Integrated Biometric Attendance System

A cutting-edge attendance system with IoT capabilities and tamper-proof security features.

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Our solution

- An advanced biometric attendance system designed to streamline attendance tracking for educational institutions
- Capable of taking attendance for a class of 250+ in less than 1 hr
- Proxy proof and security features
- Light and portable
- Easy to use

WHY?

Taking attendance for 200 students within an hour-long class can be time-consuming and disrupt the overall schedule of classes.

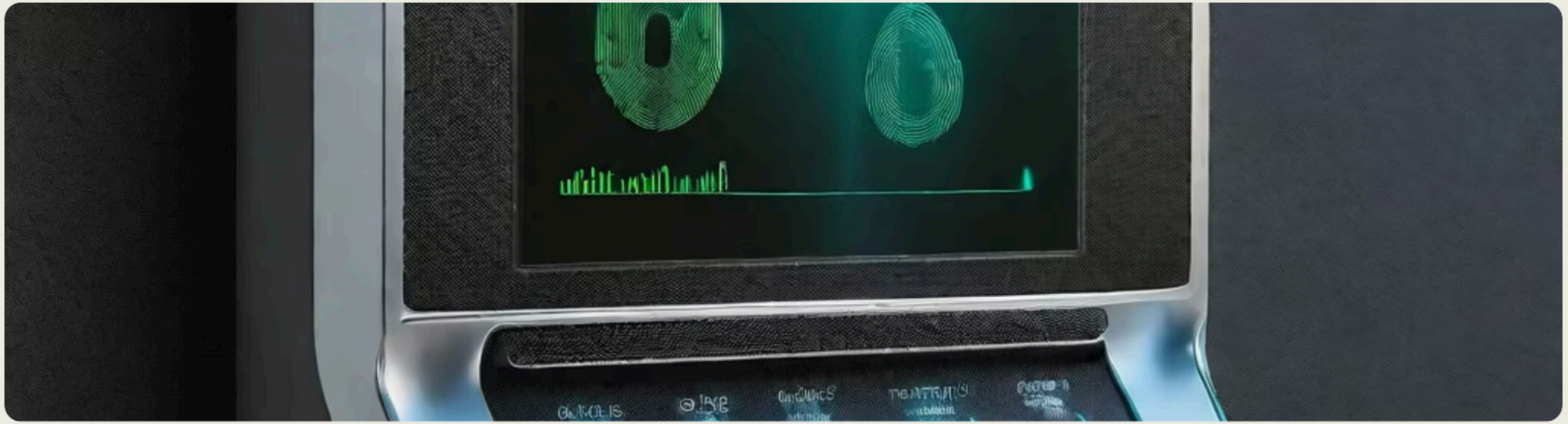
THE “PRODUCT”

What's in the product?

- ESP32 dev module
- 0.96" OLED display (128*32)
- R307 fingerprint sensor
- SD card module
- 4GB SD card
- 5V Boost converter
- 1800 mah Li-Po battery
- TP 4500 charging module(USB-C)
- Power switch

