

SMART INDIA HACKATHON 2025



TITLE PAGE

Problem Statement ID – SIH25016

Problem Statement Title- Automated Student Attendance

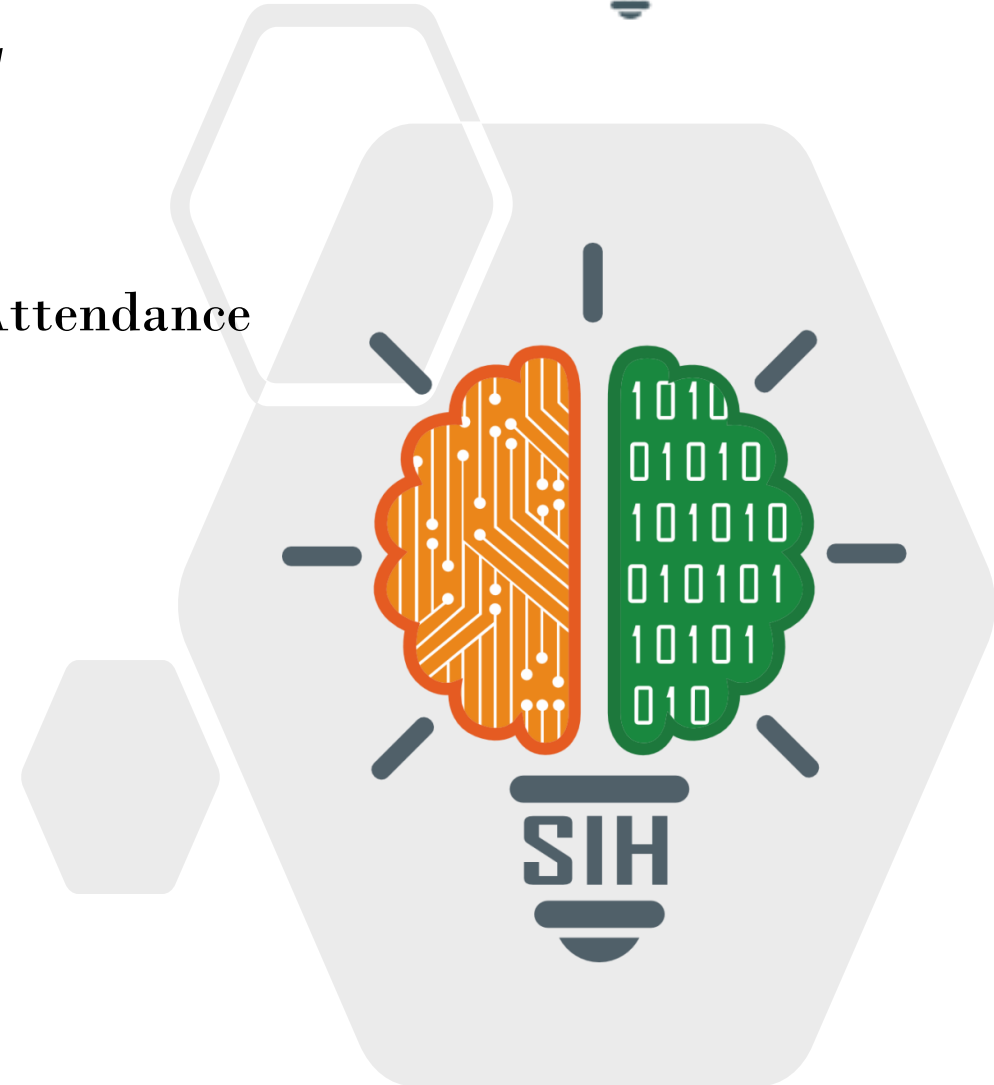
Monitoring and Analytic System for Colleges.

Theme- Smart Education

PS Category- Software

Team ID-

Team Name - Codemad



PROPOSED SOLUTION TO THE PROBLEM STATEMENT:

- Role-based access: Student / Admin
- Secure student login with password hashing
- Real-time attendance marking & management
- Admin dashboard with detailed reports
- QR code scanner for quick attendance page access
- Dynamic daily Doughnut chart to showcase attendance
- Easy CSV download for attendance records

WHY THIS ?

