Real Time Vehicle Tracking System

System Architecture (Front End, Back End, Database)

1. Architecture Overview

The Real Time Vehicle Tracking System follows a three-tier architecture consisting of Front End, Back End, and Database layers. This structure ensures efficient data collection, processing, storage, and real-time visualization of vehicle location information.

2. Front End

- Developed using HTML, CSS, JavaScript or mobile app frameworks.
- Displays vehicle location on Google Maps or other map services.
- Provides dashboard with live tracking, route history, and alerts.
- Allows user login and authentication.
- Shows vehicle speed, status, and real-time updates.

3. Back End

- Handles communication between GPS device and server.
- Receives data through GSM/GPRS or Internet.
- Processes latitude and longitude coordinates.
- Implements APIs for data transfer.
- Manages authentication and business logic.

4. Database

- Stores vehicle details and user information.
- Saves real-time location data with timestamp.
- Maintains route history and tracking logs.
- Supports SQL databases like MySQL or PostgreSQL.

- Ensures secure and efficient data retrieval.

5. Conclusion

The three-tier architecture of the Real Time Vehicle Tracking System ensures scalability, security, and efficient real-time monitoring. The Front End provides visualization, the Back End manages processing and communication, and the Database securely stores all tracking data.