

Smart Attendance System



Attendance Eco System: An Innovative Solution



- Attendance management has always been a tedious and time-consuming task for **educational institutions** and **Corporate**.
- However, with the introduction of the attendance eco system using Arduino Uno, ESP32, Finger Print Sensor, ThingsBoard Cloud, Android App, and Firebase.
- This process can be **revolutionized**. The proposed solution offers a seamless and efficient way to manage attendance, **saving time** and **effort** for both students and teachers.

Attendance Eco System: An Innovative Solution



- **Arduino Uno:** The Heart of the System
- **ESP32, Finger Print Sensor:** The Key Components
- **ThingsBoard Cloud:** A Powerful Platform
- **Android App:** A User-Friendly Interface
- **Firebase:** A Secure Database

Attendance Eco System: An Innovative Solution

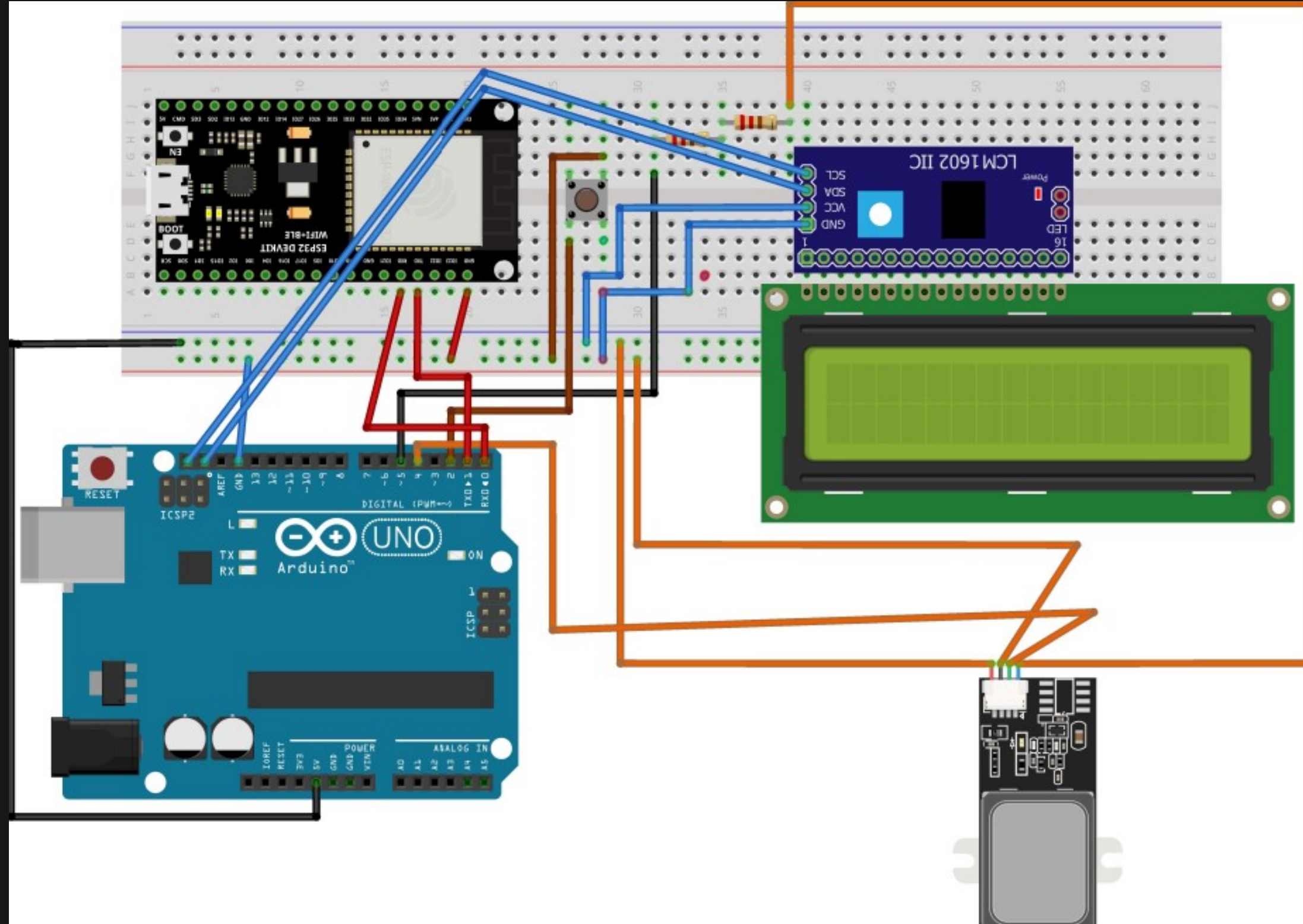


- The Hardware Part
- The Software Part
- The Cloud Part
- The App Part

The Hardware



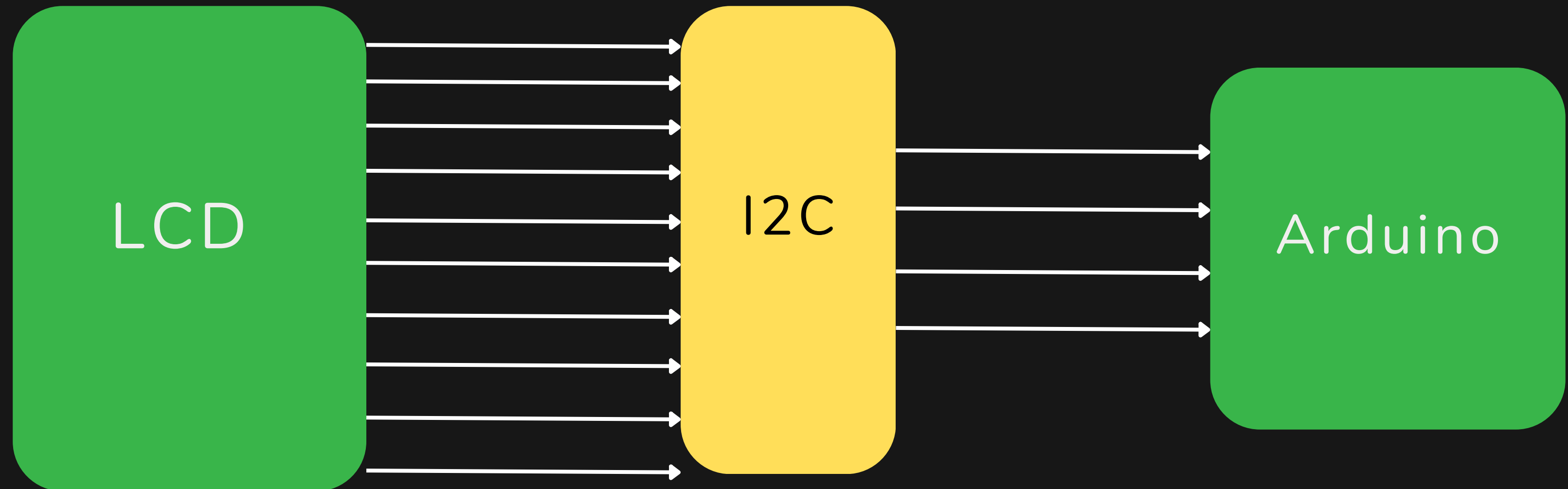
Circuit Diagram :



