TIME TAGGER

A MINI-PROJECT REPORT

Submitted by

KIRUTHIKROKAN B-220701133

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RAJALAKSHMI ENGINEERING COLLEGE

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BONAFIDE CERTIFICATE

Certified that this mini project "**TIME TAGGER-Attendance Management System** " is the bonafide work of "**KIRUTHIKROKAN B-2201701133"** who carried out the project work under my supervision.

SIGNATURE
Mrs. JANANEE V,
Assistant Professor,
Computer Science & Engineering
Rajalakshmi Engineering College
Thandalam, Chennai -602105.

Submitted for the End semester practical examination to be held on _____

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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My sincere thanks to my family members, friends and other staff members of Computer Science and Engineering.

ABSTRACT

The Attendance Management System is designed to streamline the process of tracking attendance in educational institutions. It provides a robust solution for recording the names of absent students, automating a task that is typically done manually. By leveraging a database-driven approach, the system ensures that attendance records are organized, secure, and easily accessible for authorized personnel.

This system features a user-friendly interface that simplifies the attendance-taking process, allowing educators to quickly mark absentees and store their information in real time. The use of digital records minimizes errors, reduces paperwork, and speeds up the process of generating attendance reports. Administrators can also analyze attendance patterns to identify issues and implement corrective measures to improve student participation.

Overall, the Attendance Management System aims to enhance the efficiency of attendance tracking and data management. It plays a critical role in supporting decision-making processes within the institution by providing accurate and up-to-date information on student attendance trends. By automating routine tasks, the system helps to save time and resources while ensuring that attendance data remains reliable and well-maintained.

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CHAPTER 1

1.INTRODUCTION

In educational institutions, tracking and managing student attendance is a crucial task that directly impacts academic performance and administrative efficiency. Traditional methods of recording attendance, which often involve manual processes like roll-calling or paper-based registers, are prone to errors and can be time-consuming. With the rise of digital solutions, there's a growing need for an automated system that simplifies attendance tracking while maintaining accuracy and reliability.

The Attendance Management System addresses this need by offering a streamlined approach to recording and storing absentee information. Designed with an intuitive interface, this system allows educators to quickly mark attendance, reducing the administrative burden and minimizing the chances of mistakes in data entry. By storing absentee records in a centralized database, the system ensures that information is easily accessible for generating reports, tracking student attendance patterns, and making informed decisions to improve overall student engagement.

This system not only saves time and resources but also enhances data management by eliminating the complexities of traditional attendance methods. Its ability to generate accurate, real-time reports supports educators and administrators in monitoring attendance trends, identifying areas of concern, and implementing strategies to address issues of absenteeism. Ultimately, the Attendance Management System fosters a more efficient and transparent attendance process, contributing to the smooth functioning of educational institutions.

1.2. Scope of the Work

- Automated Attendance Recording: The system will provide a digital platform to mark and record attendance, replacing traditional manual methods. Educators will be able to log attendance quickly and accurately, with the system automatically updating the database to store absentee information.
- Database Management: The project will include the development of a centralized database for securely storing attendance data. This database will ensure that all absentee records are well-organized, easily retrievable, and protected against unauthorized access.
- Reporting and Analytics: The system will generate detailed reports on attendance patterns, including daily, weekly, and monthly summaries. These reports will help educators and administrators analyze trends in student participation, identify issues with absenteeism, and implement targeted interventions to address these problems.
- User-Friendly Interface: A key focus of the project is to create an intuitive and easy-to-navigate interface that can be used by both technical and non-technical users. This will enable quick adoption and efficient use of the system by educators, minimizing the learning curve.
- Scalability and Flexibility: The system will be designed to accommodate the needs of institutions of various sizes, from small schools to large universities. It will also be flexible enough to integrate additional features in the future, such as biometric or RFID-based attendance tracking, if required.

1.3. Aim and Objectives of the Project

- The primary aim of the Attendance Management System is to develop a reliable, automated solution for efficiently recording, tracking, and managing student attendance in educational institutions, enhancing data accuracy, reducing manual workload, and providing actionable insights into attendance patterns.
- Objectives:
    - To eliminate manual attendance recording by implementing a digital system that allows educators to mark and store attendance quickly and accurately.
    - To create a secure, centralized database for storing absentee records, ensuring easy access and retrieval of information.
    - To provide detailed reports on attendance trends and patterns, enabling educators and administrators to identify and address issues of absenteeism effectively.
    - To ensure the privacy and protection of student information through encryption and access control measures.
    - To develop an intuitive and user-friendly interface that simplifies the attendance management process for educators and administrative staff.
    - To design the system to be scalable for institutions of various sizes and capable of integrating with existing school management systems for a seamless data exchange.

