

Livestock Tracking Device

by Aumkar Ranjan Behura
Dhruva Meravanige
Siddanth Ganapathy K A



Necessity

Why track cattle?

- Health Monitoring: Enables early detection of health issues by tracking vital signs and behavior changes, reducing disease spread.
- Location Management: Prevents theft, manages grazing, and reduces the chances of animals getting lost.
- Feed Efficiency: Monitors feed consumption for better diet management and growth.
- Disease Control: Helps in identifying and isolating sick animals quickly.
- Asset Management: Maintains detailed records of each animal's health, age, and productivity.
- Improved Welfare: Alerts farmers to distress signals, promoting better animal welfare.
- Compliance: Simplifies record-keeping for regulatory requirements and certifications.

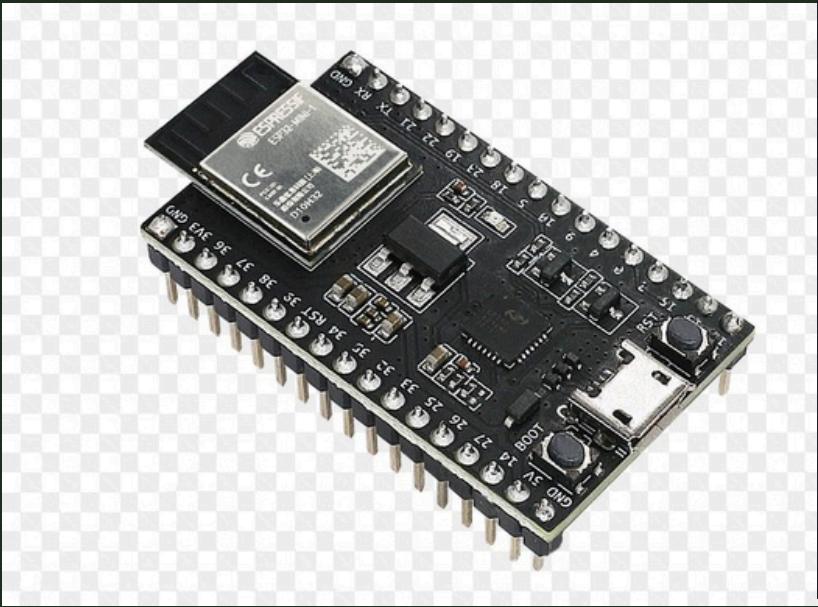
Implementation

Components

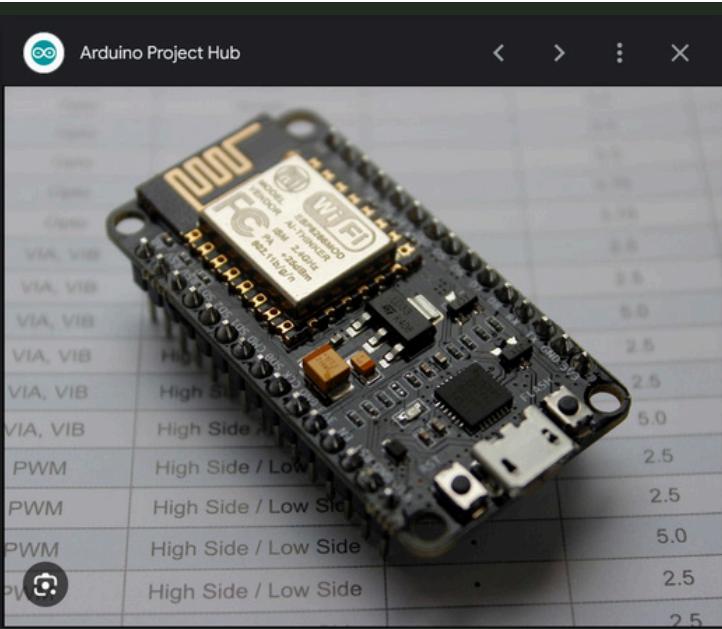
- 1.ESP-32C2 ESPC-12 Devkit Development Board
2. ESP8266 Board
3. DHT11 Temperature Sensor
4. MQ135 Air Quality Sensor
5. MPU6050 Accelerometer + Gyroscope
6. GYNEO6MV2 GPS Module with Antenna



6.