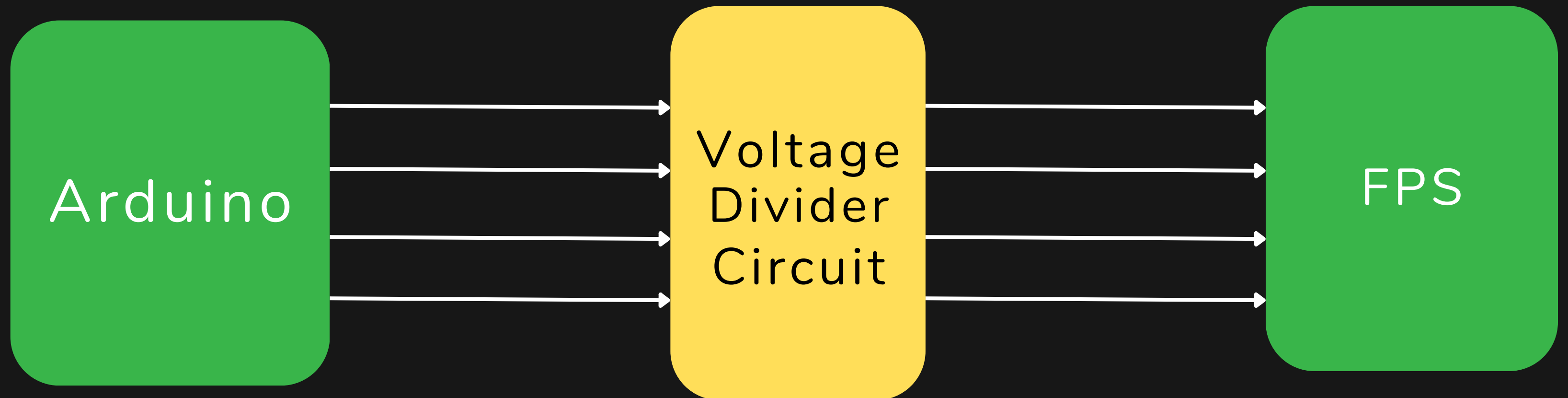
The Block Diagram



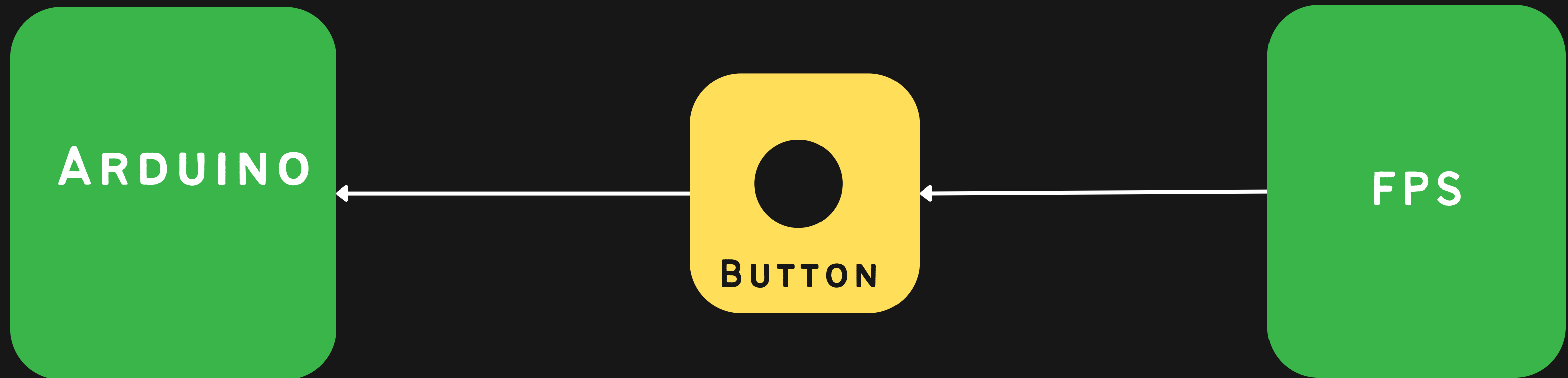
Interfacing LCD and Arduino Using I2C Module



