

**DEVELOPMENT OF A WEB BASED
ATTENDANCE MANAGEMENT AND ADMIT
CARD GENERATOR SYSTEM**

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NOAKHALI SCIENCE AND TECHNOLOGY
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DEVELOPMENT OF A WEB BASED ATTENDANCE MANAGEMENT AND ADMIT CARD GENERATOR SYSTEM

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This project proposal submitted to the Department of Information and Communication Engineering, Noakhali Science and Technology University, in partial fulfillment of the requirements for the degree of B.Sc. (Eng.) in Information and Communication Engineering.

**Department of Information and Communication Engineering
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DECLARATION

I hereby declare that this project report has not been submitted elsewhere for the requirement of any kind of Degree, Diploma or Publication.

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ACCEPTANCE

This project report is submitted to the Department of Information & Communication Engineering, Noakhali Science & Technology University, Sonapur, Noakhali in partial fulfillment of the requirements for having the B.Sc. degree in ICE.

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ABSTRACT

This paper contains features for class teachers to track student attendance, generate class attendance reports. The outcome demonstrates that this system can assist school or university administrators in managing student attendance. Furthermore, a student can pay exam fees based on the average attendance of the entire subject throughout the current semester. In addition, a student can use this system to generate his or her exam admit card for the upcoming exam. As a result, this project is often beneficial for a student to quickly monitor his entire semester's actions rather than the traditional complex method.

In this project, our proposed system as named “Web based Attendance management and admit card generator system” will implemented for students and teachers. Basically, we focus on this system for simplify the attendance management procedure for students at a university.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND STUDY

The most prevalent issue with a manual attendance system is that the class teacher must manually record each student's daily attendance in the attendance book. If the attendance book is lost or misplaced, it might pose serious problems because the teacher requires the attendance record in order to analyze and generate an attendance report. Another issue is that the teacher will take longer to evaluate and prepare the attendance report since the instructor must first search and refer to the previous attendance record. Besides that, an error could occur if the teacher make the computations to generate the attendance report by itself.

This project addresses a strategy for analyzing and generating attendance reports, and developing a prototype of an attendance management system to address this issue. Also, a payment system will be added so that a student can pay his or her test expenses online based on his or her average merit attendance, and a student will be able to receive an admit card for the currently running semester exam, which is a process that has traditionally been very complicated. Every student can use this strategy to reduce the complicated method of learning and wasting time.

1.2 PROBLEM STATEMENT

The following are the problems that the current system has: -

- I. The following are some of the issues with the existing system: -
- II. Teacher takes attendance manually that increases the wasting time.
- III. There's a chance to mistake to count attendance report with something else.
- IV. Students must physically go to the bank to make a payment, which increases the amount of time they waste.

1.3 OBJECTIVE

The project's major goal is to demonstrate a student attendance management system that can automatically track our attendance as well as a payment mechanism for pay exam fees.

In order to accomplish the objective, there are situations need to be considered:

- I. To develop attendance management system on attendance marking automatically.
- II. To store students data in the attendance and other activities in database.
- III. To simplify the payment process for the students without going to the bank.
- IV. To perform speedy attendance and receive better results in less time

CHAPTER 02

LITERATURE REVIEW

2.1 LITERATURE REVIEW

This chapter summarizes significant research on various universities' or institutions' online attendance management system systems. It includes important aspects of online attendance, such as an attendance management system, among other things.

2.2 WEB BASED ATTENDANCE MANAGEMENT

Every class day, the class teacher takes daily student attendance and analyzes the data in our current system. Manually analyzing attendance data and ensuring that the procedure is error-free is tough for teachers. To address this issue, this paper proposes the creation of an Attendance Management System, a web-based application (AMS).

2.3 EXISTING ATTENDANCE MANAGEMENT SYSTEM

Mohammad Ausaf Anwar and Durgaprasad Gangodkar, Department of Computer Science Engineering, Graphic Era University, Dehradun, Uttarakhand, India, "Design and Implementation of Mobile Phones based Attendance Marking System," 2015. [1] The architecture and design

parameters of the Student Attendance Marker Application for Android are presented in this paper. The writers and their team compared the iOS and Android operating systems and came to the conclusion that, while iOS is more resistant to virus attacks and other security risks, Android is less expensive and more advanced due to its open source nature. Users/Lecturers will first download the list of students in the class for which attendance is to be recorded to their device. To save the data, they used SQLite as a local database.

Jun Lio, “Attendance Management System Using a Mobile Device and a Web Application,” Chuo University, Faculty of Letters, 742-1 Higashinakano, Hachioji-shi, Tokyo 192-0393, Japan, 2016. [2] A unique framework for managing attendance is proposed in this research, which comprises of a mobile device and a web application. They've used a mobile device in conjunction with web services. Students' registration information is sent around among the participants one by one. Users can choose between two registration methods: selfie registration or signature registration.