CHAPTER 2

SYSTEM SPECIFICATION

2.1. SOFTWARE SPECIFICATIONS

Operating System : WINDOWS 11

FRONT – END :

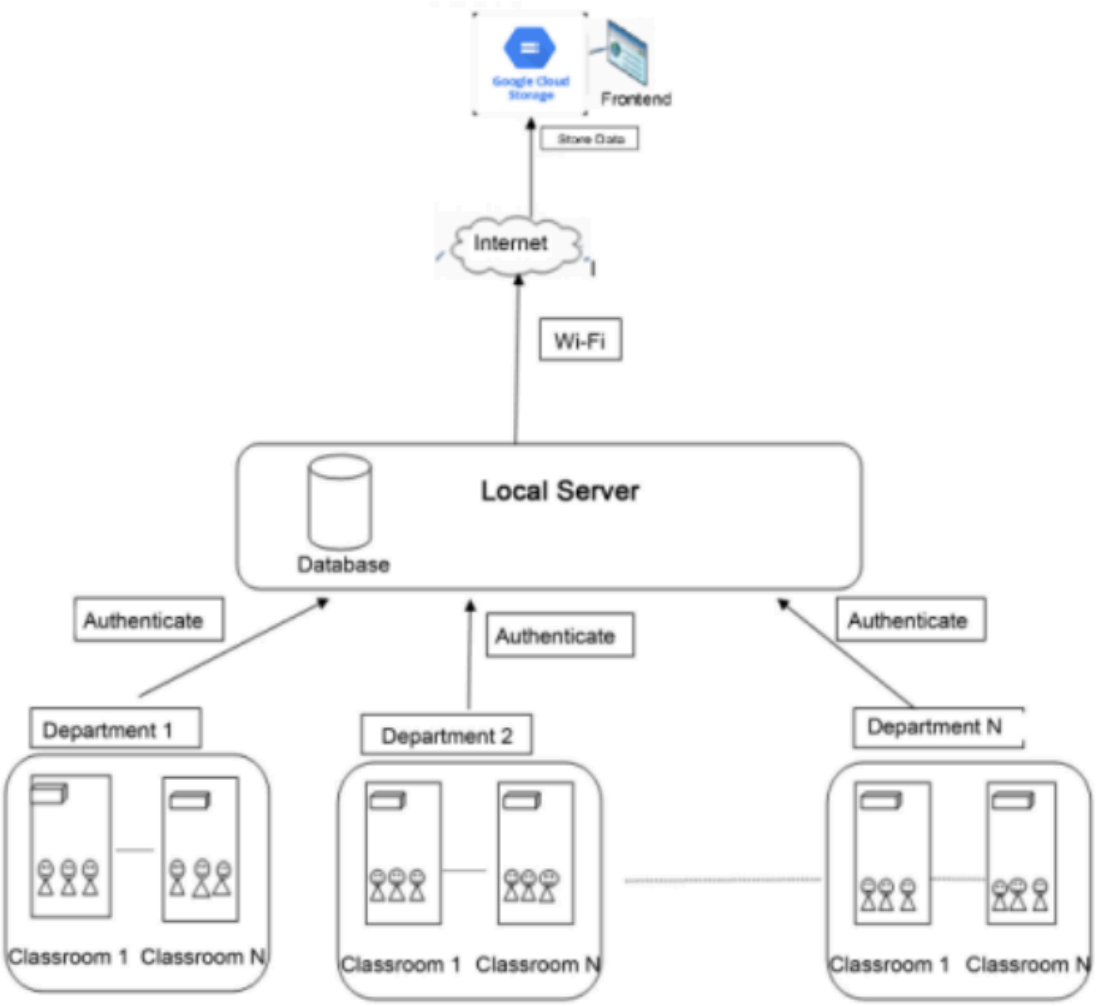
- HTML
- CSS
- JAVASCRIPT

BACK – END :

- PHP
- XAMPP

CHAPTER 3

ARCHITECTURE DIAGRAM



CHAPTER 4

MODULE DESCRIPTION

4.1. User Registration and Login Module:

Users register with institutional emails (e.g., @rajalakshmi.edu.in), selecting their role (student, admin, recycler). After secure login, they access role specific dashboards. Users can update their profiles, including personal details and passwords, with encrypted storage for security

4.2. Attendance Marking Module:

The core module of the system allows teachers to mark the attendance of students easily. This can be done manually by selecting present or absent for each student or through automated methods like barcode scanning or RFID, depending on future enhancements. The attendance data is instantly stored in the database for further use.

4.3.Database Management Module:

This module is responsible for handling the centralized storage of attendance records and student information. It ensures that the data is organized, easily retrievable, and secured from unauthorized access. It also supports data backup and recovery to prevent data loss.

4.4.Reporting and Analytics Module:

The reporting module generates various types of attendance reports, including daily, weekly, monthly, and individual student reports. It also provides analytical insights into attendance trends, highlighting patterns and identifying students with frequent absences. These reports are useful for decision-making and for taking corrective actions to address absenteeism.

