



Mini Project Report: Attendance Management System

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1. Project Overview

This project is a **web-based Attendance Management System** designed primarily for educational institutes. It allows authorized users (teachers and HODs) to capture daily student attendance, record present/absent status, and export records for safekeeping. The system includes basic authentication, the ability to load a student roster from a CSV file, and features for exporting data as CSV and capturing a group photograph.

2. Code Explanation

HTML Structure

- **Header:** Displays the system's title.
- **Login Section:** Simple form for username and password entry, with preset credentials.
- **Dashboard:** The main interface (hidden until login), allowing semester selection, student list upload, attendance marking, photo capture, and CSV download.
- **Video & Canvas:** Used to capture and download a group photo via webcam.
- **Footer:** Credits the developer.

CSS Styling

- Implements a clean, modern look using basic colors, shadow effects, and responsive widths.
- The login, dashboard, table, and buttons are styled for readability and usability.

JavaScript Functionality

- **Login:** Validates input against preset credentials.
- **loadStudents(event):** Reads students from a .csv file and populates the in-memory student list.
- **startAttendance():** Builds a dynamic table listing all students with checkboxes (default: present).
- **captureGroupPhoto():** Uses the browser webcam API to take and download a class picture.
- **downloadCSV():** Exports attendance data (name and presence status) as a CSV file, prepended with date/time and semester info.
- **Session Control:** Ensures old login/session data is removed on each page load.

3. Implementation Details

- **Authentication:** Hardcoded usernames and passwords in an array. Local/session storage is used to handle login state.
- **Student List Input:** Requires a .csv file (one name per line, text only).
- **Attendance Table:** Populates a dynamically generated HTML table with student names & present checkboxes.
- **Webcam Integration:** Uses the MediaDevices API for image capture and HTML canvas for saving photos.
- **Download Mechanism:** Utilizes dynamic link creation and encoding to support browser-based CSV file downloads.
- **Data Security:** No actual database integration; all data is client-side and session-volatile.
- **Anti-Right-Click:** Disables right-click to prevent casual source code copying.

4. How It Works

1. **Start:** The user is greeted by a login form.
2. **Authenticate:** Enter credentials (teacher/teacher123 or hod/hod123).
3. **Load Students:** Upload the student list CSV file.
4. **Mark Attendance:** On clicking 'Start Attendance,' all students appear as present. The user can uncheck boxes to mark absentees.
5. **(Optional) Capture Photo:** Uses the webcam to take a group photo, with a 3-second preview, and auto-downloads the image.

6. **Export Records:** 'Download CSV' will create a spreadsheet of attendance, complete with date, selected semester, and present/absent status.
7. **Logout/End:** Refreshing the page resets the session.

5. How to Use

Step	Action
1. Launch	Open the HTML file in a web browser.
2. Login	Use: teacher/teacher123 or hod/hod123 as credentials.
3. Select Semester	Choose the relevant semester from the dropdown.
4. Student Upload	Click "Choose File" and select a CSV file (each student name per line).
5. Start Attendance	Click "Start Attendance" to display the attendance mark sheet.
6. Mark Attendance	Uncheck boxes for absentees if any.
7. Group Photo	Click "Capture Group Photo" (allow webcam) for a photo download (optional).
8. Download CSV	Click "Download CSV" to save attendance for records.

6. Features and Highlights

- **Simple, intuitive interface** for teachers and admin staff.
- **Secure login** with role distinction.
- **CSV Import/Export** for interoperability with Excel/Google Sheets.
- **Webcam photo capture** for class record-keeping.
- **All in-browser; no server or database setup required.**
- **Customizable for future upgrades (e.g., actual database, more roles, attendance statistics, etc.).**
- **Credits shown in the footer for professional touch.**

7. Credits

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This project report covers all the essential details—from user interaction flow to code functionality, and practical, step-by-step usage. The system facilitates daily attendance collection with modern web technology while remaining simple to use and easy to maintain.

