



Student Attendance System

USER MANUAL

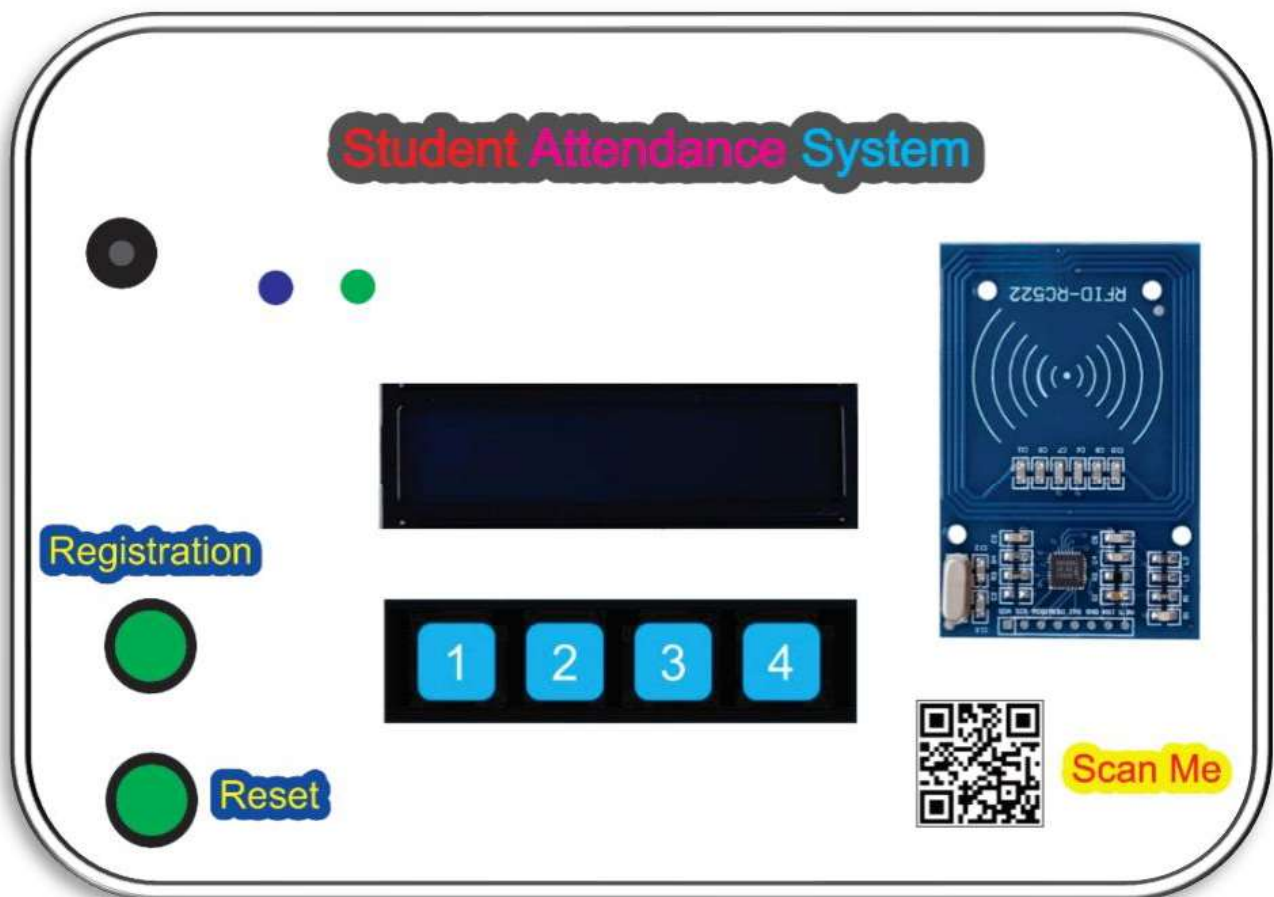


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1 System Overview

The Student Attendance System is designed to automate attendance tracking using an RFID scanner, GSM module, and microcontroller (Atmega328P). The system logs the attendance when students scan their RFID cards, communicates attendance records to a mobile app via GSM, and allows administrators to register and reset student records. The device includes a buzzer, LEDs, LCD display, and two buttons for administrative tasks.