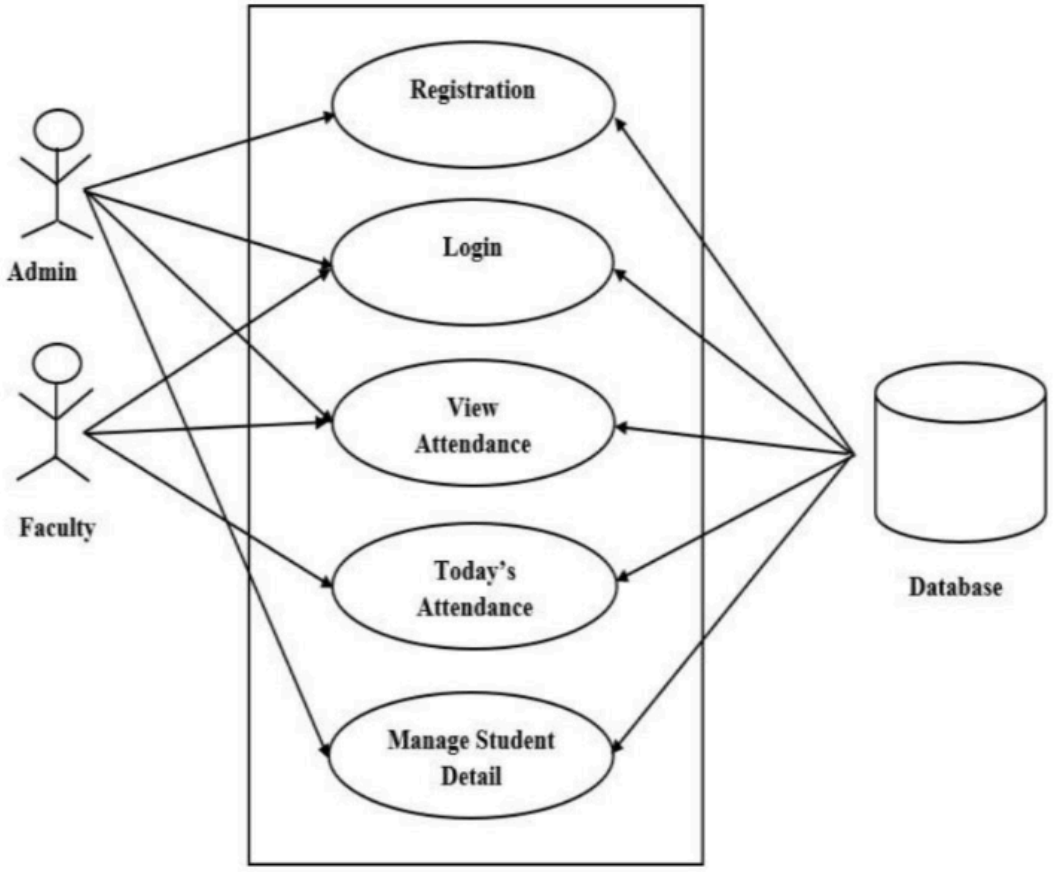
4.5.Notifications and Alerts Module:

This module is designed to send automated notifications or alerts to students and their guardians in case of frequent absences or low attendance percentages. It can also notify teachers and administrators about upcoming deadlines for attendance submission or any discrepancies in attendance records.