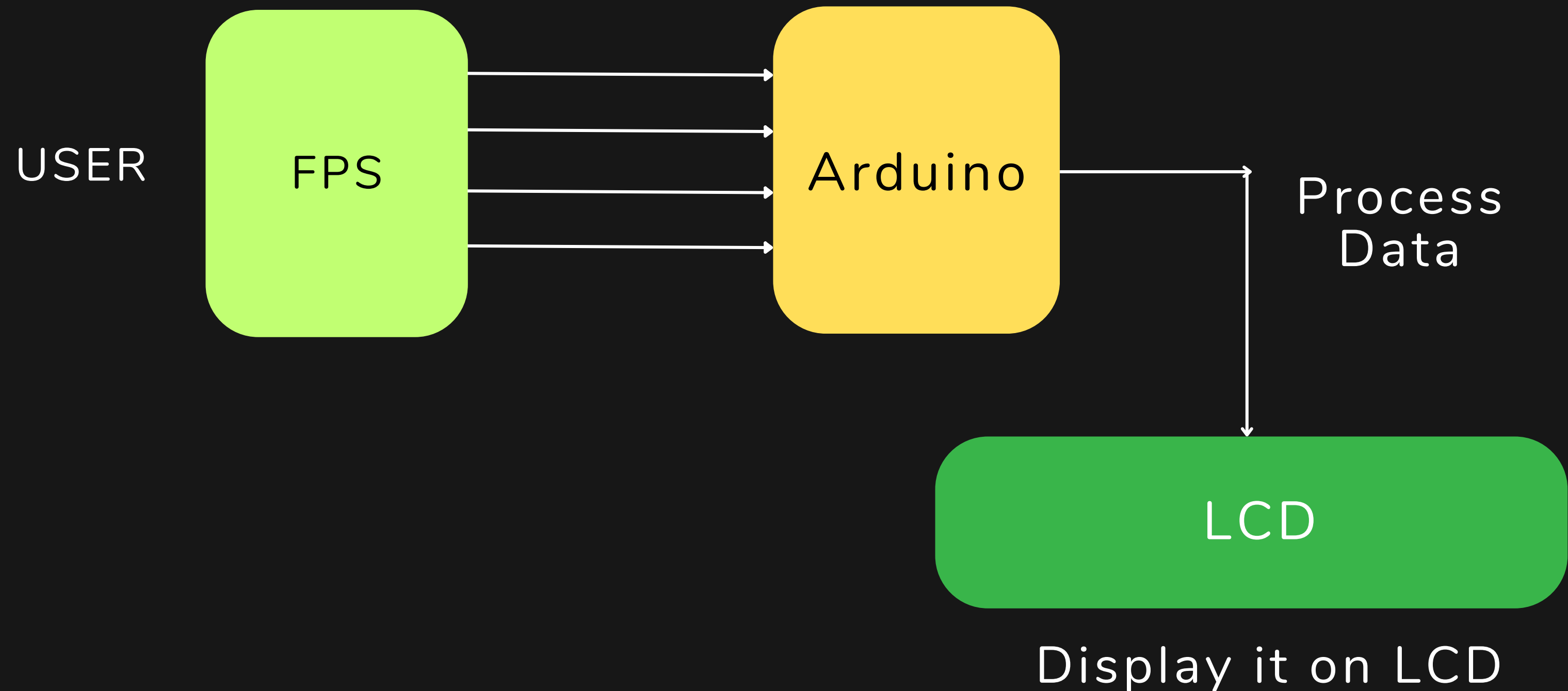
Voltage Divider Circuit



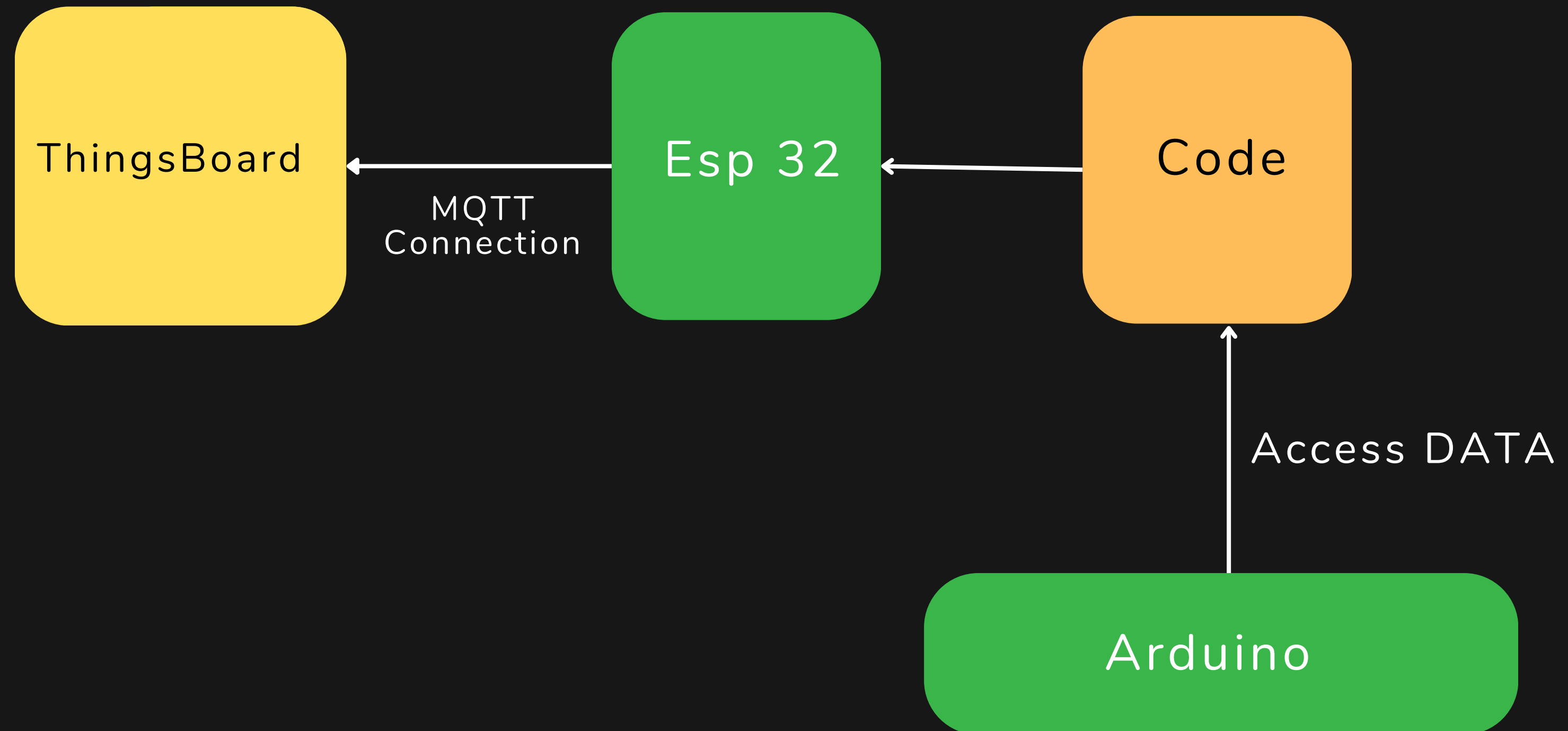
Arduino Interfacing With Button



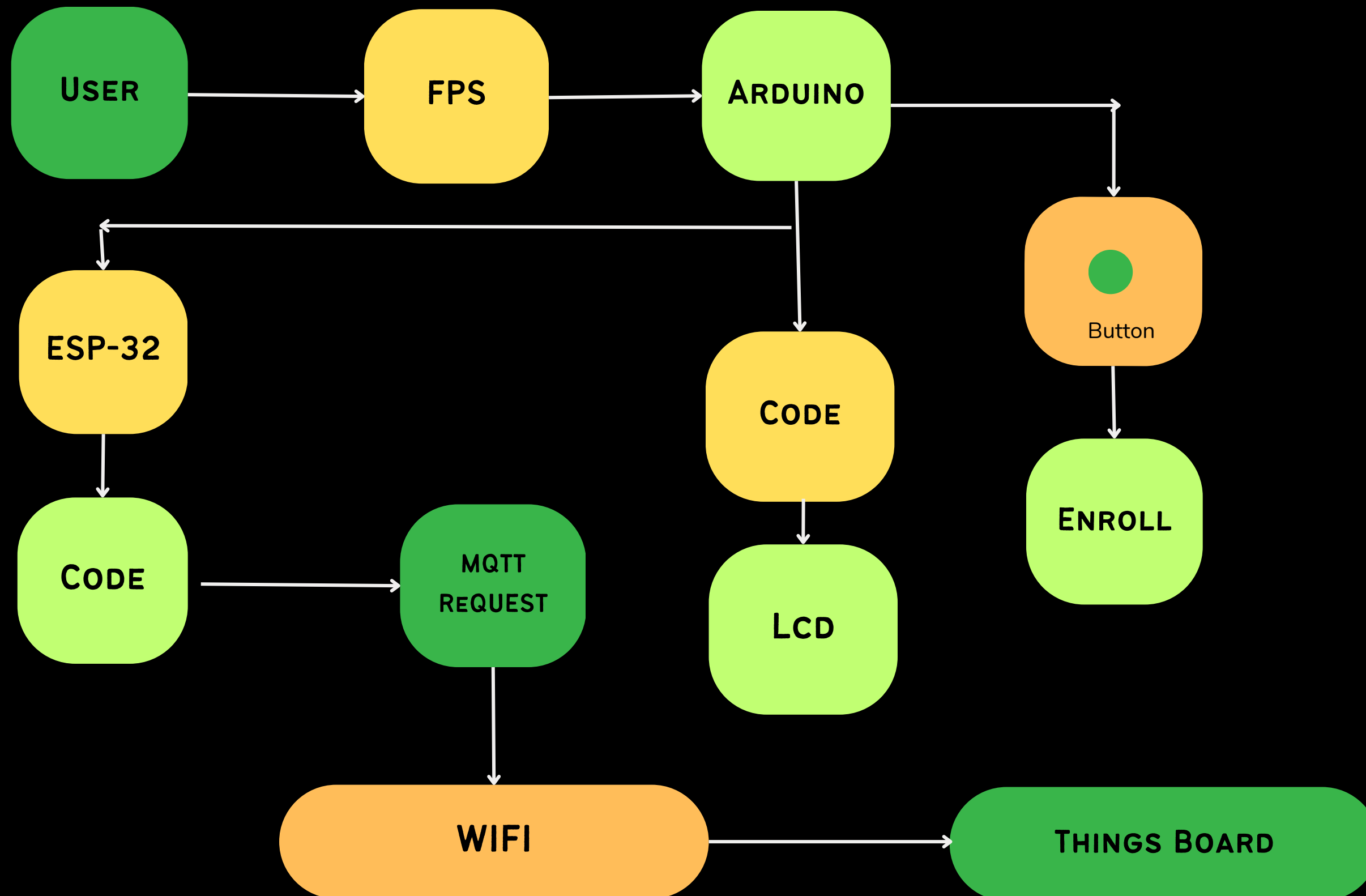
FPS Interfacing With Arduino