- 1) Scalable
- 2) User Friendly
- 3) Cost-effective (No external Device needed like Biometric)
- 4) Easily downloadable attendance.

INNOVATION:

- 1) QR Code reader
- 2) Role Switch
- 3) Data visually analysed

TECHNOLOGIES USED:

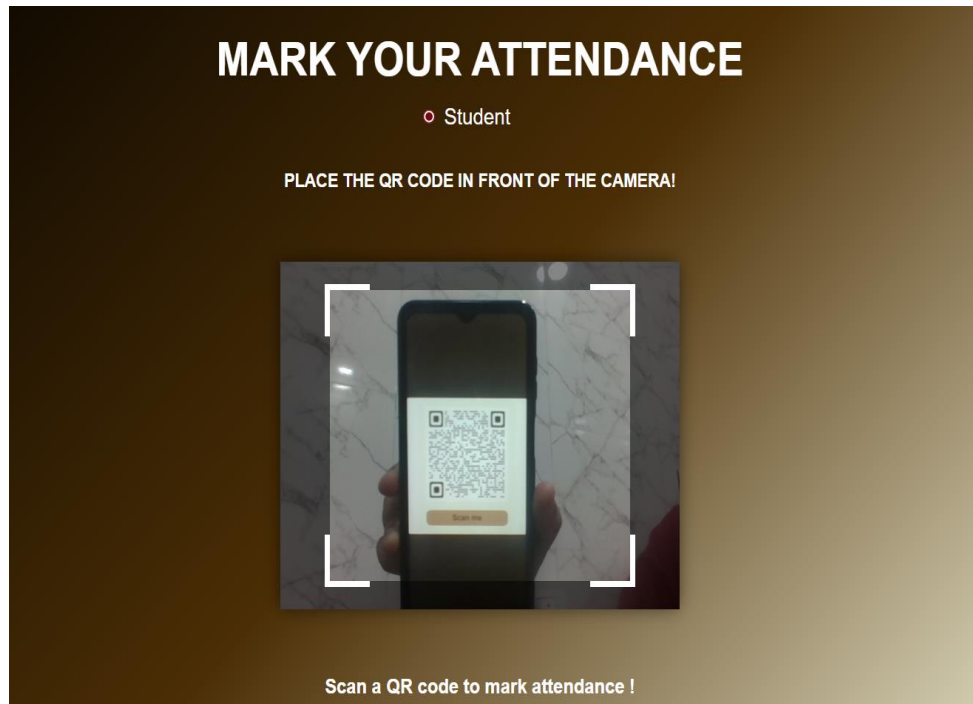
A) Programming Languages :

- 1) HTML
- 2) CSS
- 3) JavaScript
- 4) PHP
- 5) MySQL

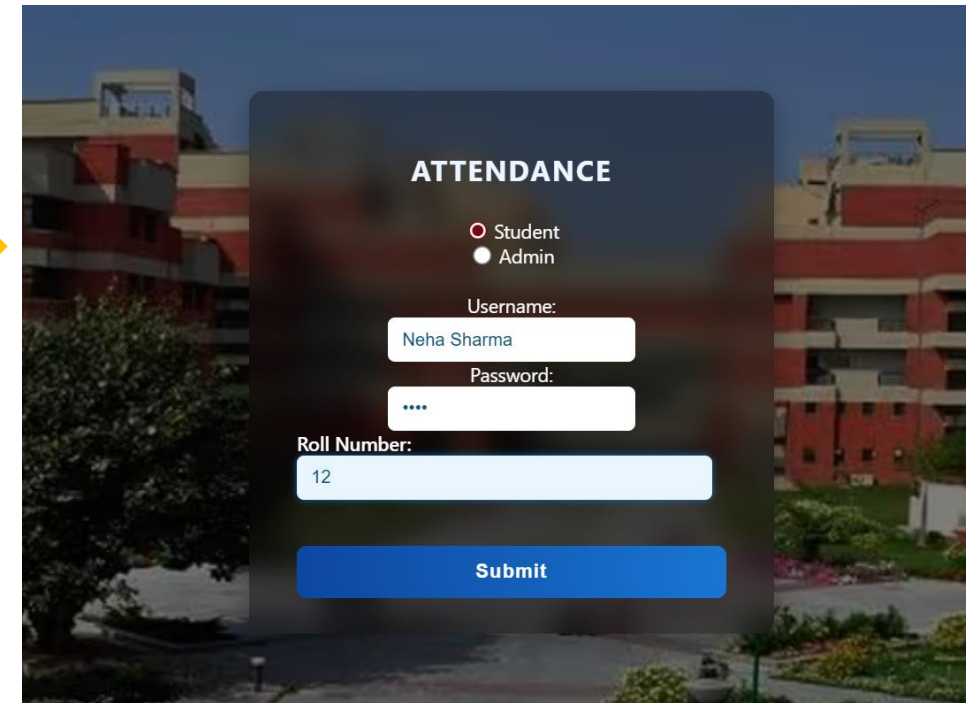
B) Hardware:

- 1) QR Tiger
- 2) XAMPP Server
- 3) Windows 11
- 4) Mobile Phone

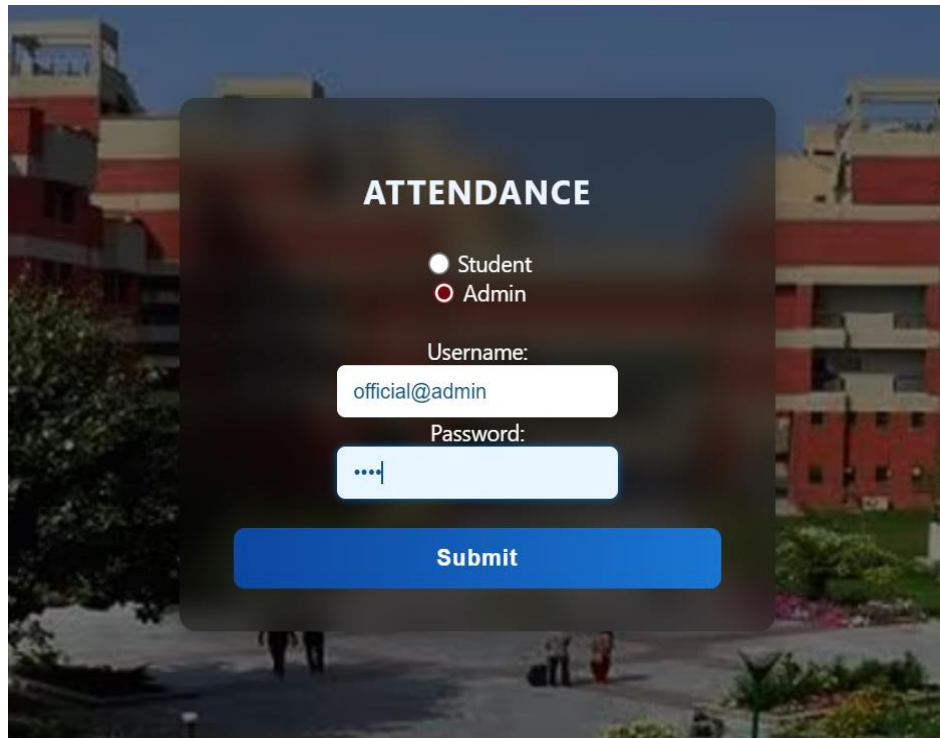
STEP 1: 1st, the Student scans their QR Code available with them to gain access to the attendance page.



STEP 2: Once the QR code is scanned, it redirects the user to the following page where they can choose their role as their student to mark their attendance.