Mahesh G, Jayahari KR, Kamal Bijlani, “A Smart Phone Integrated Smart Classroom “, Amrita e-Learning Research Lab (AERL) Amrita School of Engineering, Amritapuri, Amrita Vishwa Vidyapeetham, Amrita University, India, 2016. [3] This paper involves research and survey to identify how usage of mobile phones at education institutions can be made under the control of authorities and how 1000s of lecture hours can be saved in a year using this device. They propose a mobile application which will help institution authorities to control the students' mobile phones and attendance will be taken by the students itself for saving the time of taking attendance

Ekta Chhatar, Heeral Chauhan, Shubham Gokhale, Sompurna Mukherjee, Prof. Nikhil Jha, “Survey on Student Attendance Management System”, S.B. Jain Institute of Technology, Management and Research, Nagpur, 2016. In this paper, the system deals with the maintenance of the student's attendance. It generates the attendance of the student on the basis of presence and absence in class. The staffs will be provided with the separate username & password. [4]

Md. Milon Islam, Md. Kamrul Hasan, Md Masum Billah, Md. Manik Uddin, “Development of Smartphonebased Student Attendance System”, Department of Computer Science and Engineering Khulna University of Engineering & Technology, Khulna-9203, Bangladesh, 2017. In this paper, the system is able to mark attendance, marking intruders’ entry, attendance percentage calculations, send emails, and send SMS to the guardian to keep them updated about their child’s attendance at the Institute. The designed system allows for internet access from any location and at any time, which can greatly aid the course instructor in keeping track of their students’ attendance. Android API level 19 is used by the system. As an IDE, the application is developed using the Eclipse Android ADT bundle. The phone database was an internal SQLite database, and the web server database was www.golapmilonkuet.byethost16.com. The MySQL database is stored on the server.

Karwan Jacksi, Falah Ibrahim, Shahab Ali, “Student Attendance Management System”, University of Zakho, Iraq, 2018. 6] In this paper, the system is designed in a way that can differentiate the hours of theoretical and practical lessons since the rate of them is different for calculating the percentages of the student’s absence.

2.4 COMPARISON BETWEEN THE EXISTING SYSTEM AND OUR SYSTEM

SI. No	Paper Title	Methodology	Advantages	Limitations	Difference to us
1	Design and Implementation of Mobile Phones based Attendance Marking System for	The architecture and design specifications of Student Attendance Marker Application on an Android platform are presented. Users/Lecturers on their device will fetch the list of students of the class for which attendance is to be recorded.	Flexible to use, Reduce errors, Save time	More prone to hacking or being misused by other physical attacks	Payment system with exam fees. Upgrading the system
2	Attendance Management System using a Mobile Device and a Web Application, Department of Socio-informatics,	In this paper, a novel framework for the attendance management is proposed, which consists of a mobile device and a web application. Users can select one from two options, registration by selfie or registration by signature. After the registration, the ID	Save time, Registration by selfie.	There is no increase of the feedback comments.	In our system have on registration via selfie

Faculty of Letters Chuo University of and name which have been already registered are removed from the list of participants.

- | | | | | | |
|---|--|---|---|---|----------------------------------|
| 3 | A Smart Phone Integrated Smart Classroom | To determine how authorities can control the use of mobile phones in educational institutions and how 1000s of lecture hours can be saved per year using this device to determine how authorities can control the use of mobile phones in educational institutions and how 1000s of lecture hours can be saved per year using this device | Save time, reduce errors, Face recognition | Automatic switching of profile to airplane mode in Android versions 4.1 i.e. Jelly Bean and above are restricted by Android due to security reasons | Upgrade system, Face recognition |
| 4 | Survey on Student Attendance Management System | By this system generates the attendance of the student on the basis of presence and absence in class. The staffs will be provided with the separate username & password | Save time, Best technology use like Eclipse Android ADT bundle as IDE, SQLite and MySQL | Not automated | Upgrade system |

- | | | | | | |
|---|---|---|------------------------------|---|---|
| 5 | Development of Smartphone based Student Attendance System | The designed system allows for internet access from any location and at any time, which can greatly aid the course instructor in keeping track of their students' attendance. | Best technology used | Can be used only in smartphone Android base, we use web based | they use |
| 6 | Student Attendance Management System | Karwan Jacksi, Falah Ibrahim, Shahab Ali, University of Zakho, Iraq, 2018. In this paper, their system structure are calculating the percentages of the students absence | Save time, Reduce extra work | Past attendances are not stored. | User interface, past and present all data store |

2.5 SUMMERY

All of the following research is essential. Is it straightforward for consumers to use a online attendance system? Will they be able to put it to good use? Is the system working for them? Such questions have yet to be answered. We will design and test a model for web-based attendance management system as part of our project. We anticipate that our research will fill a gap in the literature on attendance management system usability.