Key Features

Biometric Capacity



System Capacity

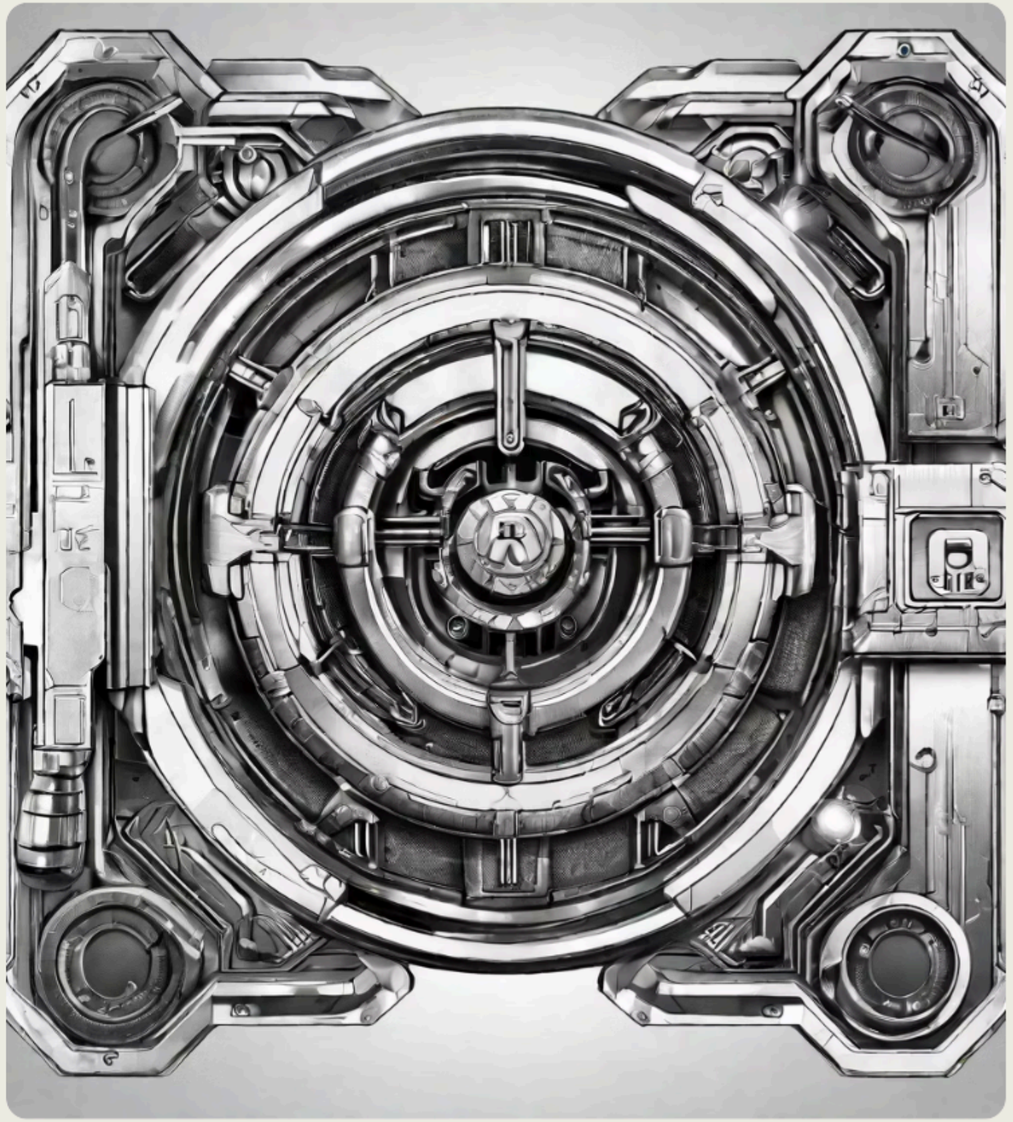
- Supports up to 1000 students(rigoursly tested for 300 students).
- Highly accurate and secure biometric identification

Course Attendance Flexibility

- The system is capable of handling attendance for up to 20 courses.
- The system can be easily expanded to handle more courses through simple code modifications.