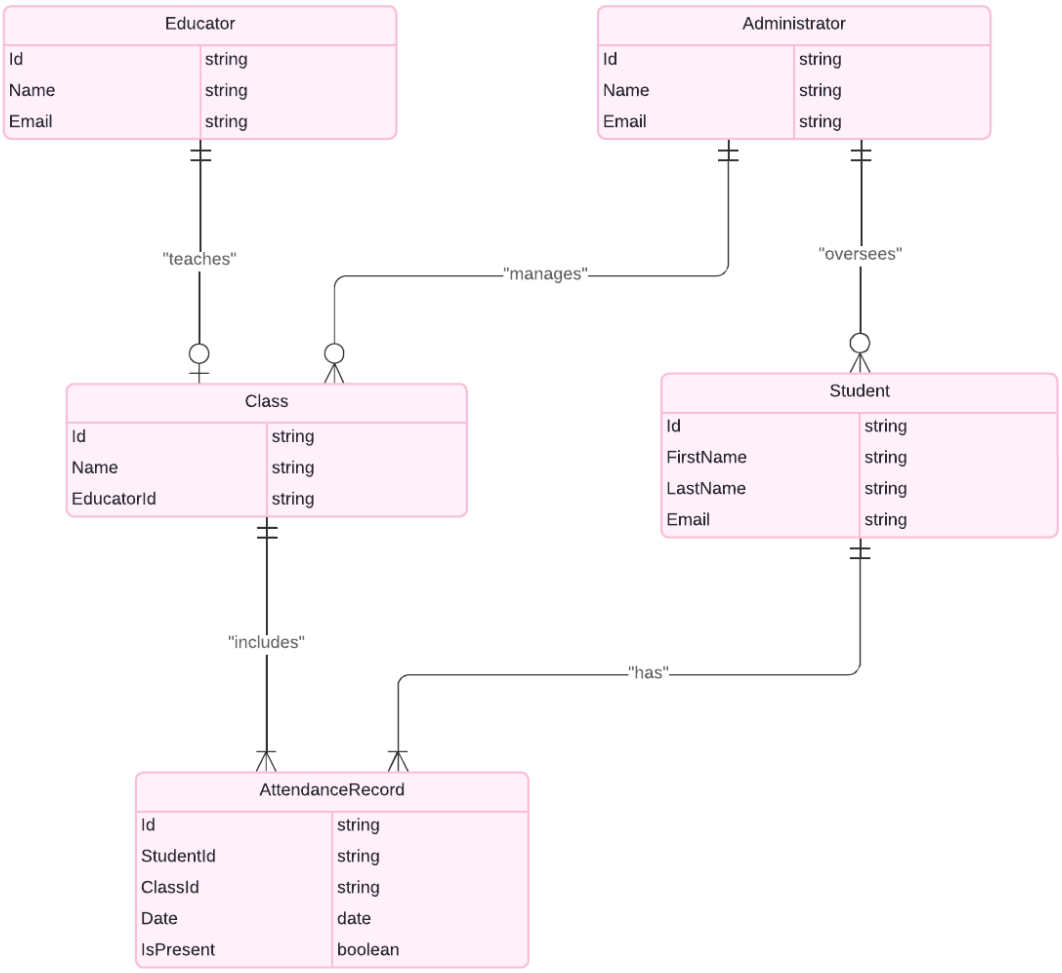
CHAPTER 5

SYSTEM DESIGN

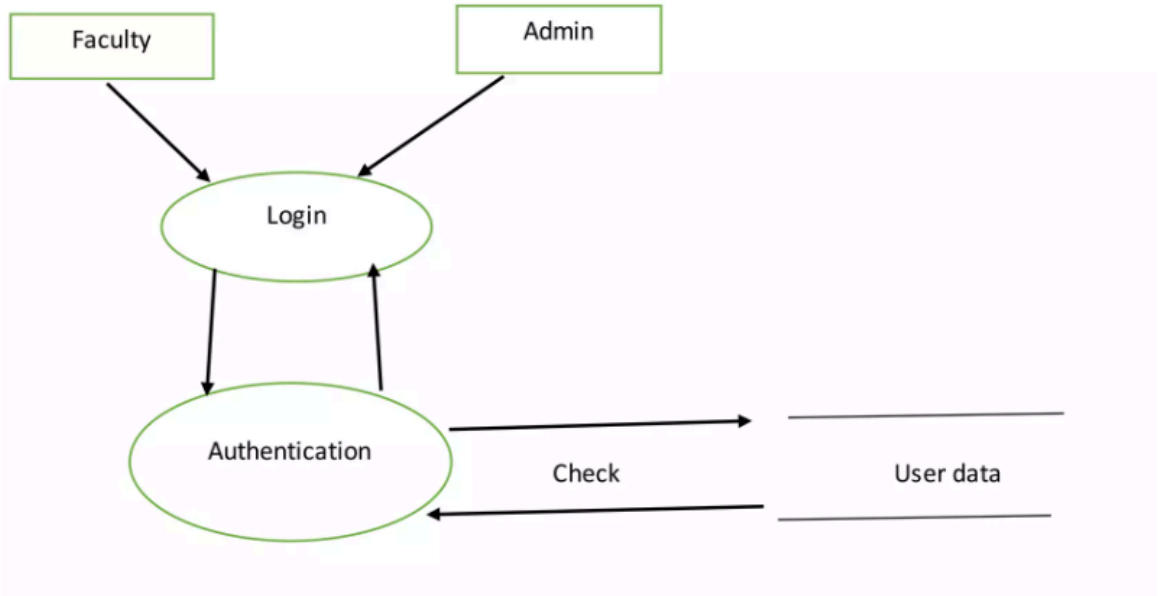
5.1 USE CASE DIAGRAM



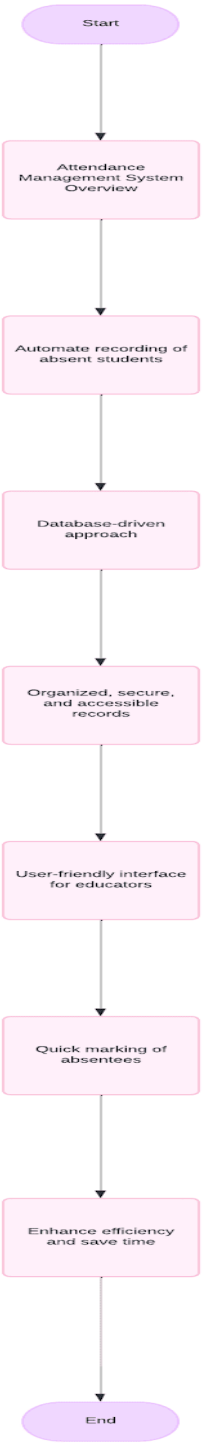
5.2. ER DIAGRAM



5.3 DFD DIAGRAM



5.4.ACTIVITYDIAGRAM



CHAPTER 6

SAMPLECODING

attendance.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width,
initial-scale=1.0">
   <title>Attendance Management System</title>
   <link
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.mi
n.css" rel="stylesheet">
   <style>
      body, html {
         height: 100%;
         margin: 0;
         background: linear-gradient(135deg, #0b0b0b, #f0f0f1);
         animation: gradientAnimation 8s ease infinite;
```