ESP-32 Interfacing with Arduino



Complete Data Flow

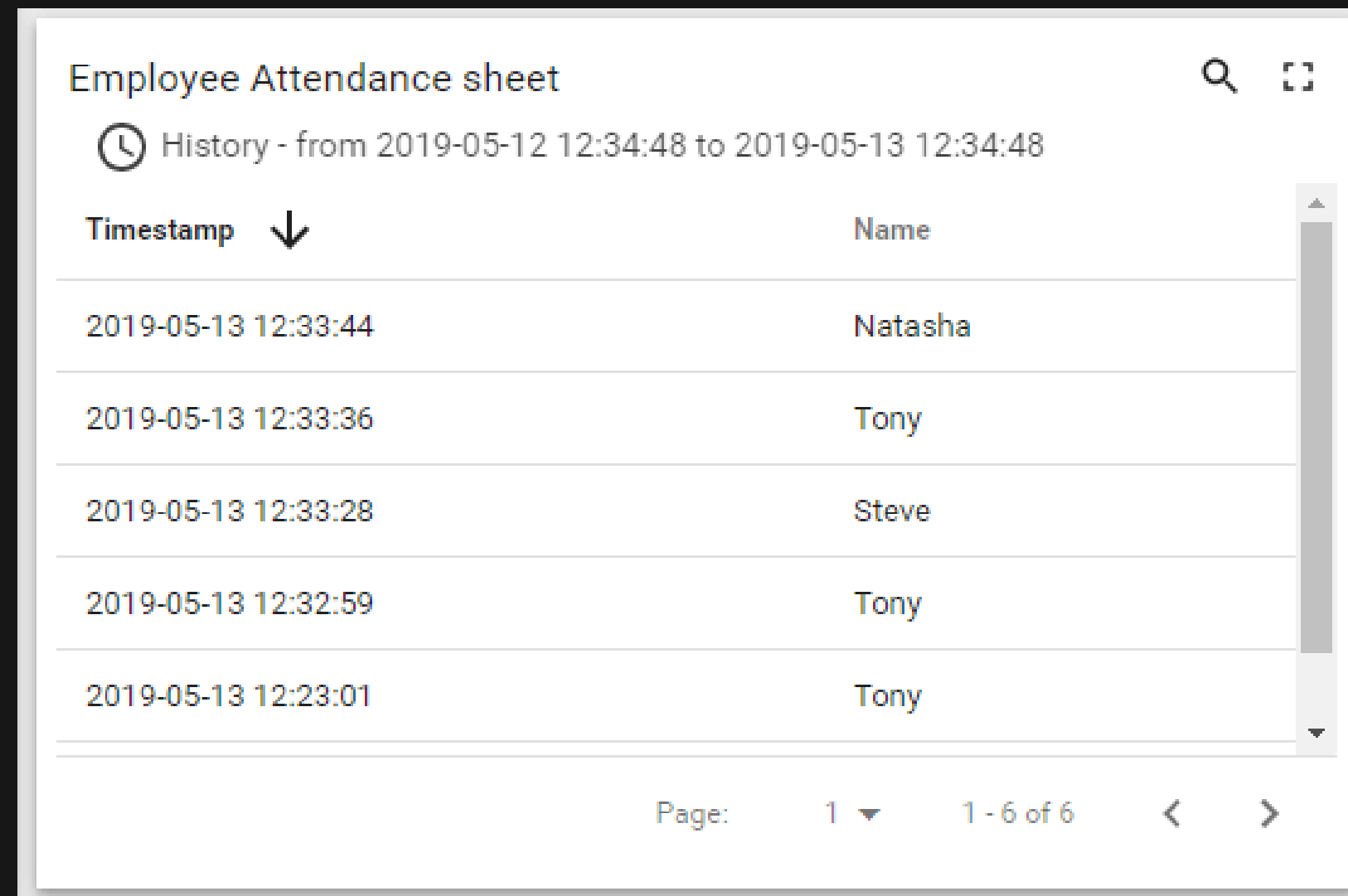


The Cloud Part



ThingsBoard Cloud: A Powerful Platform

- ThingsBoard Cloud is a powerful platform used in the attendance eco system for data collection and analysis. The platform provides real-time visualization of attendance data, allowing institutions to make informed decisions regarding student performance and attendance.