CHAPTER 3

METHODOLOGY

3.1 METHODOLOGY

We will first analyze our current course registration system, identify the problems with it, and then develop web based Attendance Management System to simplify the attendance count process for university students.

3.2 ANALYSIS OF THE CURRENT SYSTEM

At present in our current attendance system are operated manually which is a traditional system that requires teachers to fill student attendance sheets manually. This process is so lengthy and time waste for every teachers and students. Moreover after end of the semester all students average attendance data to find out the percentage of attendance. When students gets 70% attendance or above then the students can attend to the exam hall. By this process before sitting the exam students must pay exam fees to the bank which this process is time waste for every students .After paying exam fees the students will take admit card from the exam control office which all the process are manually offline.

3.3 PROPOSED SYSTEM

By addressing the current system, I tried to find out the better solution and helpful for both students and teacher. After research I have decided to make web base application like attendance management system which the teachers can take students attendance automatically by the system. And students can get his attendance details and also can pay his exam fees via this system. The proposed system consist of admin module, student module, teacher module, batch wise course coordinator module, and so on.

3.3.1 Use Case Diagram of the Proposed System

A use case is a system analysis methodology for identifying, clarifying, and organizing system needs.

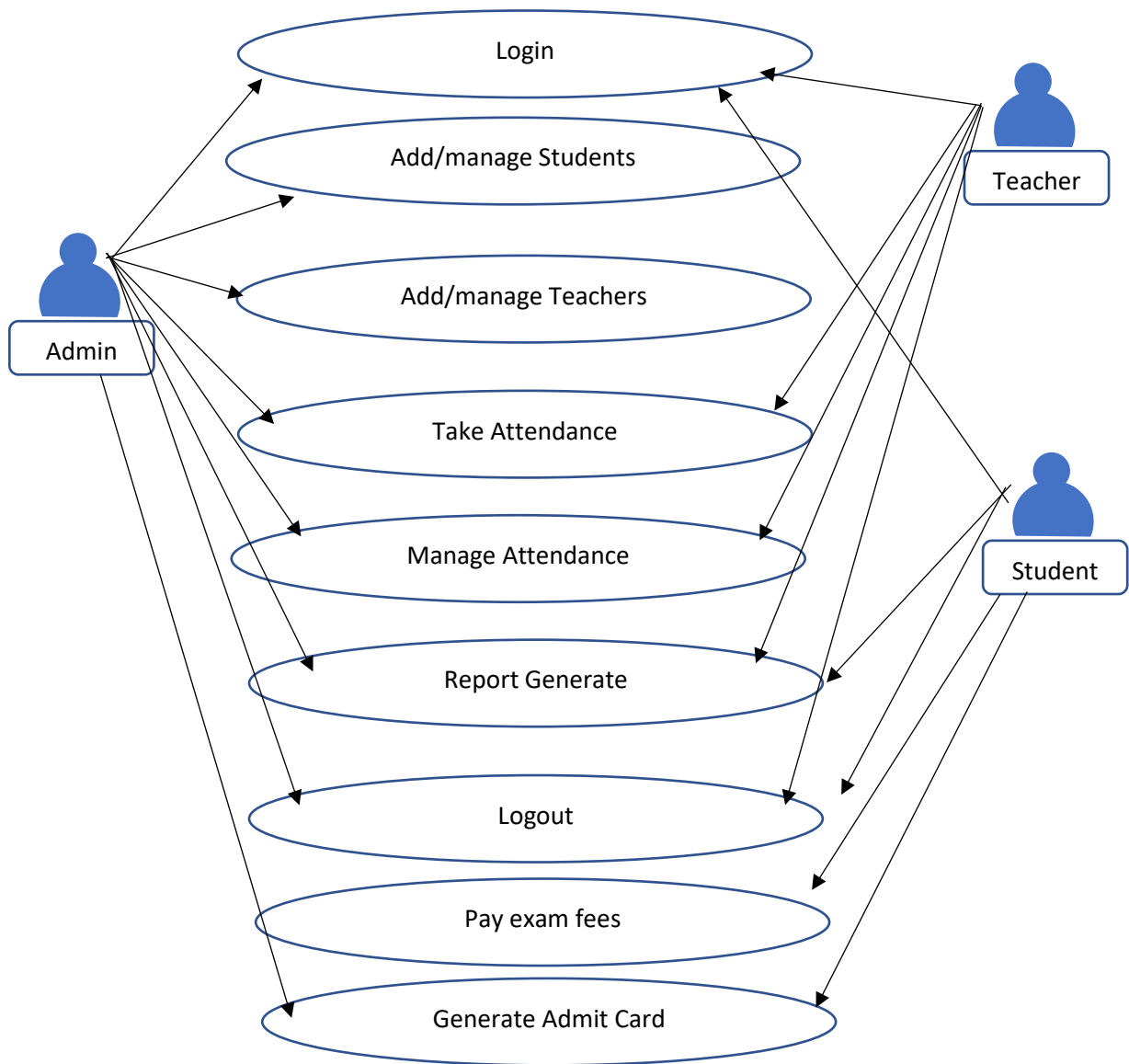


Figure 3.1: Use case diagram for propose system

3.3.2 Database Diagram of the Proposed System

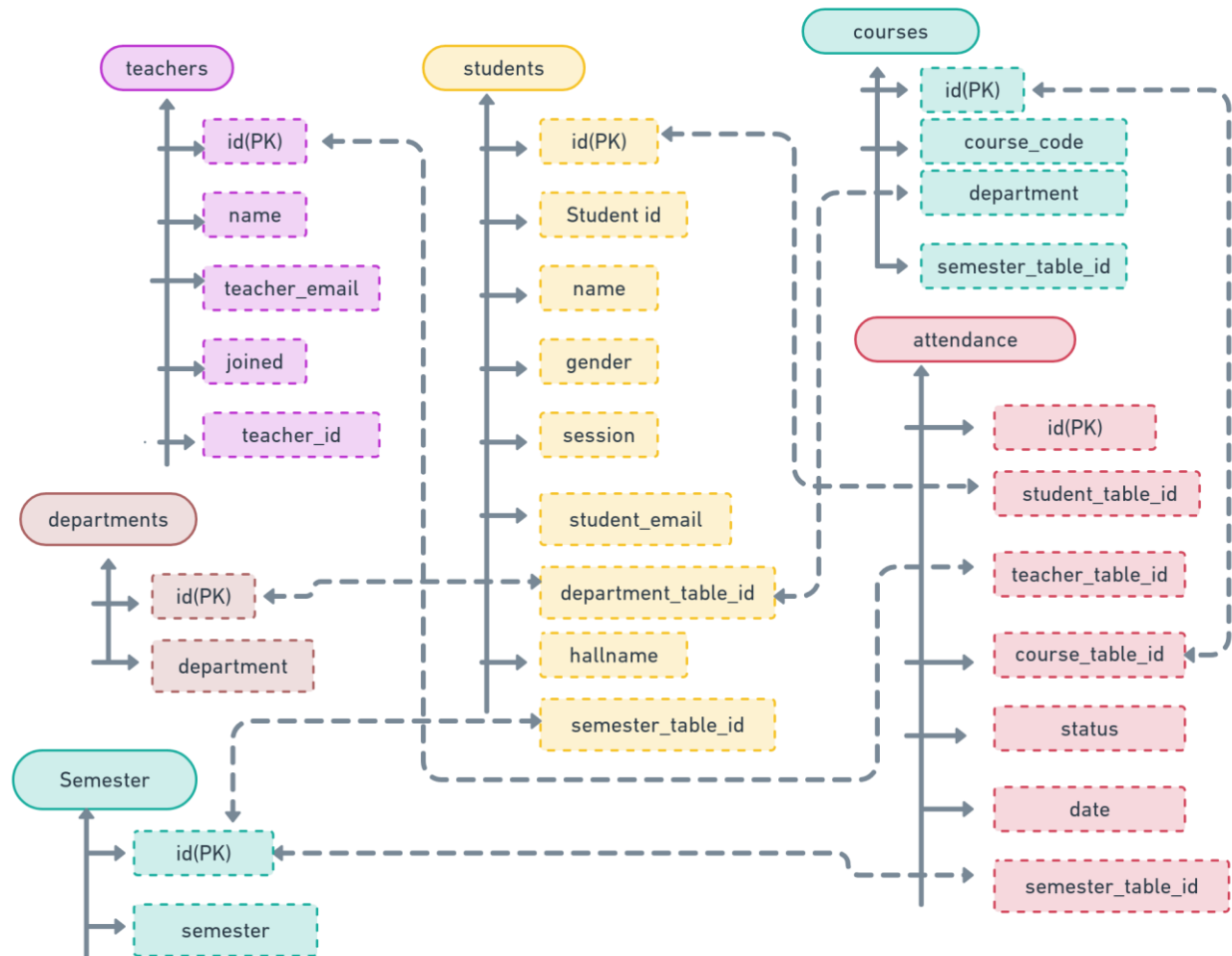


Figure 3.2: Database of Attendance Management System

3.3.3 Flowchart Diagram of Admin

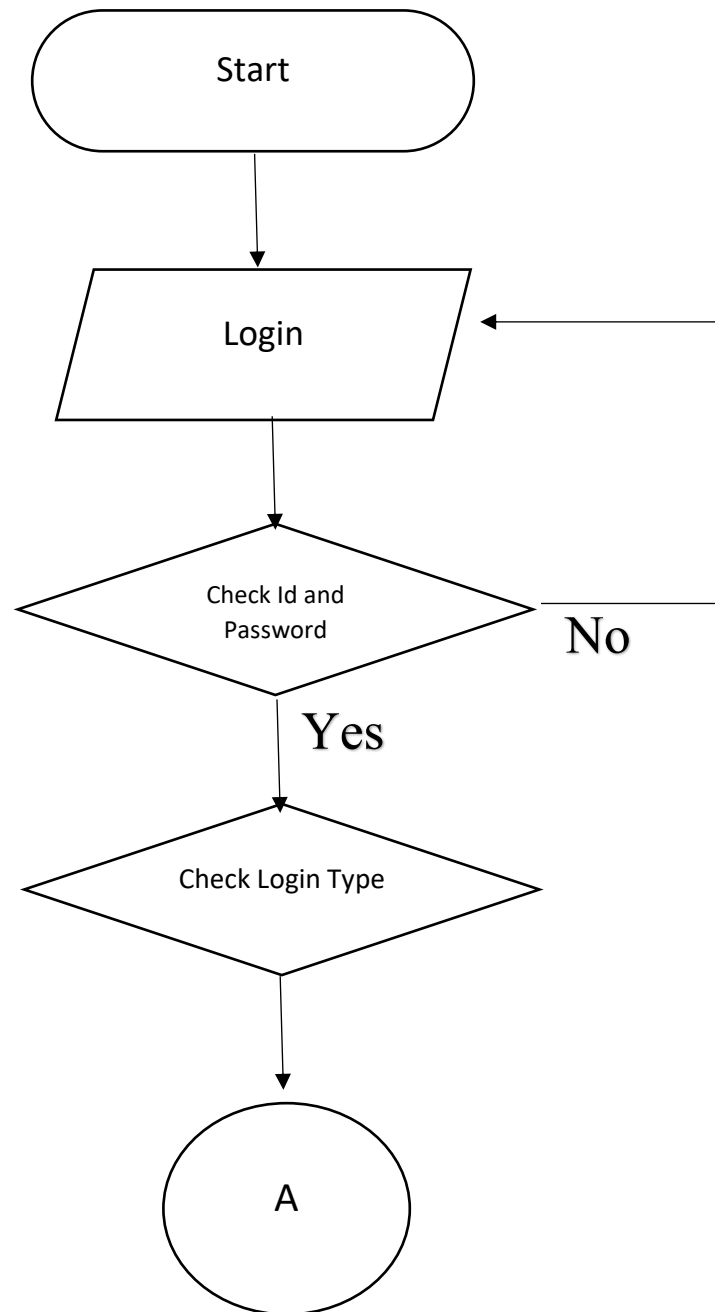


Figure 3.3: Flowchart Diagram of Admin

3.3.4 Flowchart Diagram of Teacher

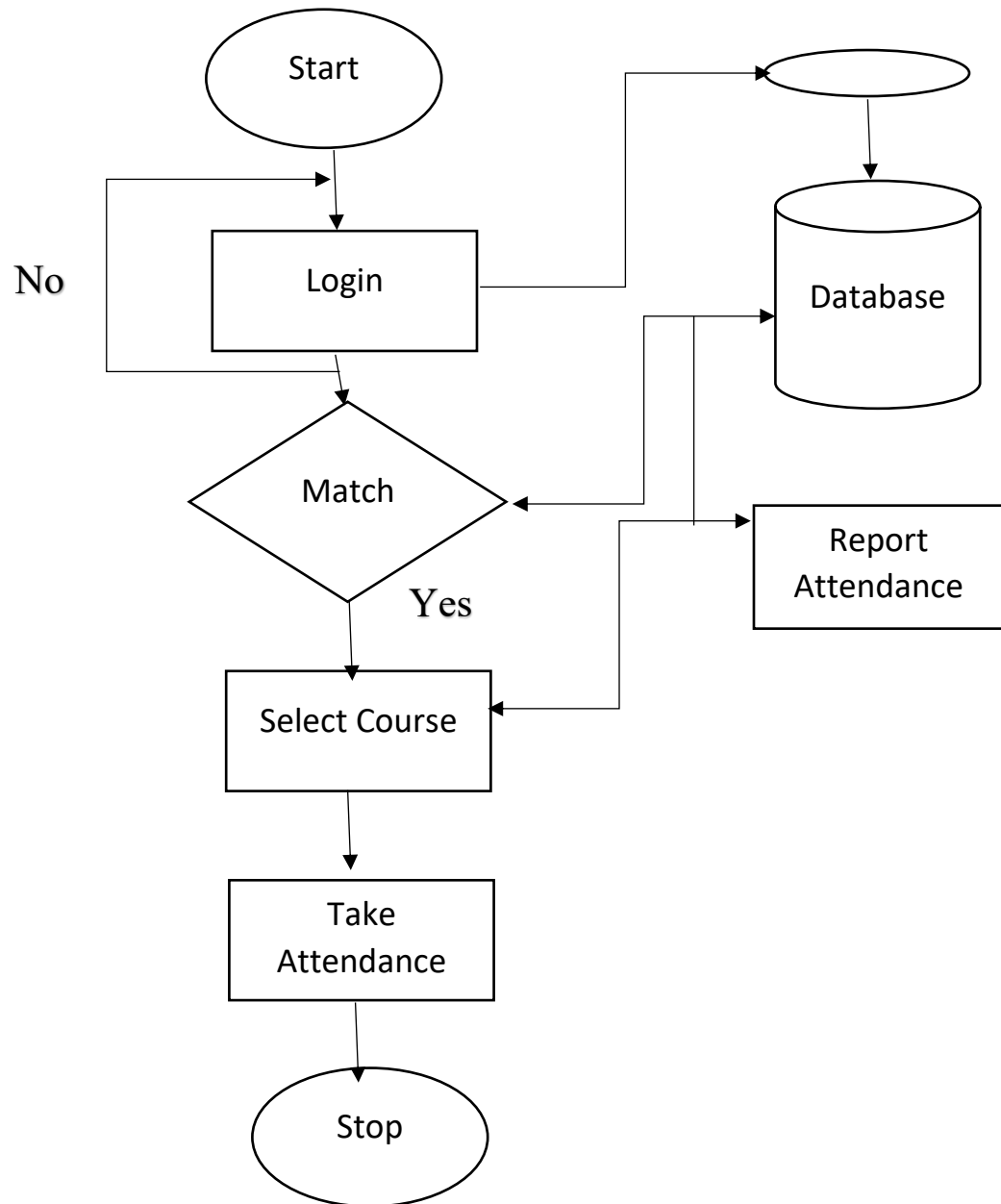


Figure 3.4: Flowchart Diagram of Teacher

3.3.5 Flowchart Diagram of Student

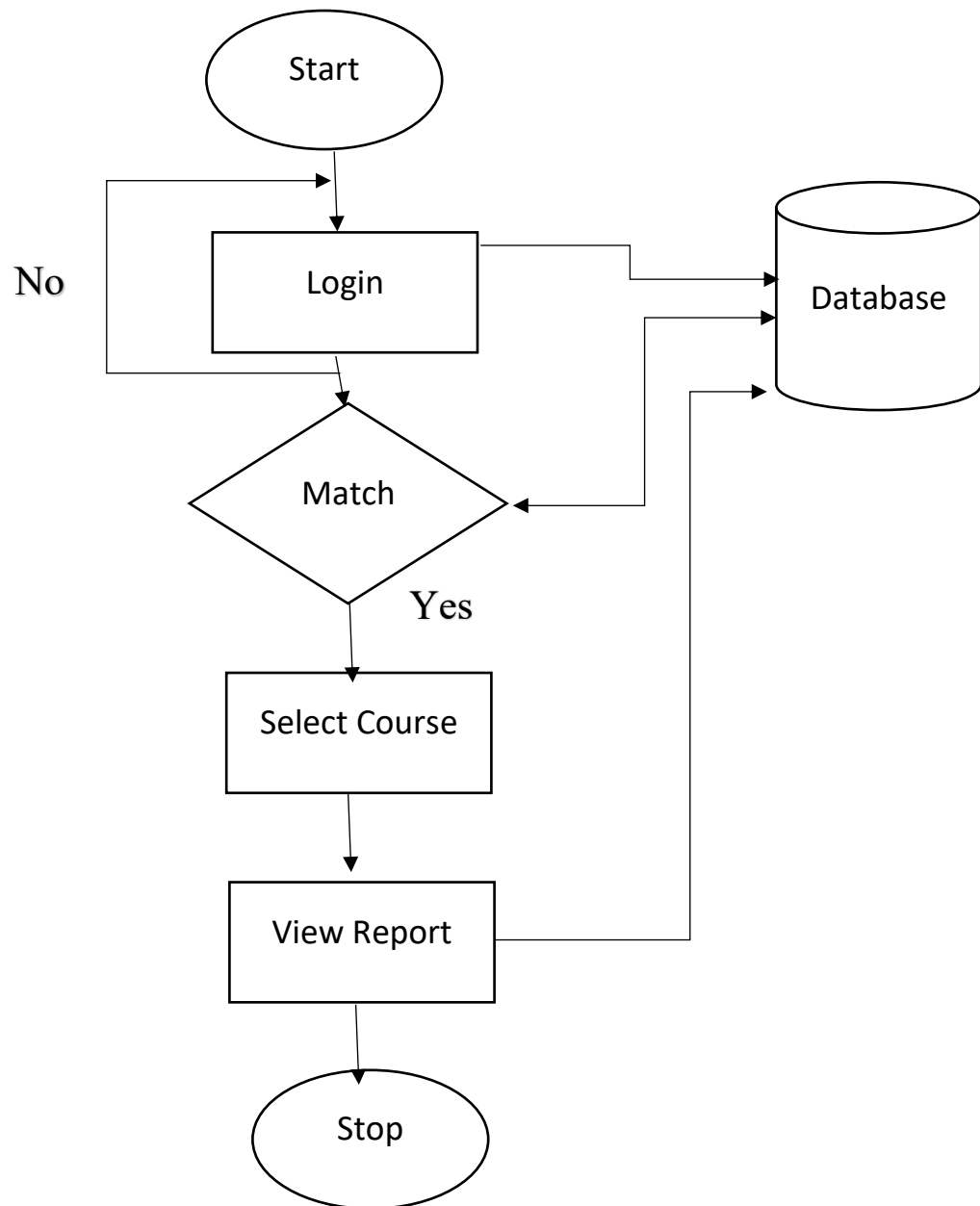


Figure 3.5: Flowchart Diagram of Student