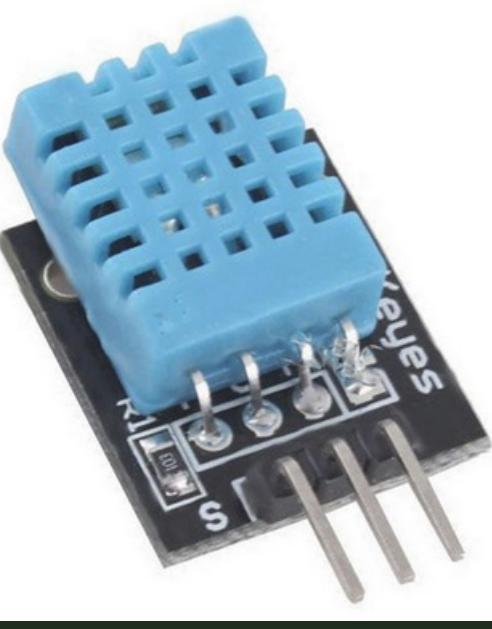
1.



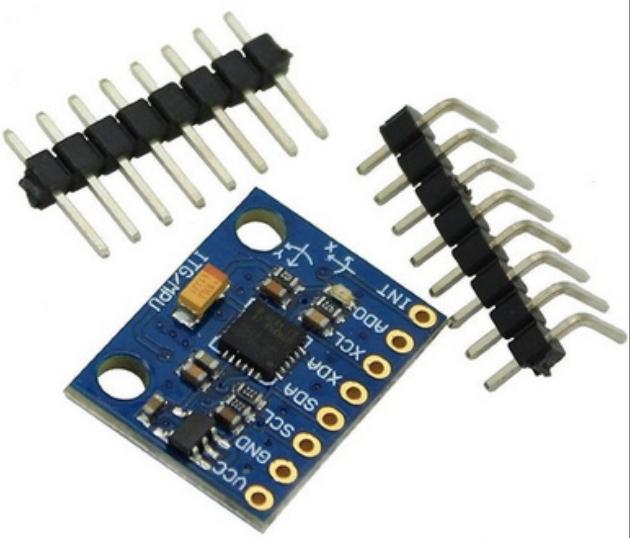
2.



3.

