

GPS Vehicle Tracking System

Overview

The **TerraNerve GPS Vehicle Tracking System** is an in-house real-time fleet monitoring solution that provides centralized visibility into vehicle movement, operational status, playback travel history, and fuel indication through an interactive web and mobile dashboard using live GPS telemetry and digital map integration.

Business Challenges

- Lack of real-time vehicle visibility
- Manual vehicle tracking
- Difficulty monitoring idle/stopped vehicles
- No centralized fleet travelling dashboard
- Inefficient historical route playback

Objectives

- Enable live vehicle tracking
- Monitor Running / Idle / Stopped status
- Provide fleet status dashboard
- Implement route playback analysis
- Improve decision-making with real-time data

Solution Implemented

- Live map-based vehicle tracking
- Fleet summary dashboard
- Vehicle status monitoring
- Historical route playback
- Real-time start / stop / idle alerts

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Technology Stack

Blazor | OpenStreetMap (OSM) | .NET Core APIs | SQL Server | IoT GPS Integration | Background Job Scheduler | Signalr | PostgreSQL

Role of AI

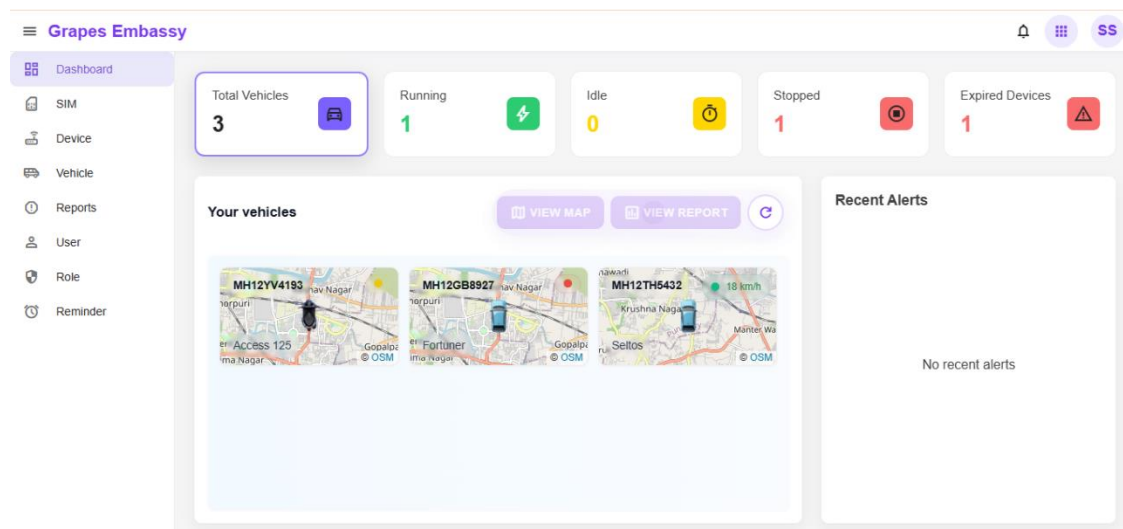
- Idle-time prediction
- Route pattern analysis
- Movement anomaly detection
- Smart inactivity alerts

Business Impact

- Improved fleet monitoring
- Reduced idle downtime
- Enhanced operational visibility
- Better route auditing
- Increased response time

Conclusion

The TerraNerve GPS system enabled real-time fleet intelligence, improving asset utilization and operational decision-making through centralized monitoring.



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