```
    background-size: 400% 400%;
    font-family: Arial, sans-serif;
    display: flex;
    justify-content: center;
    align-items: center;
}

@keyframes gradientAnimation {
    0% { background-position: 0% 50%; }
    50% { background-position: 100% 50%; }
    100% { background-position: 0% 50%; }
}

.card {
    width: 100%;
    max-width: 600px;
    box-shadow: 0 10px 30px rgba(0, 0, 0, 0.3);
    border: none;
    border-radius: 15px;
    background-color: #ffffff;
    padding: 20px;
}
```

```
.card-header {
    background-color: #0e0f11;
    color: white;
    border-top-left-radius: 15px;
    border-top-right-radius: 15px;
    text-align: center;
    padding: 15px;
}

.form-group {
    margin: 20px 0;
}

.btn-primary, .btn-secondary {
    border-radius: 20px;
    transition: transform 0.3s, background-color 0.3s, box-shadow 0.3s;
    margin-top: 10px;
    width: 100%;
}

.btn-primary:hover, .btn-secondary:hover {
```

```
            transform: scale(1.05);
            background-color: #7a82b7;
            box-shadow: 0 8px 15px rgba(0, 0, 0, 0.2);
        }

        .btn-primary:active, .btn-secondary:active {
            transform: scale(0.95);
            background-color: #607863;
            box-shadow: 0 4px 10px rgba(0, 0, 0, 0.2);
        }
    </style>
</head>
<body>
    <div class="card">
        <div id="markAttendance">
            <div class="card-header">
                <h2>Mark Attendance</h2>
            </div>
            <div class="card-body">
                <form method="POST" action="/attendance">
                    <div class="form-group">
                        <label for="rollNumber">Enter Roll Number:</label>
```

```
                <input type="text" class="form-control" id="rollNumber"
name="roll_number" placeholder="Enter roll number here" required>
            </div>
            <div class="text-center">
                <button type="submit" class="btn btn-primary">Mark as
Absent</button>
                <button type="button" class="btn btn-secondary mt-2"
onclick="showPage('viewAbsentees')">View Absent Students</button>
            </div>
        </form>
    </div>
</div>

<div id="viewAbsentees" style="display:none;">
    <div class="card-header">
        <h2>Absent Students List</h2>
    </div>
    <div class="card-body">
        <ul id="absentList" class="list-group"></ul>
        <div class="text-center mt-3">
            <button class="btn btn-secondary"
onclick="showPage('markAttendance')">Back to Attendance</button>
        </div>
```

```
        </div>
      </div>
    </div>

    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
    <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
    <script>
        function showAbsentList() {
            fetch('/view_absentees')
                .then(response => response.json())
                .then(absentees => {
                    let list = document.getElementById("absentList");
                    list.innerHTML = "";

                    if (absentees.length > 0) {
                        absentees.forEach(function(entry) {
                            let rollNumber = entry['roll_number']; // Roll number from the database
```

```
                let absenceDate = entry['absence_date']; // Absence date from the database
                let li = document.createElement("li");
                li.classList.add("list-group-item");
                li.textContent = `Roll Number: ${rollNumber}, Absence Date: ${absenceDate}`;
                list.appendChild(li);
            });
        } else {
            list.innerHTML = "<li class='list-group-item'>No students marked as absent.</li>";
        }
    })
    .catch(error => {
        console.error('Error fetching absent list:', error);
    });
}

function showPage(pageId) {
    document.getElementById("markAttendance").style.display = "none";
    document.getElementById("viewAbsentees").style.display = "none";
```

```
        document.getElementById(pageId).style.display = "block";

        if (pageId === "viewAbsentees") {
            showAbsentList();
        }
    }

    window.onload = function() {
        showPage("markAttendance");
    }
  </script>
</body>
</html>
```

app.py

```
from flask import Flask, render_template, redirect, url_for, request, flash, jsonify
from werkzeug.security import generate_password_hash, check_password_hash
from pymongo import MongoClient
from datetime import datetime
```

```
app = Flask(__name__)
app.secret_key = 'your_secret_key_here'



client = MongoClient("mongodb://localhost:27017/")
db = client['user_data']
users_collection = db['users']
absentees_collection = db['absentees']



def add_user(username, email, password):
    try:

        hashed_password = generate_password_hash(password)



        users_collection.insert_one({
            'username': username,
            'email': email,
            'password': hashed_password
        })
```