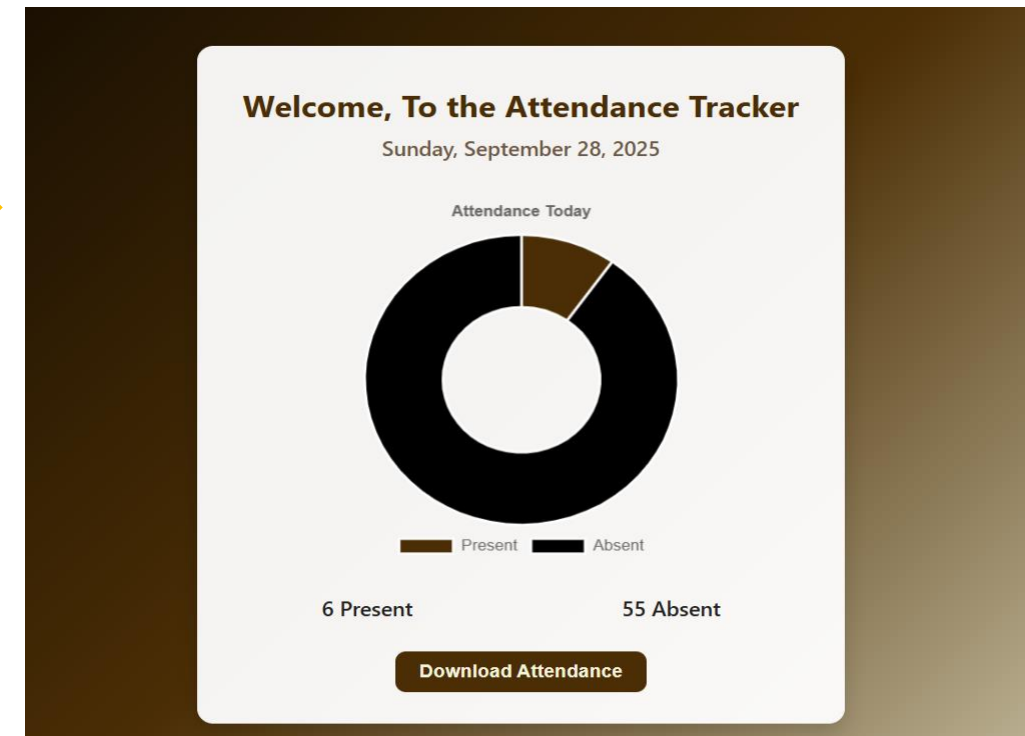
STEP 3: On the same web page if the Faculty/Professor enter their admin credentials ie; (official@admin, 1432). They will gain access to the Attendance tracker dashboard.



The image shows a login form titled "ATTENDANCE" overlaid on a background image of a building. The form has two radio buttons for "Student" and "Admin". The "Admin" option is selected. Below the radio buttons are input fields for "Username:" (containing "official@admin") and "Password:" (containing "1432"). A blue "Submit" button is at the bottom.



STEP 4: The database showcases all the students who were present that day from the total strength of 61 students.



STEP 5: Once the admin clicks the button to download the attendance, A CSV file gets downloaded with the records of students who marked their attendance that day.

	A	B	C	D	E
1	ID	Role	Username	Roll Number	
2	1	admin	official@admin		
3	38	student	Arushi	34	
4	39	student	Mehak	21	
5	40	student	Deepansh	54	
6	41	student	Shambhav	8	
7	42	student	Neha Shar	12	
8					

Feasibility:

- Technically viable with existing hardware/software.
- Economically feasible with scalable infrastructure.

Challenges & Risks:

- Implementing QR code scanning using HTML5QRcode for accurate student identification.
- Ensuring that the attendance records are securely stored in database using SQL with proper structure.
- Restricting access so that only faculty with valid admin credentials can login to the dashboard, preventing misuse of role-switching by students.

Strategies:

- Student/Admin login with password hashing.
- Real-time marking via QR code, daily visual analytics.
- Dashboard reports with easy CSV download.

Target Audience:

Students, Faculty, Parents, Institutions

Benefits:

- **Social:** Improves transparency and accountability.
- **Economic:** Saves administrative time and cost.
- **Educational:** Enables timely interventions, incase of low attendance.
- **Environmental:** Reduces paper-based records.

Impact:

- Enhanced digital transformation of education institutions.
- Increased efficiency in monitoring and analytics.

Following are the research and references we have taken help from:

- 1) YouTube
- 2) ChatGPT
- 3) Perplexity
- 4) Class Notes