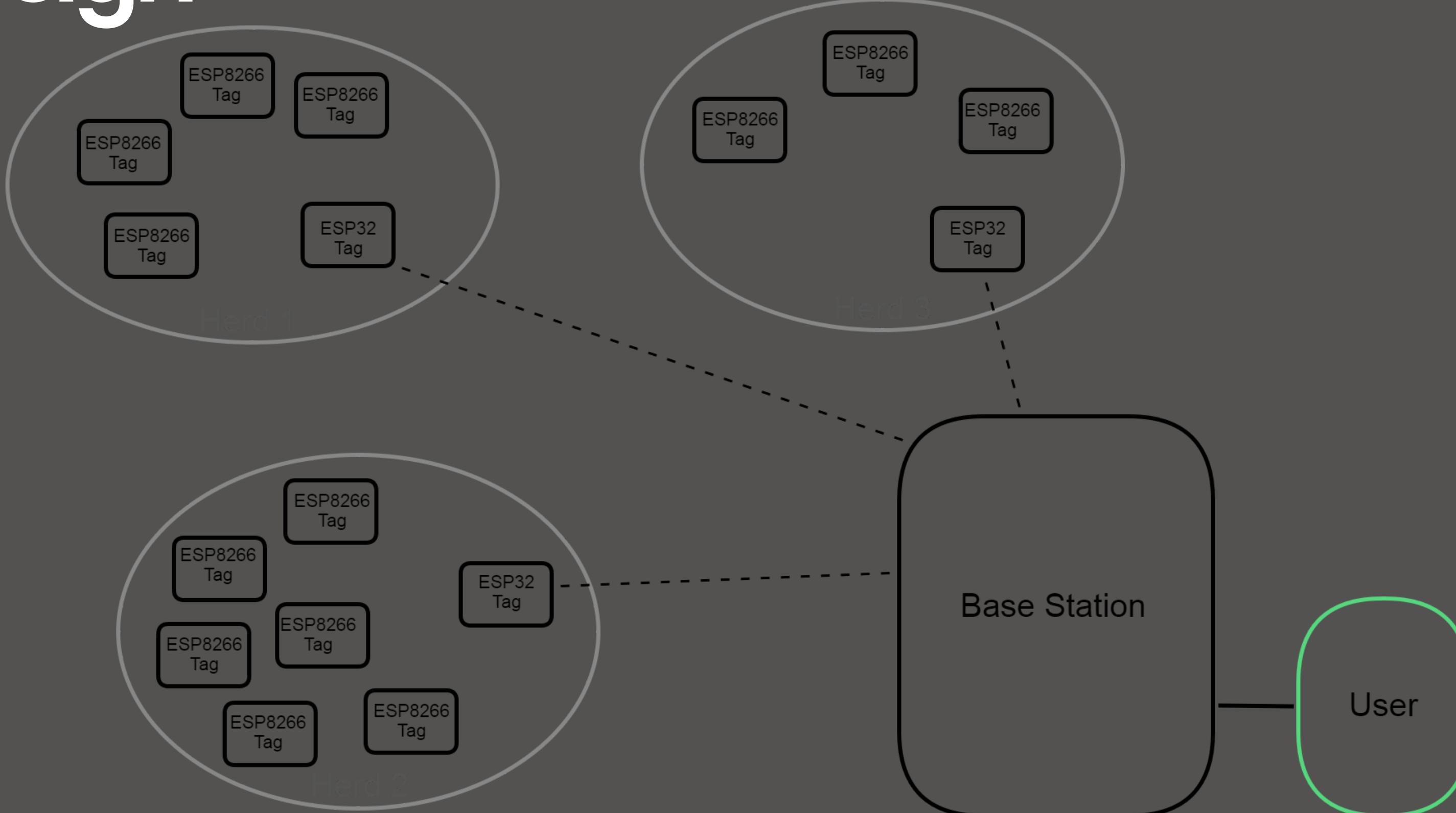


4.

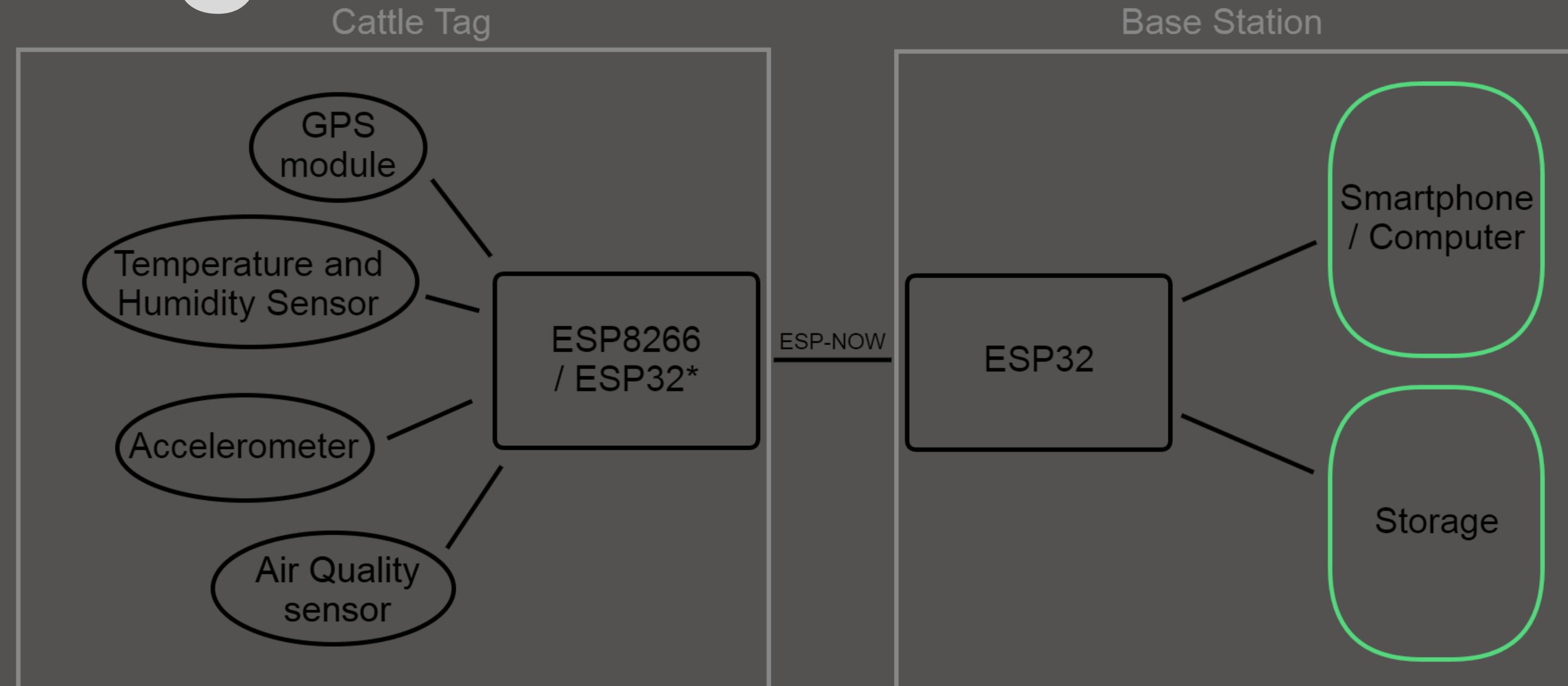


5.

