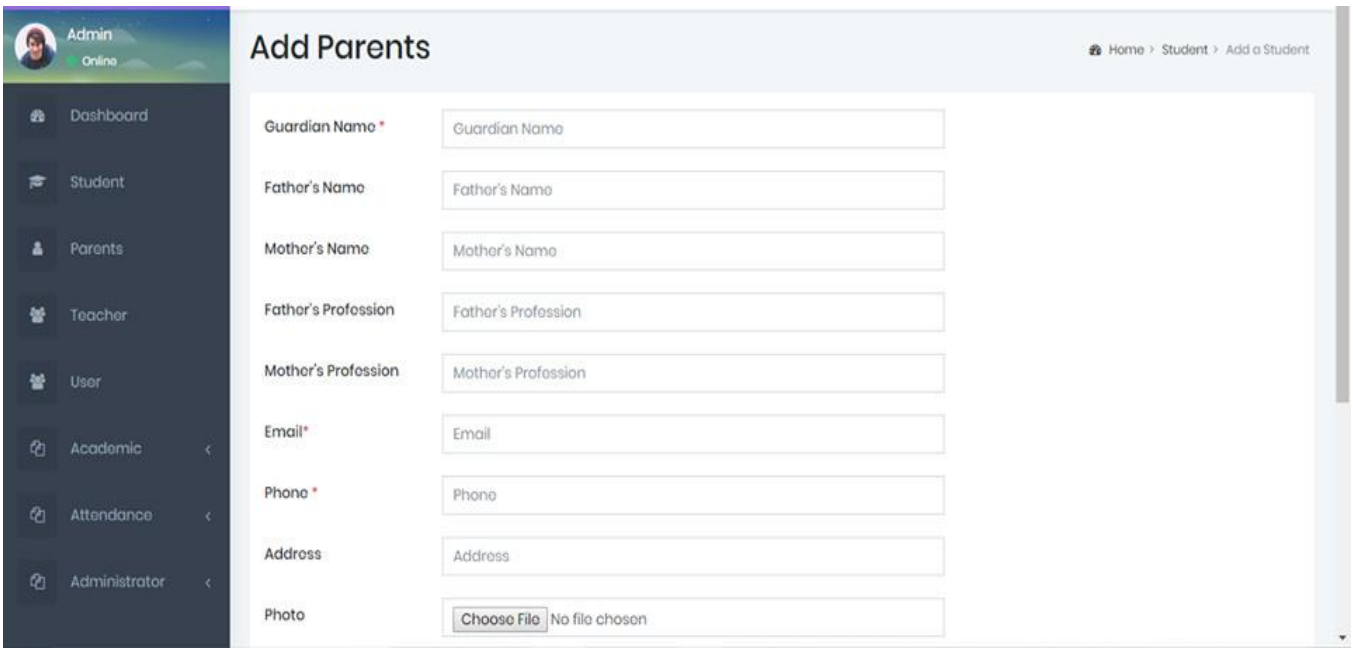

Figure 4.1.6 Add Parents

4.1.7 Parents List

The user also can check the parent's list. Also, user can look after the updated of information about parents.