2 Operating Instructions

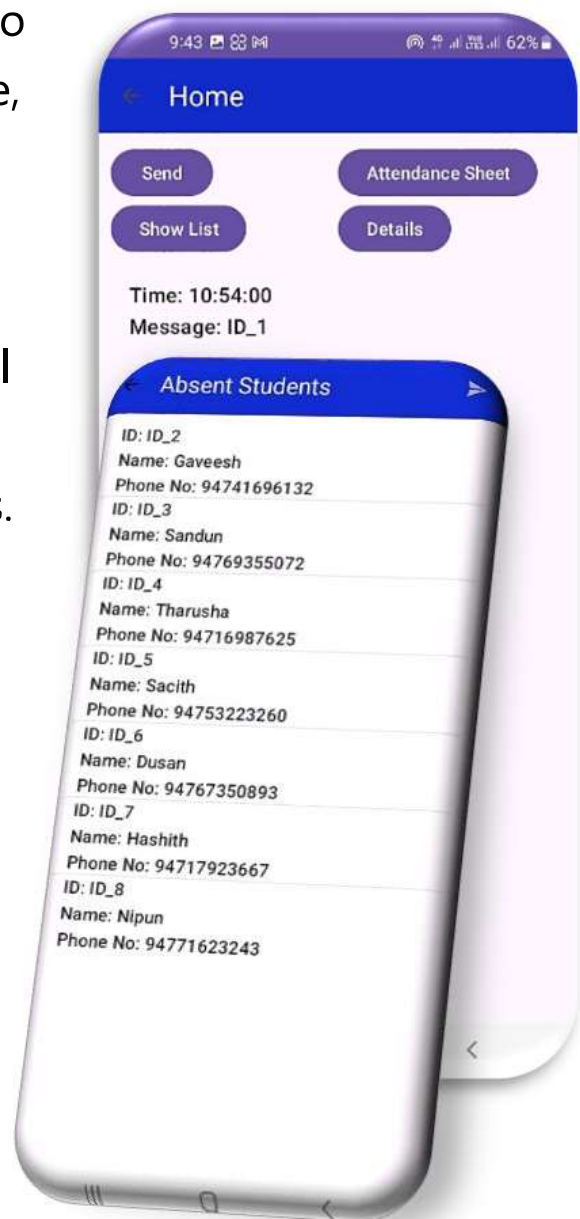
2.1 Marking Attendance (Normal Mode)

- 1) Power on the device with the 230V power supply. 
- 2) LCD Display shows Attendance System then after the current date and time from the RTC module.
- 3) Student Scans RFID Card:
 - The display will show “Scan the ID.”
 - When a student scans their card, the system reads the card’s ID and displays a message:
ID_1 Marked, ID_2 Marked,
If someone not registered shows **Not Registered!**
 - The green LED blinks, and the buzzer sounds to confirm the attendance.
 - The system will automatically send an SMS notification to admin via the GSM module
- 4) Attendance Notification:
 - The SMS sent to the administrator includes the student’s ID and the confirmation that the student attended the class.
 - Administrators can view attendance data on Attendance mobile app.

2.2 Mobile App: Admin Operations

- The admin can show all attendance in mobile application. It views a list of Student ID's and attendance marked time.
- The admin can then click the Send button, which exports the attendance list to an Excel file.
- By clicking the "Show List" button, the admin can view a list of students who did not attend the lecture, including their ID, name, and phone number.
- Attendance Sheet and Details Button is the Excel sheet. The admin can enter new student details.
- In the app's menu bar corner, there is a Send icon.
- When clicked, it sends an SMS to parents with the message:

I noticed you didn't attend today's lecture. Let me know if you have any questions or need clarification.



3 Admin Functions

3.1 Register Mode

- Press the Registration Button.
- The LCD will display Enter Password
- Enter the password **2431** using the keypad
- After entering the correct password, the LCD shows **Register Mode**
Scan the ID
- The admin should scan the unregistered RFID cards
- Then after scanning every Id's display shows **ID_No Registered.**
- The blue LED blink and the buzzer rings to confirm successful registration.
- If the admin scan registered ID's, then display **Already ID_No**



3.2 Reset Mode

- Press the Reset button.
- The LCD will show **Enter Password**
- Enter the password **2431**
- After entering the password, the system clears all registered student IDs.
- After display **Press the Button to Exit!** the system will return to Normal Mode after pressing the **Reset Button.**

4 System Power and Maintenance

Power Supply:

- ✓ The system uses a **12V DC power supply with battery backup**. Internally, **buck converters** are used to step down the voltage to 5V and 3.3V for different components.

Maintenance:

- ✓ Regularly update the attendance app for compatibility and feature improvements.

5 Features



2 hours battery life



SMS Alert



RFID Scan



Ring Buzzer



LED Indicate

6 Error Handling and Troubleshooting

- ❖ **LCD Display Not Working:** Check power connections and ensure that the 5V supply is stable.
- ❖ **RFID Card Not Scanning:** Ensure the card is positioned close to the RFID reader.
- ❖ **GSM Module Not Sending SMS:** Check GSM signal strength and SIM credit balance.
- ❖ **LEDs Not Blinking:** Verify the connections between the Atmega328P and the LEDs.

7 Contact And Support Details

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Attendance Mobile Application available

<https://mega.nz/file/SV8Q3D5a#g7WzmlNODr4gEdwTyDhx3l7E9FeAtJ73kmac1lMnmAs>

