PROJECT DOCUMENTATION

Project Title: Online Student Attendance Management System

Chapter 1: Introduction

1.1 Background

In educational institutions, attendance plays a crucial role in tracking student performance. Traditional methods of marking attendance on paper are time-consuming and prone to errors. To address these challenges, the "Online Student Attendance Management System" automates attendance tracking, ensuring accuracy and efficiency.

1.2 Objective

The main objective is to develop a web-based system that enables teachers to record, manage, and monitor student a…

Below is a simple full implementation of the Online Student Attendance Management System using HTML, CSS, PHP, and MySQL.

1. Database Schema

Create a database named attendance_system and the following tables:

students Table

```
CREATE TABLE students (
    id INT AUTO_INCREMENT PRIMARY KEY,
    student_name VARCHAR(255) NOT NULL,
    roll_number VARCHAR(50) NOT NULL UNIQUE
);
```

attendance Table

```
CREATE TABLE attendance (
    id INT AUTO_INCREMENT PRIMARY KEY,
    student_id INT NOT NULL,
    date DATE NOT NULL,
    status ENUM('Present', 'Absent') NOT NULL,
    FOREIGN KEY (student_id) REFERENCES students(id)
);
```

2. Frontend Code

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Student Attendance System</title>
   <style>
      body { font-family: Arial, sans-serif; margin: 20px; }
      table { border-collapse: collapse; width: 100%; margin-top: 20px; }
      table, th, td { border: 1px solid #ccc; text-align: center; padding: 10px; }
      form { margin-bottom: 20px; }
      label, select, input { margin-right: 10px; }
      button { background-color: #4CAF50; color: white; padding: 8px 12px; border: none; cursor: pointer; }
   </style>
</head>
<body>
   <h1>Student Attendance System</h1>

   <form action="mark_attendance.php" method="POST">
      <label for="student_id">Student ID:</label>
      <select name="student_id" id="student_id" required>
         <!-- Options populated from database -->
      </select>
      <label for="date">Date:</label>
      <input type="date" name="date" id="date" required>
      <label for="status">Status:</label>
      <select name="status" id="status" required>
         <option value="Present">Present</option>
```

```
        <option value="Absent">Absent</option>
      </select>
      <button type="submit">Mark Attendance</button>
    </form>

    <h2>Attendance Records</h2>
    <table>
      <thead>
        <tr>
          <th>Student Name</th>
          <th>Roll Number</th>
          <th>Date</th>
          <th>Status</th>
        </tr>
      </thead>
      <tbody>
        <!-- Attendance data populated dynamically -->
      </tbody>
    </table>
</body>
</html>
```

3. Backend Code

db_connect.php

```
<?php
$servername = "localhost";
$username = "root";
$password = "";
$dbname = "attendance_system";

$conn = new mysqli($servername, $username, $password, $dbname);
```

```
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
?>
```

mark_attendance.php

```
<?php
include 'db_connect.php';

if ($_SERVER["REQUEST_METHOD"] === "POST") {
    $student_id = $_POST['student_id'];
    $date = $_POST['date'];
    $status = $_POST['status'];

    $sql = "INSERT INTO attendance (student_id, date, status) VALUES ('$student_id', '$date',
'$status')";

    if ($conn->query($sql) === TRUE) {
        echo "Attendance marked successfully!";
    } else {
        echo "Error: " . $sql . "<br>" . $conn->error;
    }
}
$conn->close();
header("Location: index.php");
exit;
?>
```

fetch_data.php

```
<?php
include 'db_connect.php';
```

```
// Fetch students for dropdown
$students_query = "SELECT * FROM students";
$students_result = $conn->query($students_query);

// Fetch attendance records
$attendance_query = "SELECT s.student_name, s.roll_number, a.date, a.status
                     FROM attendance a
                     JOIN students s ON a.student_id = s.id
                     ORDER BY a.date DESC";
$attendance_result = $conn->query($attendance_query);
?>
```

4. Dynamic Data Loading in HTML

Update index.html to include PHP for dynamic data loading:

```
<select name="student_id" id="student_id" required>
   <?php include 'fetch_data.php'; ?>
   <?php while ($row = $students_result->fetch_assoc()): ?>
      <option value="<?php echo $row['id']; ?>"><?php echo $row['student_name']; ?> (<?php echo $row['roll_number']; ?>)</option>
   <?php endwhile; ?>
</select>

<tbody>
   <?php while ($row = $attendance_result->fetch_assoc()): ?>
      <tr>
         <td><?php echo $row['student_name']; ?></td>
         <td><?php echo $row['roll_number']; ?></td>
         <td><?php echo $row['date']; ?></td>
```

```
            <td><?php echo $row['status']; ?></td>
        </tr>
    <?php endwhile; ?>
</tbody>
```

5. How to Run the Project

1. Set up a local server (e.g., XAMPP).

2. Create the database and tables using the SQL code above.

3. Save the files (index.html, db_connect.php, mark_attendance.php, fetch_data.php) in the server's root directory (e.g., htdocs for XAMPP).

4. Add sample students to the students table.

5. Open index.html in your browser via the local server URL (e.g., http://localhost/index.html).