EV.Engineer™

iTelematics®

AI-Powered Smart Garage System

Ensuring a Fire-Free, Secure & Sustainable EV Future

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Domain Specific IoTs

Home
Schools, Hospitals, Office, Hotels, …

Vehicle
Police, Ambulance, Vehicle Diagnosis, …

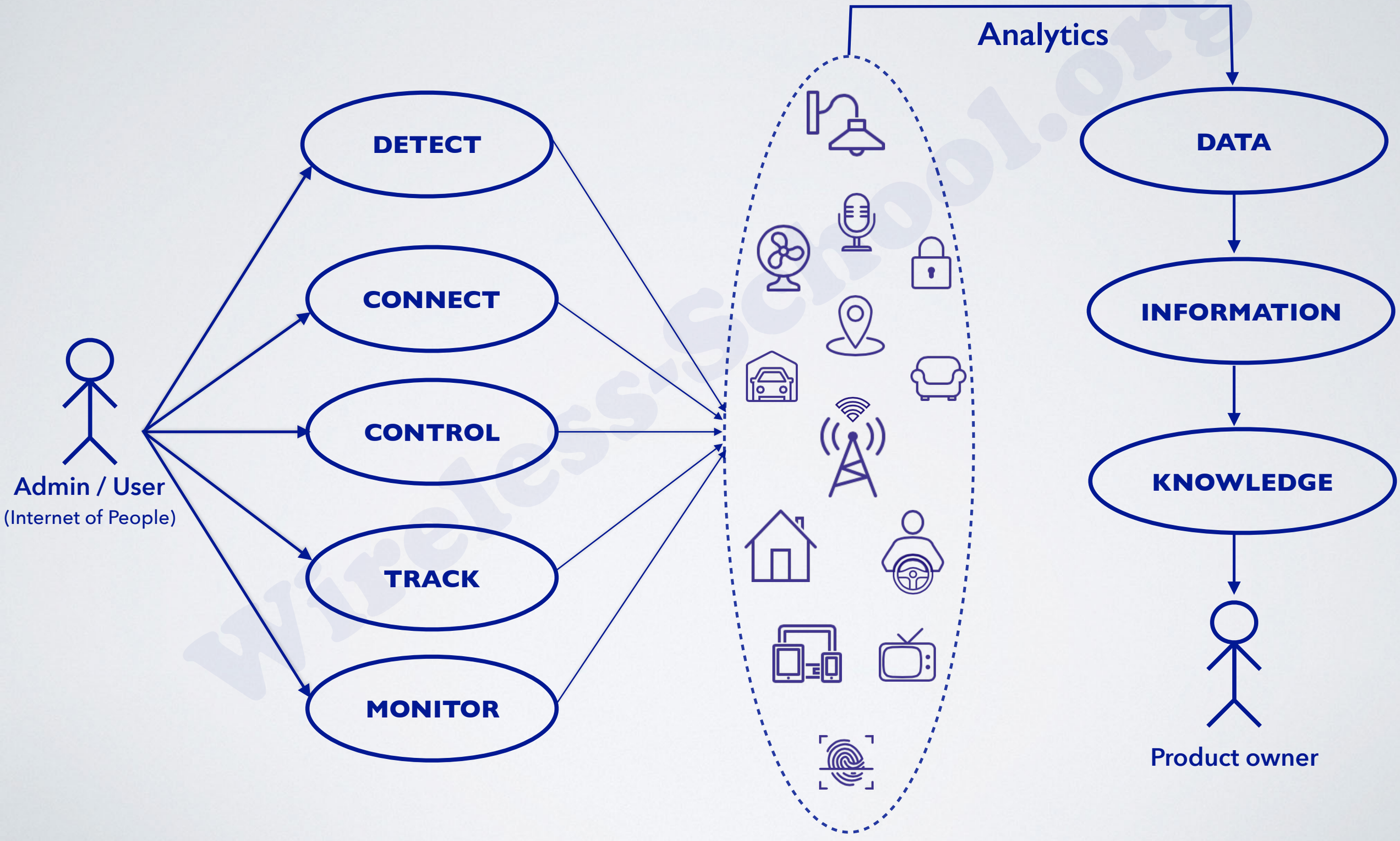
City
Smart Roads, Lighting, …

Health
Lifestyle

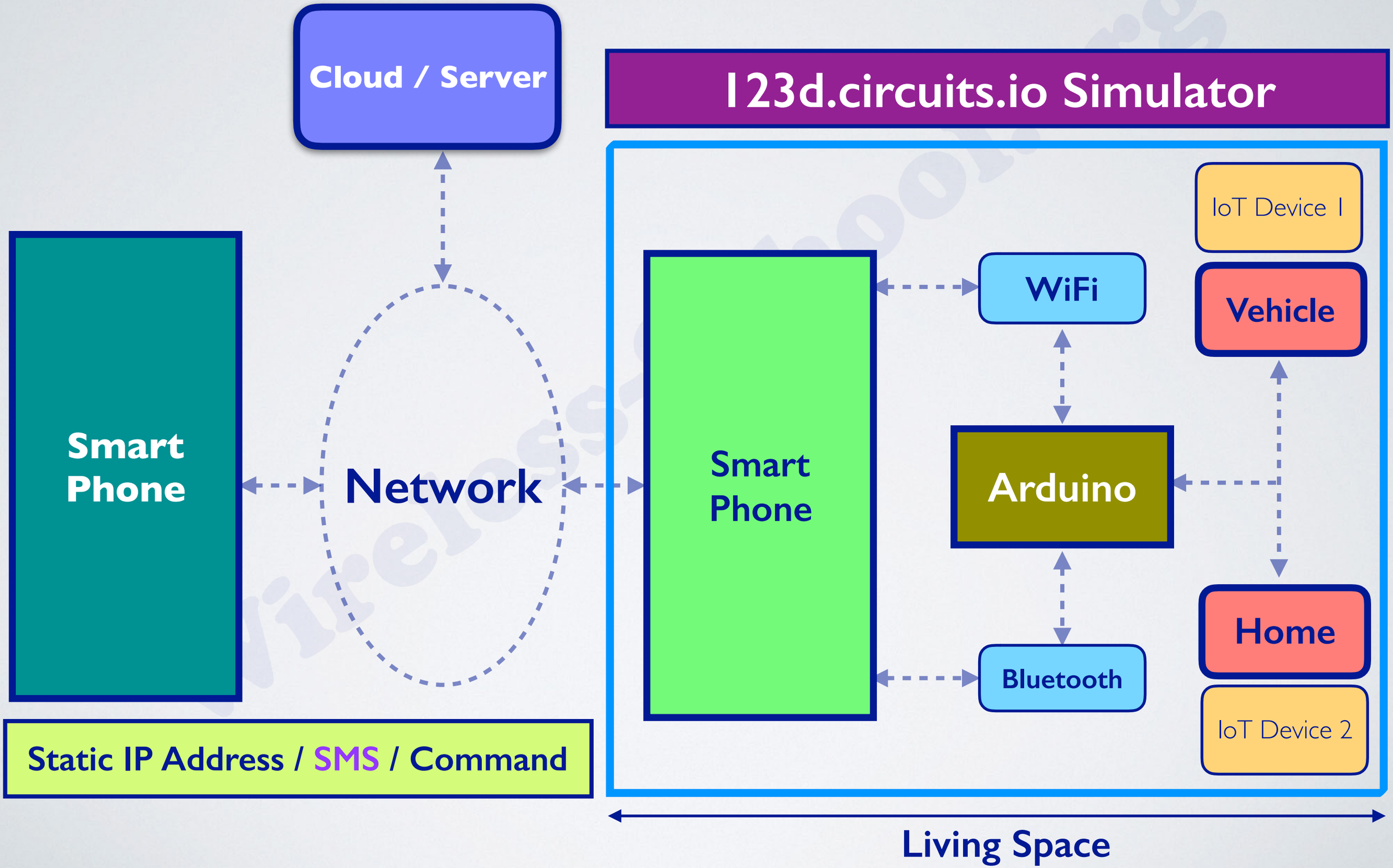
Energy
Management

…

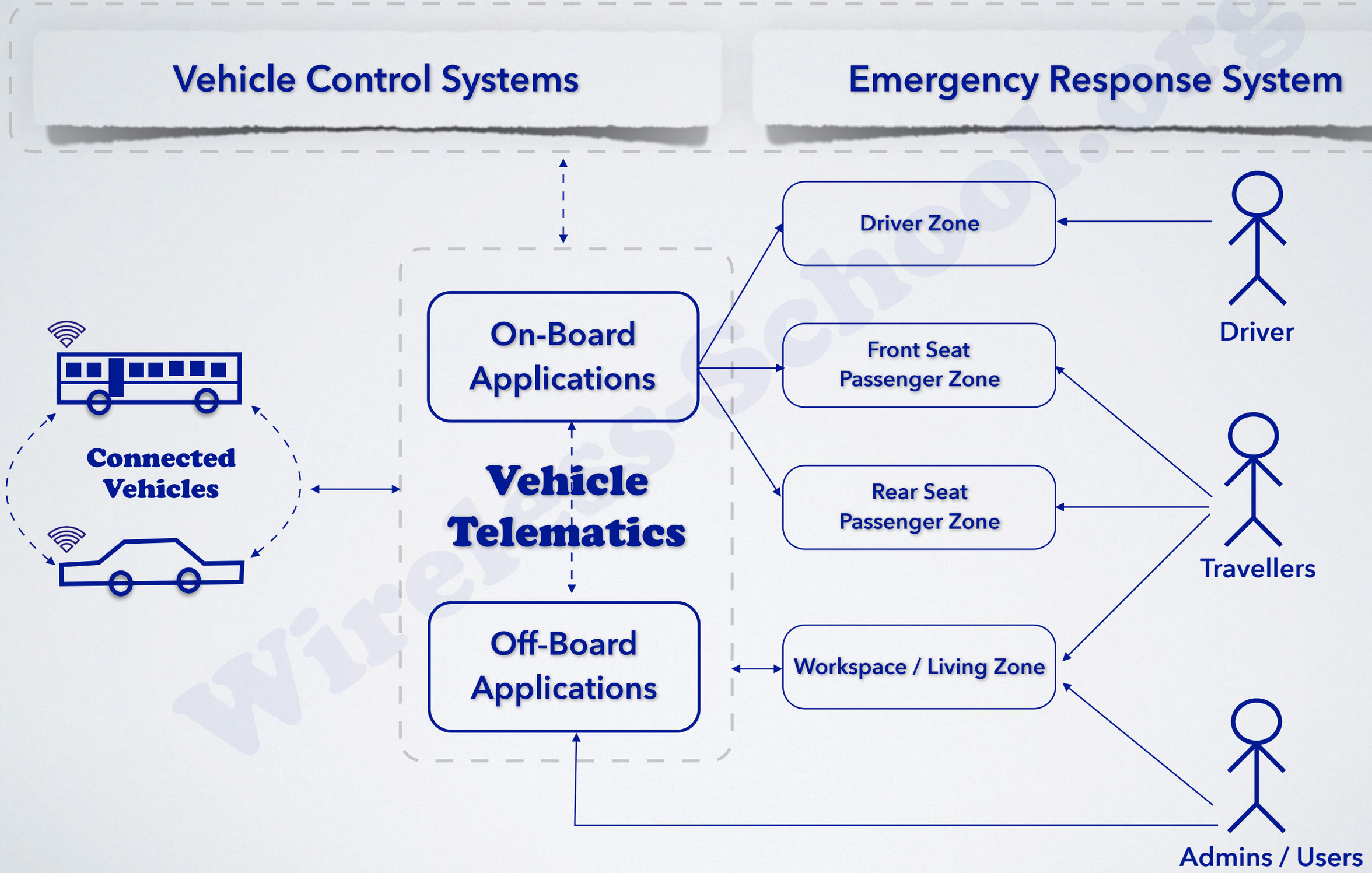
Internet of Things



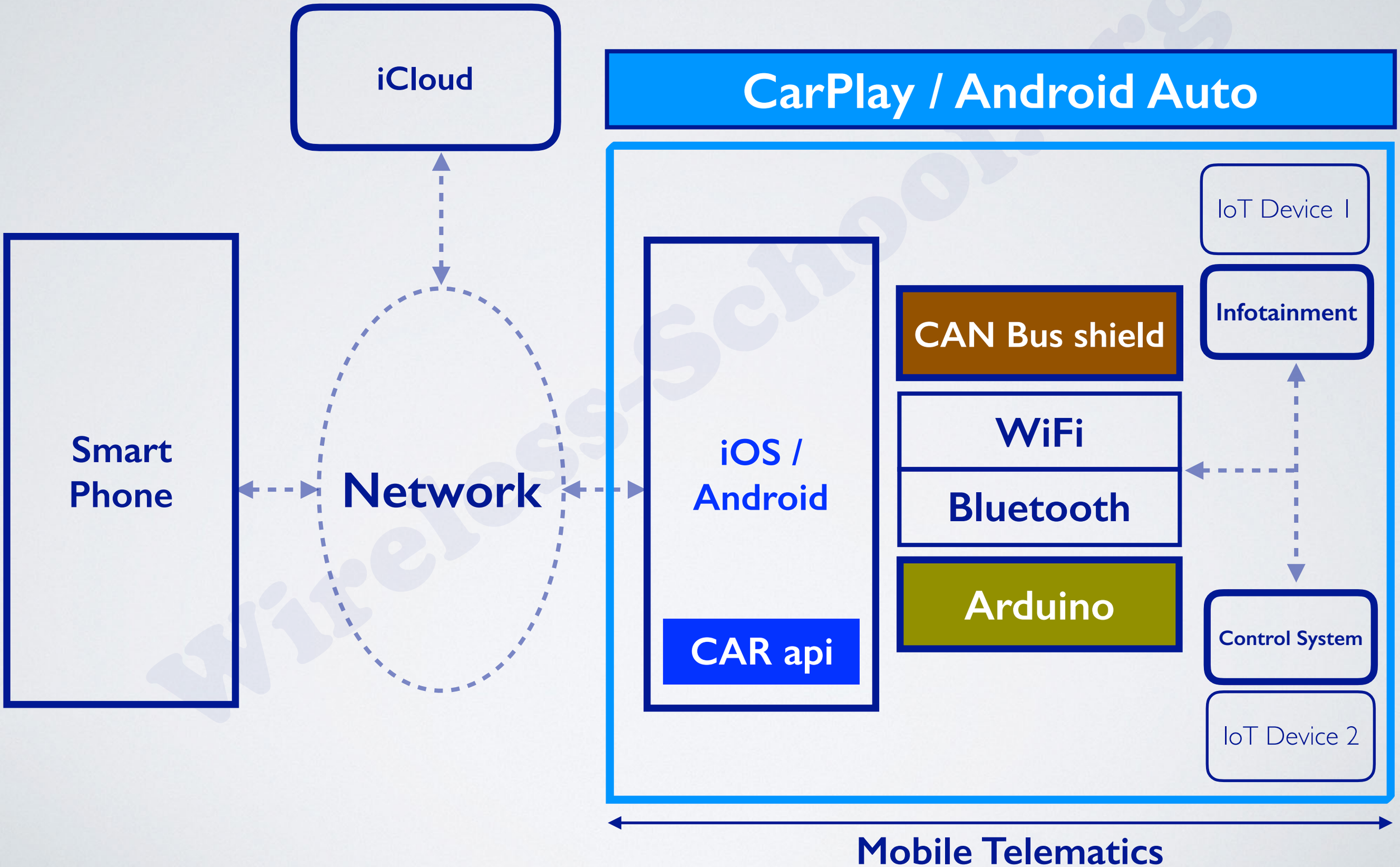
Generic IoT Communication



Block Diagram



Connect & Control CAR



AI-Powered EV Battery Fire Prevention System