```
        return True

    except Exception as e:
        print(f"Error: {e}")
        return False


def check_user_credentials(username, password):

    user = users_collection.find_one({'username': username})

    if user:
        stored_password = user['password']

        return check_password_hash(stored_password, password)
    else:
        return False


def add_absentee(roll_number, absence_date):
```

```
    existing_absentee = absentees_collection.find_one({'roll_number':
roll_number, 'absence_date': absence_date})

    if existing_absentee:

        return False


    absentees_collection.insert_one({
        'roll_number': roll_number,
        'absence_date': absence_date
    })
    return True


def get_absentees():
    absentees = absentees_collection.find({}, {'_id': 0, 'roll_number': 1,
'absence_date': 1})
    absentees_list = [{'roll_number': absentee['roll_number'],
'absence_date': absentee['absence_date']} for absentee in absentees]
    return absentees_list
@app.route('/', methods=['POST', 'GET'])
```

```
def login():
    if request.method == 'POST':
        username = request.form['username']
        password = request.form['password']



        if check_user_credentials(username, password):
            return redirect(url_for('rokapip'))
        else:
            flash('Invalid username or password. Please try again.', 'danger')
            return redirect(url_for('login'))

    return render_template('login.html')

@app.route('/signup', methods=['POST', 'GET'])
def signup():
    if request.method == 'POST':
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']
```

```
        if add_user(username, email, password):
            flash('Signup successful! Please log in.', 'success')
            return redirect(url_for('login'))
        else:
            flash('Username or email already exists. Please try a different one.',
'danger')
            return redirect(url_for('signup'))

    return render_template('signup.html')

@app.route('/rokapip', methods=['POST', 'GET'])
def rokapip():
    return render_template('rokapip.html')

@app.route('/attendance', methods=['POST', 'GET'])
def attendance():
    if request.method == 'POST':
        roll_number = request.form['roll_number']
        absence_date = datetime.now().strftime('%Y-%m-%d')

        if add_absentee(roll_number, absence_date):
```

```
            flash(f'Attendance marked as absent for roll number:
{roll_number} on {absence_date}', 'success')
        else:
            flash('Roll number already marked as absent.', 'danger')

        return redirect(url_for('attendance'))

    return render_template('attendance.html')

@app.route('/view_absentees', methods=['GET'])
def view_absentees():
    absentees = get_absentees()
    return jsonify(absentees)