Design



Design

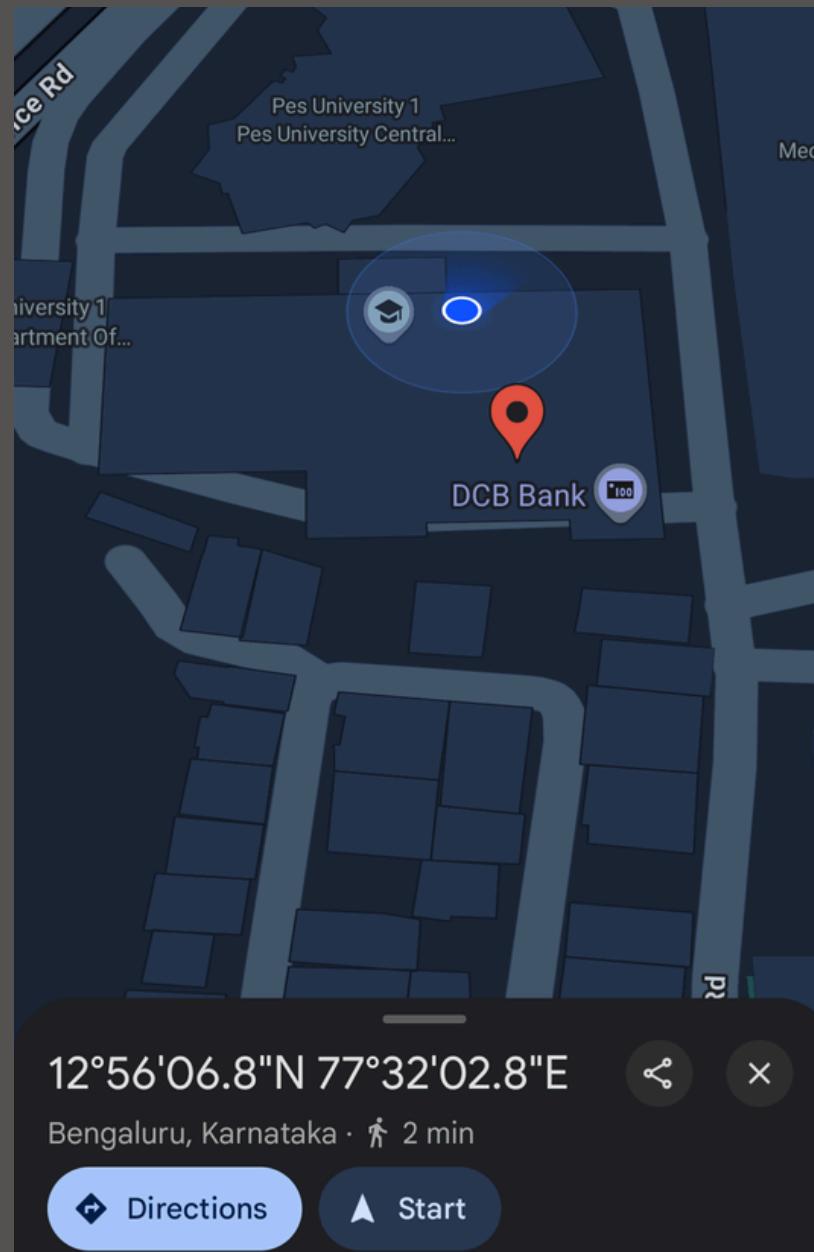


*ESP32 is used in the cattle tag when the tagging scheme calls for more than 10 tags per base station.

Design

The screenshot shows a web browser window titled "Cattle Tracker" with the URL "192.168.4.1". The page title is "Cattle Tracking & Monitoring System" and the subtitle is "Real-time Monitoring of Temperature, Humidity, Battery, and More". There are two cards displayed:

- Card 1:** Battery: 45%, Temperature: 28.4°C, Humidity: 66%, Air Quality: 6.34, GPS: (0.00, 0.00). Buttons: "View on Map", "Acc_x: 10.05", "Acc_y: 0.39", "Acc_z: 0.91".
- Card 2:** Battery: 9%, Temperature: 4°C, Humidity: 11%, Air Quality: 13, GPS: (13.00, 5.00). Buttons: "View on Map", "Acc_x: 11", "Acc_y: 44", "Acc_z: 7". A warning message: "Warning: High Acceleration Detected!"





thank you