Employee Attendance sheet

History - from 2019-05-12 12:34:48 to 2019-05-13 12:34:48

Timestamp	Name
2019-05-13 12:33:44	Natasha
2019-05-13 12:33:36	Tony
2019-05-13 12:33:28	Steve
2019-05-13 12:32:59	Tony
2019-05-13 12:23:01	Tony

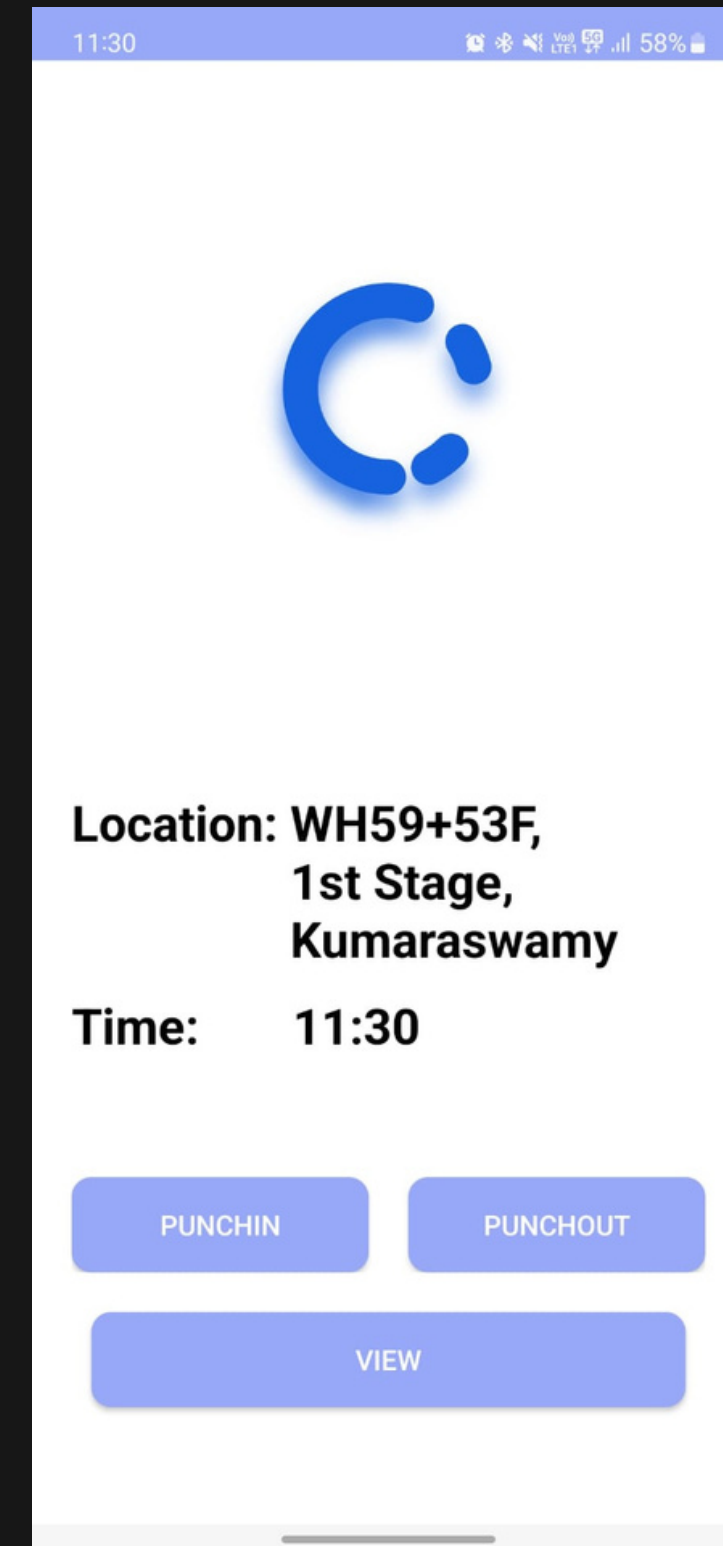
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The App