if __name__ == '__main__':
    app.run(debug=True)
```

CHAPTER7

SCREENSHOTS

Fig.7.1 Owner and User login

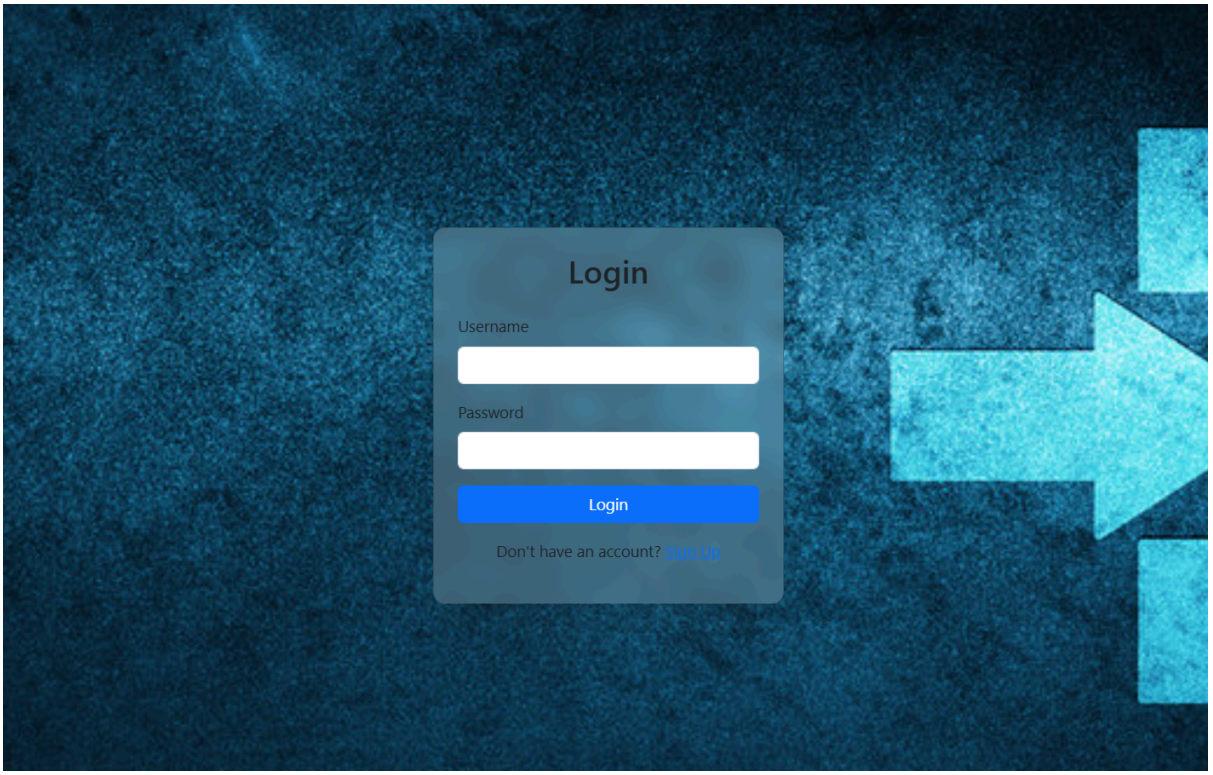


Fig.7.2 Welcome page

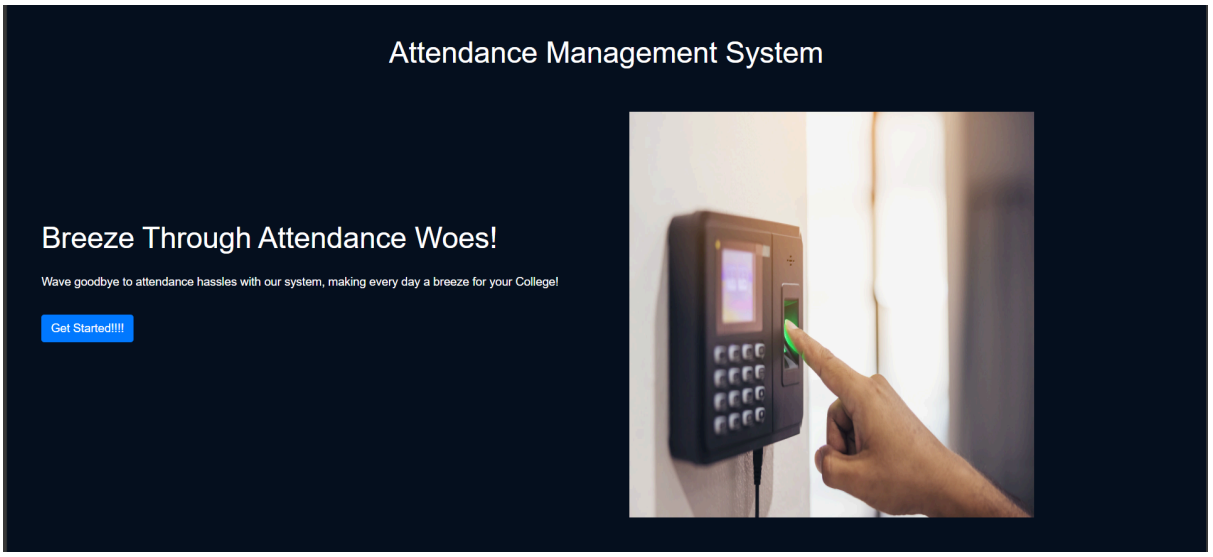


Fig. 7.3.1 Attendance Page

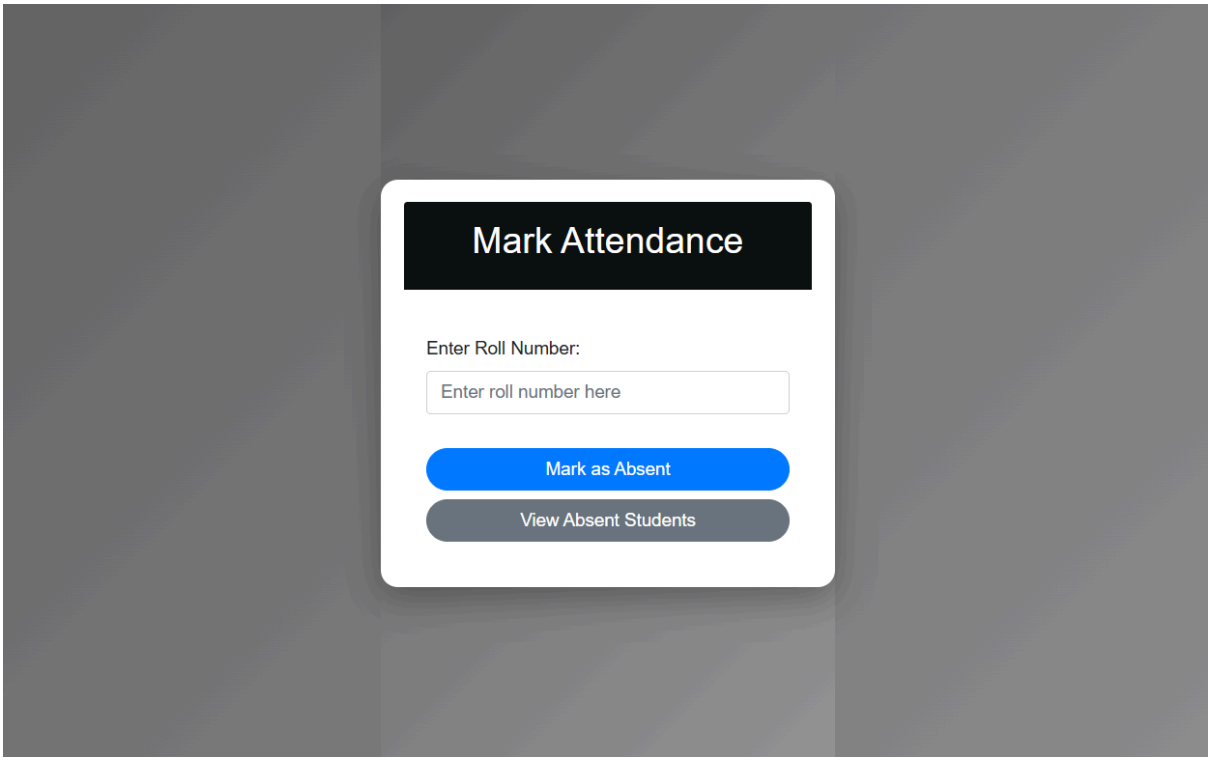
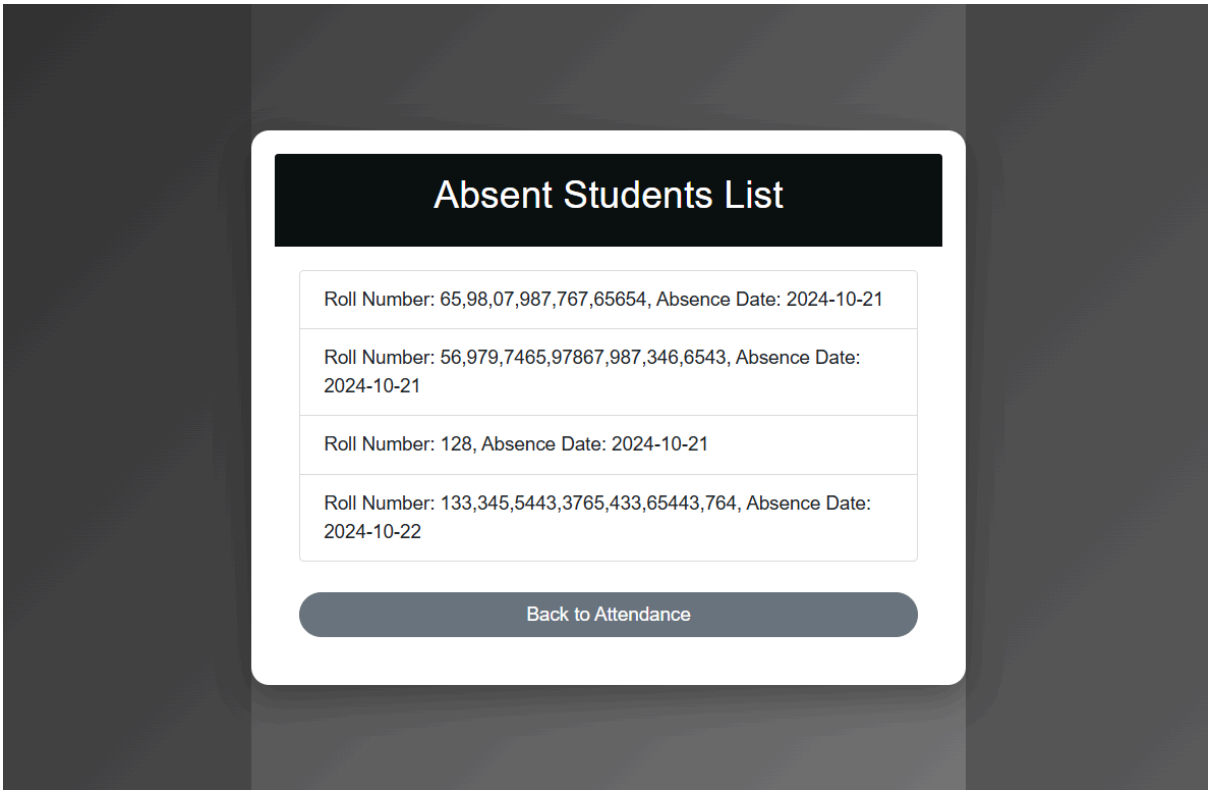


Fig. 7.3.2 Attendance Page



CHAPTER8
CONCLUSION

In conclusion, the Attendance Management System provides a streamlined and automated approach to managing attendance efficiently. By replacing manual processes, it minimizes errors, saves time, and enhances accuracy in tracking attendance data. The system's ability to securely store information and generate reports aids in better decision-making and improved accountability within organizations. Its user-friendly design and adaptability make it a valuable tool for both educational institutions and businesses. Overall, the system significantly enhances operational efficiency, reduces administrative burdens, and ensures reliable record-keeping, making it an essential component for modern attendance management.

REFERENCES

1. HTML,CSS,JS– https://www.w3school.com/
2. MongoDB– www.youtube.com
3. Font Awesome Icons– www.fontawesome.com