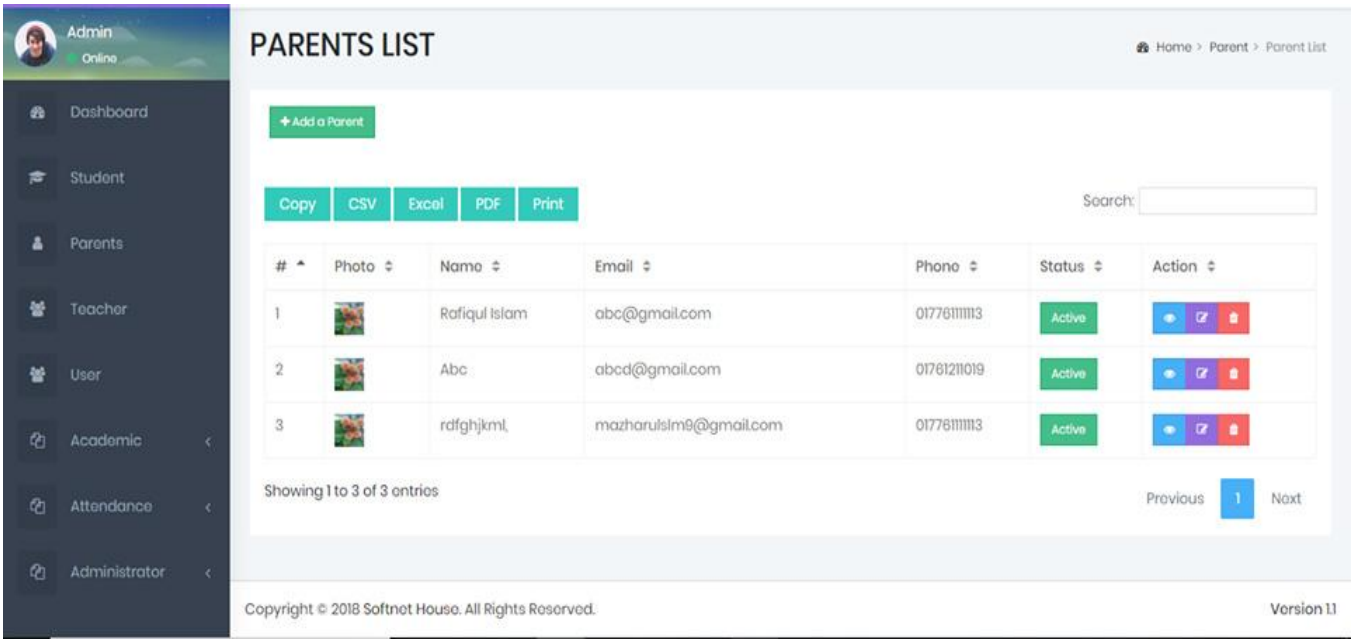

Figure 4.1.7 Parents List

4.2 Back-end Design

A back-end design is a type of programming where creates a logical data implementation of website, software or any kind of information system. Back end Development refers to the server side of development where you are fundamentally centered around how the site functions. Code written by back end developers is the thing that conveys the database data to the program. Anything you can't see effectively with the eye, for example, databases and servers are crafted by a back-end developer [10]. Our back-end is done by

- PHP
- Laravel
- MySQL

CHAPTER -5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The implementation stage is the place you introduce the DBMS on the required equipment, enhance the database to run best on that equipment and programming stage, and make the database and burden the information. The underlying information could be either new information has gotten clearly or existing data imported from any DBMS. Designers moreover develop database security in this stage and give the diverse customers that engineer's recognized access appropriate to their necessities.

The following are the steps in the implementation phase:

- Install the DBMS.
- Tune the setup factors as demonstrated by the equipment, programming, and use conditions.
- Create the database and tables.
- Load the data.
- Set up the users and security.
- Implement the backup regime.

5.2 Implementation of Front-end design

Front end advancement is the manner by which a familiar plan really gets actualized on the web. Brad Frost says "Somewhere between design—a world of personas, pixels, and polish—and engineering—a world of logic, loops, and Linux—lies frontend design. Frontend design involves creating the HTML, CSS, and presentational JavaScript code that makes up a user interface." [11].We have built up our front-end by JavaScript, HTML, CSS, and Bootstrap. Our core design is JavaScript. Because JavaScript a lightweight interpreted or JIT- compiled programming language with first-class function. While it is the most well-known as the scripting language for web pages. JavaScript is a prototype-based multi-paradigm, dynamic language, supporting object-oriented, imperative and declarative styles. It can be asked why we used JavaScript.

The reasons are

- JavaScript is client side language.
- JavaScript is an easy language to learn.
- No compilation needed.
- Easy to debug and test.
- Event-based programming language
- Procedural programming capabilities.[12]

Beside that JavaScript, we also used HTML, CSS, and Bootstrap for making the Front-end more attractive and effective.

5.3 Implementation of Interaction

In order to make our system (RFID Based Student Monitoring System Using Web Application) interactive we make the Graphical User Interface responsive. Also, we build a well-strong server for a hassle-free service. The design of the system is user-friendly. Moreover, Users will able to use the system as long as they are logged in.

5.4 Testing Implementation

Implementation testing, for the most part, alludes to the route toward testing usage of specialized particulars. Execution is the way toward putting an activity for the detailed arrangement. Before we execute, the arrangement ought to have been finished and our destinations ought to be clear Testing every last one of those activities planned in the arrangement is said to be usage trying.