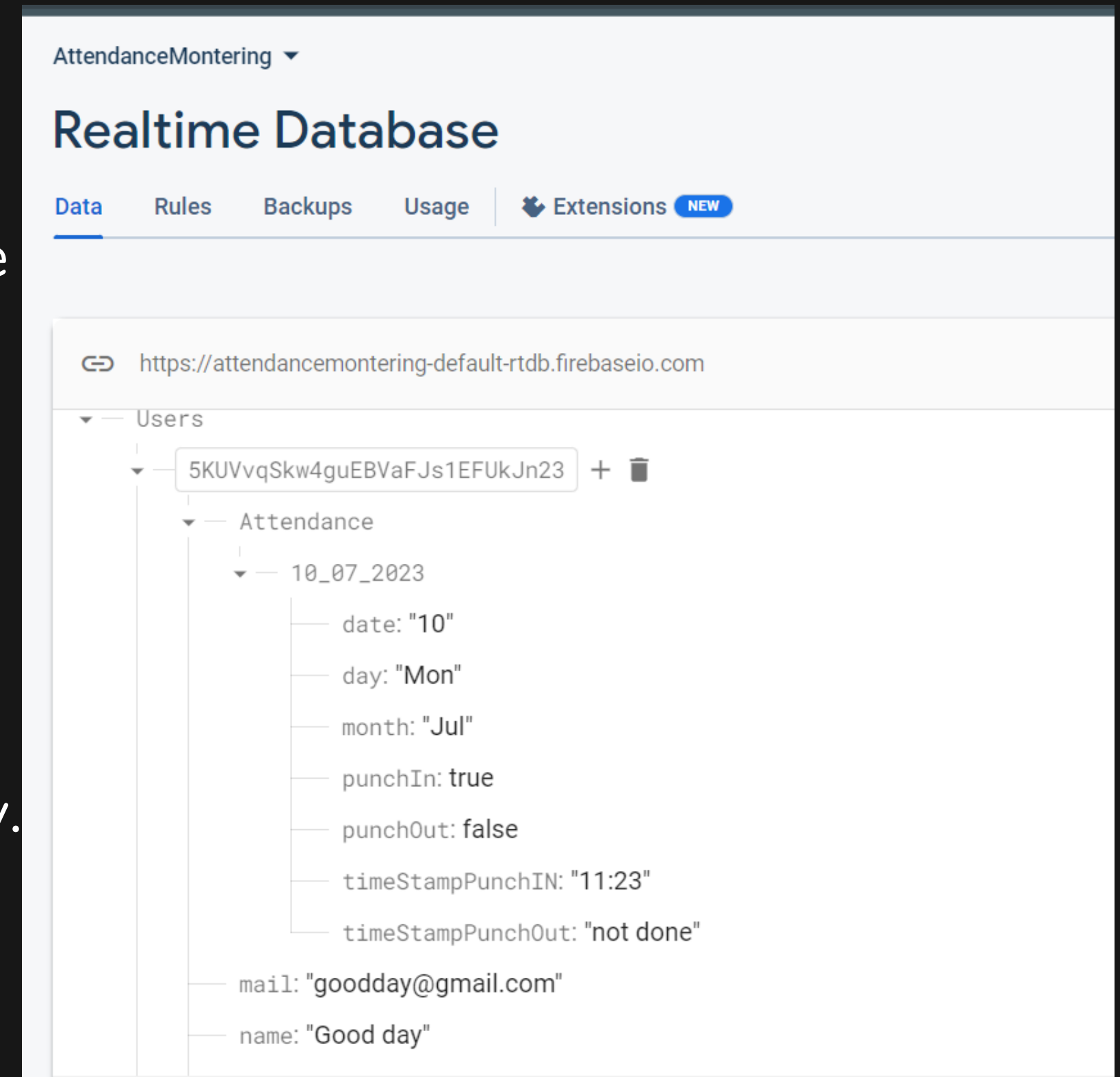
Android App: A User-Friendly Interface

- The Android App is an integral part of the attendance eco system, providing a user-friendly interface for both students and teachers. The app allows students to mark their attendance easily and view their attendance history, while teachers can view attendance reports and manage their classes.
- With a simple and intuitive design, the Android App makes attendance management easy and accessible for everyone. The app is also highly customizable, allowing institutions to add their own branding and features.



Firebase: A Secure Database

- Firebase is a secure database used in the attendance eco system for storing attendance data. The platform provides real-time synchronization of data across multiple devices, ensuring that all data is up-to-date and accurate.
- Using Firebase, the attendance eco system can store attendance data securely, with access restricted to authorized personnel only. The platform also provides backup and recovery options, ensuring that data is never lost or compromised.



Thank You