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EV.Engineer, iTelematics Software Private Limited

Information Technology, NIT Karnataka, Surathkal

Electric Vehicle Engineering & Development, CODE, IIT Madras

AI-Powered EV Battery Fire Prevention System

The Problem

EV Battery Fires are a Major Concern

- Frequent thermal runaway incidents leading to fire hazards.
- Lack of real-time battery health monitoring & risk alerts.
- Fleet operators & EV owners suffer from unexpected breakdowns and expensive battery replacements.
- Regulatory pressure (AIS-156) for stricter safety measures.

Example : Bangalore has seen a 300% increase in EV fire incidents in 2023-24.

Project / Module Details

AI-Powered EV Battery Fire Prevention System

- Battery Temperature Monitoring System
- Battery Voltage & Current Analysis
- State of Charge (SOC) Estimation
- EV Battery Health Prediction
- Real-Time Battery Monitoring with IoT
- Intrusion Detection in Battery Management System (BMS)

The Solution

Leverages AI & Machine Learning to predict battery failures before thermal runaway.

Real-Time Monitoring of critical parameters:

- Temperature fluctuations
- Voltage imbalances
- Cell inconsistencies

AI-Driven Predictive Analytics for early detection of anomalies.

Automated Preventive Actions:

- Controlled discharge to prevent overheating
- Active cooling mechanisms (liquid/air cooling)
- Emergency shutdown & alerts

Seamless BMS Integration:

- Works with existing Battery Management Systems
- Adds AI-powered safety layer

Cloud-Based Analytics & OTA Updates:

- Continuous learning from real-world battery failures
- Over-the-Air (OTA) updates for AI model improvements

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Join Us in Creating a Fire-Free EV Future!

Looking for Strategic Partners, Pilot Customers & Investors.

Thank you

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