3.4 PROJECT DEVELOPMENT TOOLS

During develop I use the following tools for my project.

3.4.1 Software Language Tools

HTML5

HTML is a markup language that is used to generate web pages. We'll see that writing down the text we want to appear on our website is a good place to start. We can also use tags or elements to tell the browser what a heading is, where a paragraph starts and stops, and so on.

CSS3:

CSS3 allows you to control the styling and layout of web pages using rules. Then we'll look at the various CSS attributes that you can use in your CSS rules.

React:

A JavaScript library for building user interfaces. React is an open-source JavaScript package that is used to create single-page applications' user interfaces. For web and mobile apps, it's utilized to manage the view layer. We can also make reusable UI components with React.

Material UI:

Material-UI is a library that allows us to import and use multiple components to create a user interface in our React applications. Material design is a popular visual design system created by Google. Its goal is to make it easier for designers and developers to create applications that appear the same across all platforms. On all operating systems and platforms, apps that follow material design principles look beautiful and professional.

Node.js:

Node.js is an asynchronous I/O framework that uses Google's V8 JavaScript engine and is event-based. It's used to create apps that focus heavily on the ability to run JavaScript on both the client and server sides, and so benefit from code reuse and the lack of context switching. It is cross-platform and open-source. Node.js applications are written purely in JavaScript and may be run on Windows, Linux, and other platforms.

PostgreSQL:

PostgreSQL is an object-relational database management system (ORDBMS) developed at the University of California at Berkeley Computer Science Department. POSTGRES pioneered many concepts that only became available in some commercial database systems much later. PostgreSQL is an open-source descendant of this original Berkeley code. It supports a large part of the SQL standard and offers many modern features like complex queries, foreign keys, triggers, updatable views, transactional integrity, multiversion concurrency control

3.4.2 Hardware Interface

For server side and client side the following hardware interfaces are:

Processor:

Processor type: Pentium III-comparable processor or faster.

Processor speed: Minimum: 1.0GHz, Recommended: 2.0GHz or faster.

Memory:

RAM: 2GB

Minimum: 512 MB

Recommended: 2.048 GB or more

Maximum: Operating system maximum

Disk Space:

Minimum 6 GB or above

3.4.3 Software Interface

Following software interfaces are:

Operating System: Windows XP /vista/7/8/10

Browser: Latest any kind of browser like:

- i. Mozilla Firefox
- ii. Google chrome
- iii. Internet Explorer

- iv. Microsoft Edge
- v. UC Browser
- vi. Opera

CHAPTER 4

EXPECTED RESULT

4.1 LOGIN PAGE

User login page for access to the account.



The logo of Noakhali Science & Technology University (NSTU) features a shield with a blue background. At the top, a red flame rises from a yellow base. Below the flame, the letters 'N', 'S', 'T', and 'U' are arranged in a row. The shield is flanked by blue wavy lines. At the bottom, a yellow gear contains a black infinity symbol.