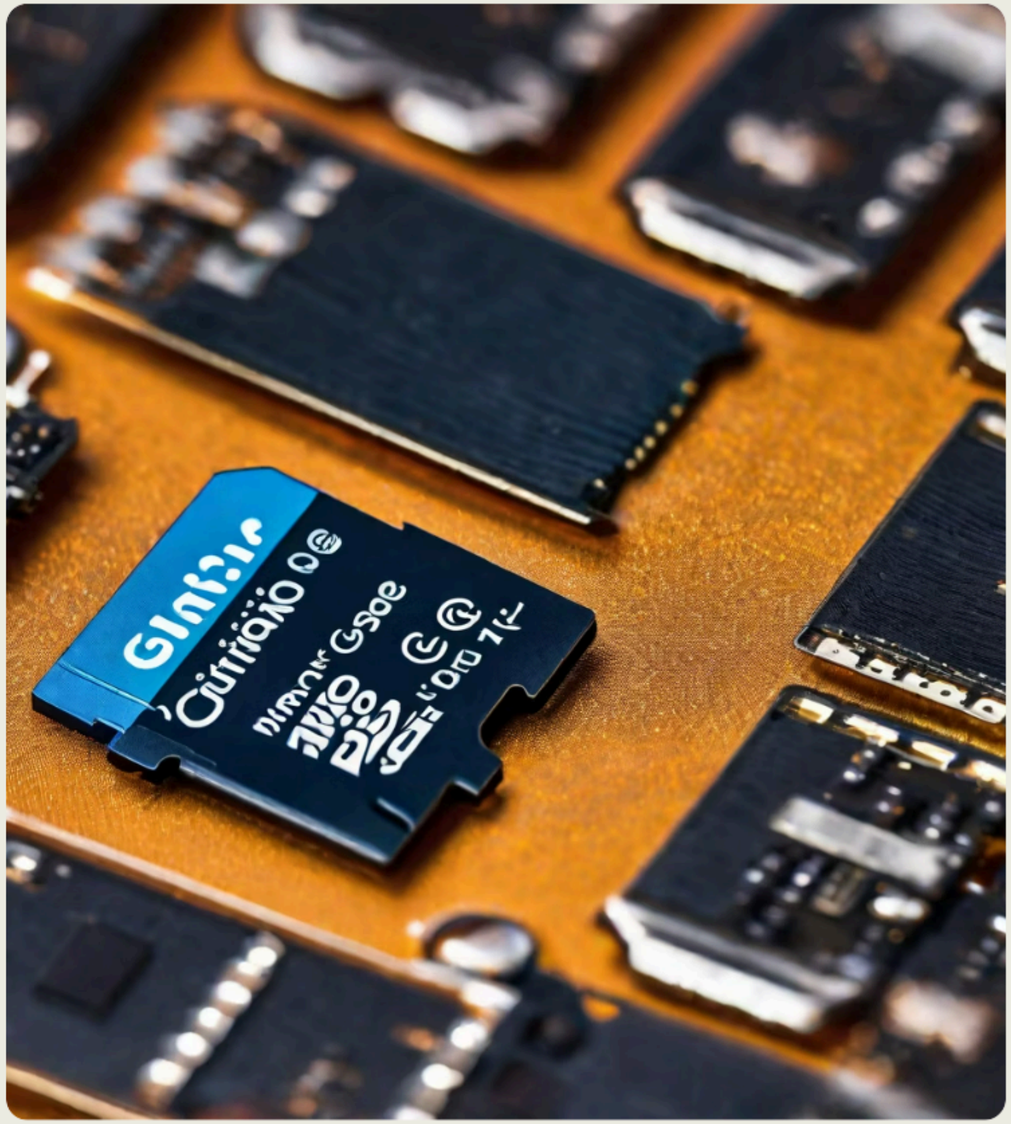
Security Measures

- Dedicated secure mode to prevent unauthorized access and tampering
- Robust measures to protect the system against tampering
- Nothing can be done without, owner biometrics.



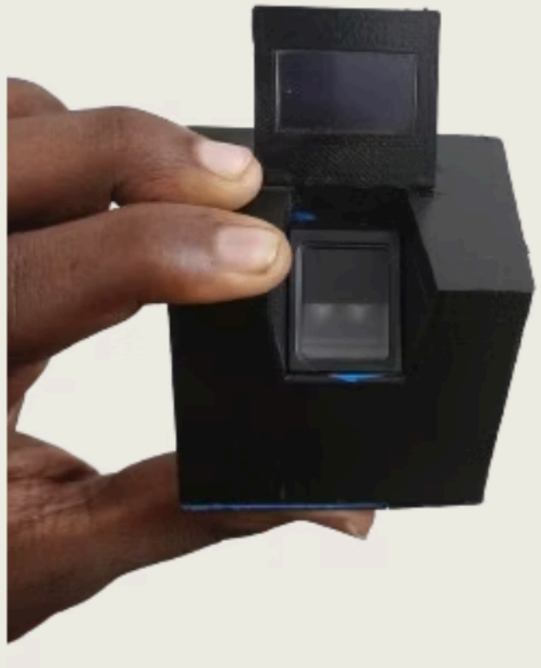
Efficient Data Management

- Attendance data is securely stored on an SD card, ensuring easy access and backup.
- Attendance sheets can be conveniently downloaded via HTTP requests, saving time and effort.



Portability and Design

- Custom 3D-printed housing for a sleek and modern look
- Integration of a rechargeable LiPo battery for convenience
- Built-in Type-C charging adapter for easy charging on the go
- Charge time: 2 Hrs
- Uptime: 4 Hrs



Bluetooth Integration

- Every interaction is done via a mobile app.
- Seamless integration with student enrollment process via Bluetooth connectivity.
- Automated data management and synchronization between hardware and software via Bluetooth technology.

How to use

At the start of the device, it asks for Admin biometrics. After the Host is assigned the following options are available.

- Enroll
- Mark Attendance
- Add course
- Make log sheet
- Download log sheet
- Factory Reset

The device uses Bluetooth to connect to the mobile.

To perform any operation or to give any input to the device it can be done through the mobile app.

ENROLL

- Enter no.of enrollments
- Place your thumb
- Remove finger
- Place again
- Enter roll number
- Biometric registered

MARK ATTENDANCE

- Enter Course number
- Verify class number
- Timer starts
- Place your thumb
- Remove finger
- Attendance Marked

ADD COURSE

- Enter Course ID (or name)
- Course added

MAKE LOG

- Enter Course number
- Attendance log generated in SD card

DOWNLOAD LOG

(MAKE LOG should be performed before download)

- Enter WiFi SSID
- Enter passcode
- Enter Course number
- Attendance log ready to download
- Search the generated link in the browser
- After download close the tab and browser
- Place admin biometrics to exit

Conclusion

- The advanced biometric attendance system provides accurate and secure attendance tracking for educational institutions.
- The combination of robust hardware and sophisticated software features ensures convenience for both students and faculty.
- By streamlining attendance tracking, institutions can save time and resources while improving overall efficiency.