University Transport ERP System

1. Database Schema Design

[Student]: id, admission_no, name, course, year, contact_number, address, is_active
[Driver]: id, name, license_no, phone_number, address, is_active
[Vehicle]: id, vehicle_number, type, capacity, driver_id (FK), is_active
[Route]: id, route_name, start_point, end_point, stops, estimated_time
[TransportAssignment]: id, student_id (FK), vehicle_id (FK), route_id (FK), seat_number, assigned_date, is_active
[TransportFee]: id, student_id (FK), academic_year, fee_amount, paid_amount, due_date, payment_status
[GPSLog]: id, vehicle_id (FK), timestamp, latitude, longitude, speed
[Notification]: id, recipient_type, recipient_id, message, created_at, is_read

2. System Architecture

UI Layer -> Backend API -> DB + GPS Engine + Notification Engine
Database: PostgreSQL or MySQL
GPS: Leaflet.js + OSM logs to GPSLog
Notifications: Email/SMS APIs

3. Flow Chart

4. UI Module List

- Student Management
- Vehicle Management
- Driver Management
- Route Management
- Transport Assignment
- GPS Dashboard
- Transport Fee Module
- Reports
- Notification Center