**Noakhali Science & Technology
University**

Sign In

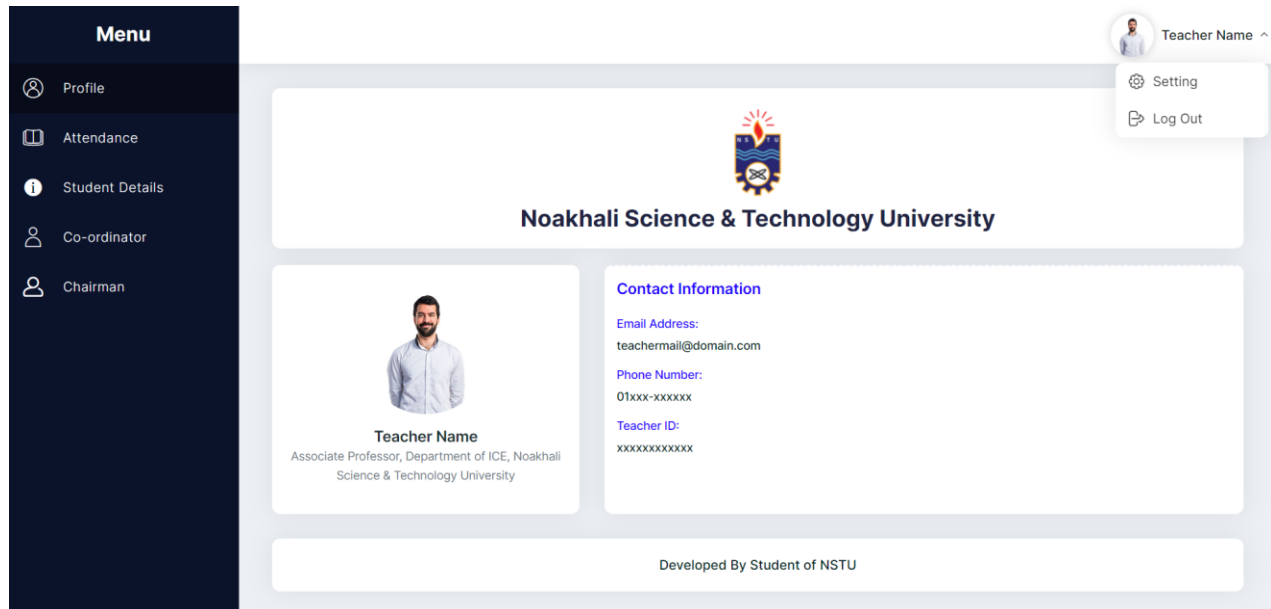
 I'm
Teacher

 I'm
Student

Sign In

4.2 TEACHER DASHBOARD PAGE

After login teacher can see this view of dashboard. Teacher can operate his account by this interface.



4.3 TEACHER COURSES PAGE

A teacher can see his courses which is running or completed courses.

The screenshot displays the 'Teacher Courses Page' for Noakhali Science & Technology University. On the left is a dark blue sidebar menu with the title 'Menu' and five items: 'Profile', 'Attendance', 'Student Details', 'Co-ordinator', and 'Chairman'. The top right corner shows a user profile for 'Sir Einstein'. The main content area features the university's logo and name. Below this, there are three tabs: 'ALL COURSES' (selected), 'RUNNING COURSES', and 'COMPLETED COURSES'. The 'ALL COURSES' tab displays a grid of six blue course cards. Each card lists the session (2018-2019), semester, and course code.

Session	Semester	Course Code
2018-2019	3rd	CSE-311
2018-2019	6th	ICE-652
2018-2019	6th	EEE-631
2018-2019	1st	CSE-111
2018-2019	2nd	EEE-221
2018-2019	3rd	EEE-331

4.3 ATTENDANCE PAGE

A teacher can take attendance for the students and this submitted data will store in database

Menu

- Profile
- Attendance
- Student Details
- Co-ordinator
- Chairman

Teacher Name

Data Table with Checkbox select
Attendance was taken for 26/9/2021
EDIT

Show All entries
Search:

	Student ID	Name	Session	Attendance Status
☒	19120500F	Angelica Ramos	2018-2019	PRESENT
☐	19120500M	Tiger Nixon	2018-2019	absent
☒	19120500M	Ashton Cox	2018-2019	PRESENT
☒	19120500M	Bradley Greer	2018-2019	PRESENT
☒	19120500M	Brenden Wagner	2018-2019	PRESENT
☐	19120500M	Cedric Kelly	2018-2019	absent
☐	19120500M	Dai Rios	2018-2019	absent
☐	19120500M	Doris Wilder	2018-2019	absent

CHAPTER 5

CONCLUSION & FUTUTRE WORK

5.1 CONCLUSION

Our teachers and students will benefit from an easier way after we finish our project “Attendance Management and admit card generator system”. This web application may assist teachers and students in reducing complexity like time, processing etc. Furthermore, every student can pay his or her exam fees, which adds to the unique characteristics that provide a positive experience for both students and our system.

5.2 FUTURE WORK

The web based attendance management and admit card generator system will be improved in the future in various areas, including visualization and compatibility. Improvements in visualization will focus on offering improved visualization, such as plotting graph charts for comparison and using tables to illustrate details.

PROJECT TIMETABLE

I've included a schedule for completing my project. This isn't an accurate schedule. It's only a rough schedule. I make every effort to complete my project within this time frame.

Activity Plan	Month 1	Month 2	Month 3
Selection of Project and Literature survey			
Front-end Design			
Backend Development			
Testing and modification			
Documentation			

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-<https://www.semanticscholar.org/paper/Development-of-Attendance-Management-System%3A-an-Hawa-Rozlina/ff0c55ebbd9eb2da0ae10f40f5e535ef681df891>

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