Connected Vehicles Management System

Background

A connected vehicle database management system gathers and analyzes real-time data from vehicle sensors, GPS, and communication modules, covering aspects like location, speed, fuel use, and maintenance. It also interacts with insurance companies to provide driving data for risk assessments and with emergency services to relay critical information quickly in case of incidents. The system must ensure data integrity, security, and scalability while being compatible with cloud services and edge devices, enabling advanced analytics, remote diagnostics, and over-the-air updates.

Mission statement/Objectives:

- A distributed database architecture that will capture and store different types of connected vehicle data like driver profiles, vehicle telemetry, insurance providers and emergency care providers.
- Design a database that is smooth for integration with many external systems and get data from real time data streams like IOT devices.
- Ensure the system is highly effective in emergency situations, such as accidents, by enabling rapid ambulance dispatch.
- Develop a database that can scale horizontally and vertically to accommodate future growth and enhancements.
- Ensure data accessibility for end users, allowing them to view detailed information about their vehicles.