COLLAR/BELT FOR LIVESTOCK INTEGRATED WITH LIVE TRACKING FOR FARMER SUPPORT.

TEAM MEMBERS:-

AISHWARYA SRIVASTAVA (A-11)
AMULYA P R (A-17)
ARIN SINGH (A-28)
ARJUN BALA (A-29)
ARYAN SAHU (A-30)
DHVANI JAIN (A-52)

PROBLEM STATEMENT

CELEBRATING 25 YEARS
CMRIT
CMR INSTITUTE OF TECHNOLOGY, BENGALURU.
ACCREDITED WITH A++ GRADE BY NAAC

LIVESTOCK TRACKING AND MANAGEMENT: IOT DEVICES SUCH AS GPS TRACKERS ARE USED TO MONITOR THE LOCATION AND MOVEMENT OF LIVESTOCK. THIS HELPS FARMERS PREVENT THEFT, TRACK GRAZING PATTERNS, AND MANAGE HERD HEALTH.

EXISTING SYSTEMS

Intuz IoT Livestock Management Platform

- Combines AI and IoT sensors to monitor livestock health, environment, and behavior.
- Offers real-time alerts, environmental monitoring, and centralized data analysis
- Helps farmers make data-driven decisions for welfare and productivity

HashStudioz Livestock Monitoring

- Provides GPS tracking, temperature sensors, and motion detection.
- Enables geofencing, grazing pattern analysis, and disease prediction
- Integrated with cloud platforms for remote access and analytics

COMMON TECHNOLOGIES USED

- GPS & LoRaWAN
- Environmental Sensors
- AI & ML
- RFID & Bluetooth LE

COMPARE

Satellite + Mesh Hybrid Tracking :
Uses GPS + LoRaWan .Provides global real-time tracking, even without mobile network.

Making it run in “sleep mode” and wake up every few minutes, so it saves a lot of energy.

Each belt has a unique RFID ID stored on blockchain, preventing data tampering.
Ensures secure, traceable identification.

Adding a small, solar strip that just extends battery life instead of fully powering it. The focus isn’t just “solar tracker” but “long-lasting tracker.”

ours

If belt is cut or removed, it sends a trigger alert to the farmer’s phone.

Geo-fencing alerts- If an animal leaves a designated area, the system sends an alert — helping prevent theft or loss.

Behavioral anomalies:- Unusual movement patterns can signal illness, injury, enabling early intervention.

Belts share alerts—if many animals start running, system detects predator attacks.
Enables group-level safety response

COSTS

As an individual belt it will cost ₹3,000 – 4000

As a mass produced unit it will cost ₹1,200 – ₹2,500

Optional Add-ons :

- LoRaWAN
- Temperature/Heart Rate
- Sensors

These add-ons will increase the cost

Backend & Dashboard Costs
Cloud dashboard setup: ₹1lac-₹2lac
Mobile app : ₹1lac – ₹2lac
Monthly cloud hosting: ₹2k– ₹7k

Whatever new gadgets we are using will be a little expensive but are surely worthy

One time investment

CELEBRATING 25 YEARS

CMRIT

CMR INSTITUTE OF TECHNOLOGY, BENGALURU.

ACCREDITED WITH A++ GRADE BY NAAC

THANK YOU