Table 5.4: Testing Implementation

Test Case	Test Input	Expected Outcome	Obtained Outcome	Status	Date
1. Admin Login	Login via web browser using "Admin ID" & "Password"	Successfully login as admin	Successfully login as admin	Pass	29 March, 2019
2. Teacher Login	Login via web browser using "Teacher ID" & "Password"	Successfully login as teacher	Successfully login as teacher	Pass	29 March, 2019
3. Guardian Login	Login via web browser using "Teacher ID" & "Password"	Successfully login as guardian	Successfully login as guardian	Pass	29 March, 2019
4. Password	Input incorrect password or empty field	Show warning massage "Incorrect Username or Password" or "The Field is Empty"	Show Warning	Pass	29 March, 2019
5. Logout	Click "Logout" button	Logout	Logout	Pass	29 March, 2019

5.5 Test Result and Report

The test report is wanted to reflect testing result in a formal way, which gives a scope estimated testing results speedily. Implementation is the way towards putting an activity for the detailed arrangement. Before we implement, the arrangement ought to have been finished and our goal ought to be clear Testing every last one of those activities planned in the arrangement is said to be execution trying. If the system passes through all types of Testing then it is ready to launch so that we can carry out the results as the benefits of usability testing.

CHAPTER 6

CONCLUSION AND FUTERE SCOPE

6.1 Discussion and Conclusion

The system will help users to get information about the student's attendance. It will save time and reduce difficulties. Through the system, Educational Institutions will be under a paperless attendance system. The system is still is testing service. The system will come with more upgrades and new features in the future. It can be modified in many ways.it will be upgraded with its more evaluation report also we have a plan to expand in every type of institution those who need the digital attendance procedure.

6.2 Scope for Further Development

- System features will upgrade day by day for a better experience.
- The new features will be added based on user feedback.
- The system will have implemented by new User Interface if needed.
- Artificial Intelligence enhancement will be implemented to make the system fast and more durable.
- Security will be more updated.
- We will take security as a major part to be improved.
- More security steps will be taken as many users information will be in our database.

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APPENDIX

Project Reflection:

From the summer-2017 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 "RFID Based Student Monitoring System Using Web 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.

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INTRODUCTION 1.1 Introduction From the very Beginning of the modern civilization Education sector is always plays a significant role throughout the world. Development of technology in this sector is the most important factors of all. The major reason for the system is to provide respected institution attendance of the students with a proper report and notification system. This type of process is still based on paper documentation. RFID can improve this system and perform various action automatically. In this report, there is a proposal to improve student monitoring system using RFID technology that will provide safe and secure services for both parents and respected institute with a lower operational cost. RFID stands for Radio Frequency Identification. Radio-recurrence distinguishing proof or known as RFID utilizes electromagnetic fields to naturally recognize and track labels connected to objects. The labels contain electronically-put away data. Aloof labels gather vitality from an adjacent RFID per user's questioning radio waves. Dynamic labels have a neighborhood control source, (for example, a battery) and may work many meters from the RFID per user. Not at all like a scanner tag, the label requires not to be inside the observable pathway of the per user, so it might be implanted in the followed question. Fundamental RFID has three parts: 1. An Antenna or curl 2. A transmitter (with decoder) 3. A transponder (RF tag) RFID tags will be helpful for contributing to the student monitoring system. Everywhere in this world, RFID plays an important role in digital factory or Industry, RFID has also been found to be of great help in improving the records of student attendance where the digital of these operations improves their efficiency and safety. This contribution reviews the state-of-the-art of RFID for monitoring applications, describing the contributions to improve monitoring services and discussing the limitations. We already know that a lot of effort has been put into software development, but most of the time a detailed study of the physical layer is not properly conducted. It describes a basic RFID system for tracking and monitoring system in educational institutions & provides additional details about implementation aspects that must be considered to ensure proper functionality of the system. The scope of the RFID system described in this contribution is restricted to a little area but the architecture is fully scalable to cover the needs of a monitoring system in the Educational Institutions. This monitoring system is a growing trend in the Educational Institutions ensuring the attendance of every student. The method of authentication by manually is ineffective in Educational Institutes environment. Using smart cards improves the authentication system between students and Institutions reducing time costs which makes this technology more efficient. RFID technology can improve the monitoring facility by ensuring the link between the Educational Institutions and the students and also with parents. This paper presents an RFID based student monitoring system with the web-enabled secured