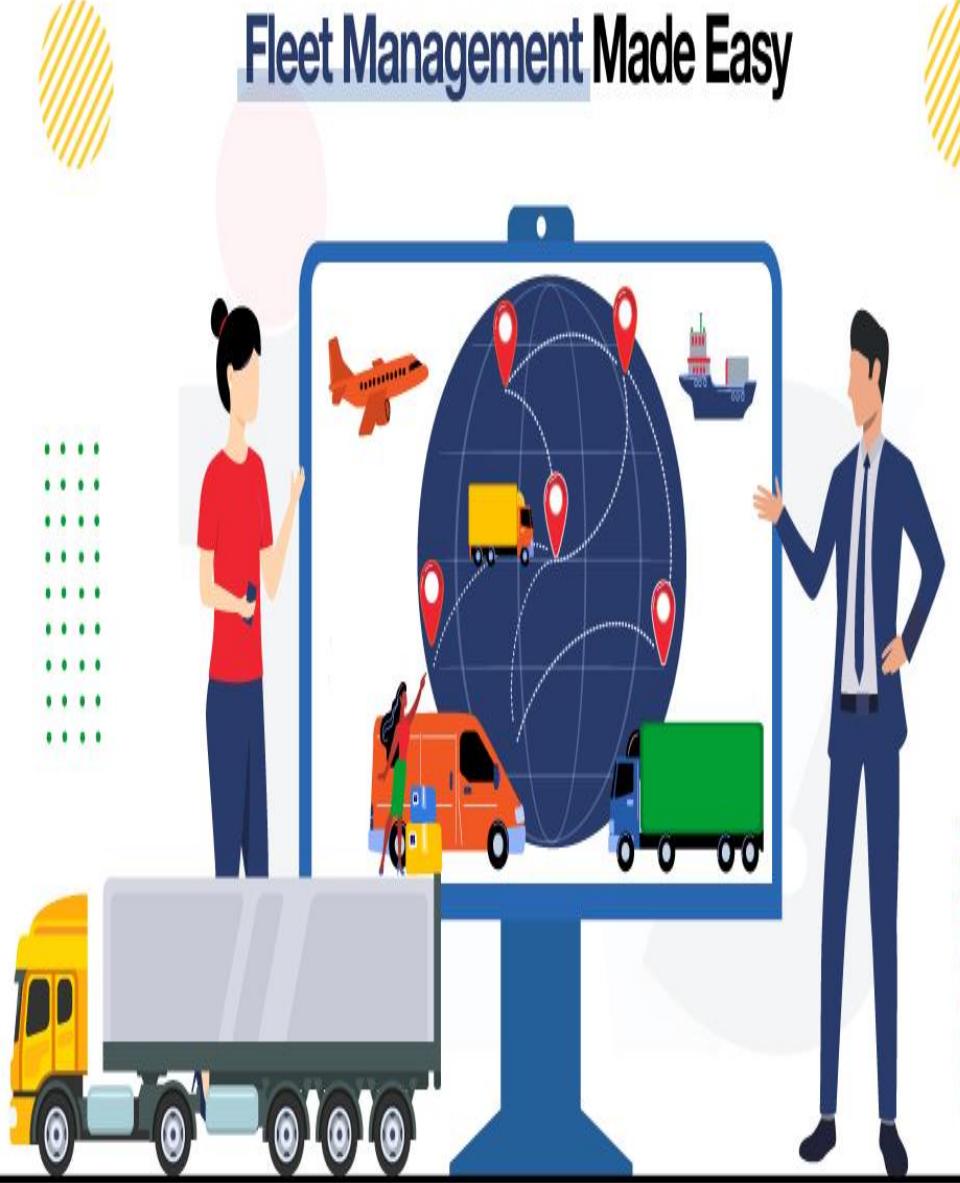


# INFOSYS SPRINGBOARD INTERNSHIP 6.0



## NeuroFleetX - AI-Driven Urban Mobility Optimization

**Tech Stack:**  
**React.js • Spring Boot • PostgreSQL • REST APIs**

### What is NeuroFleetX?

A full-stack fleet management and analytics platform that simulates real-world fleet operations, vehicle tracking, maintenance workflows, and multi-role dashboards for intelligent decision-making.

## Project Objectives

- Build a full-stack fleet management system with secure login and core modules.
- Provide real-time tracking, booking validation, and maintenance alerts.
- Develop role-based analytics dashboards with KPIs and charts.
- Deliver a modern, responsive UI with reusable components and dark mode.



## Methodology

- Planned & Analyzed system requirements and user roles.
- Developed Frontend using React with reusable components and modern UI.
- Built Backend using Spring Boot REST APIs connected to PostgreSQL.
- Integrated & Enhanced features like live tracking, validations, reminders, and analytics dashboards.

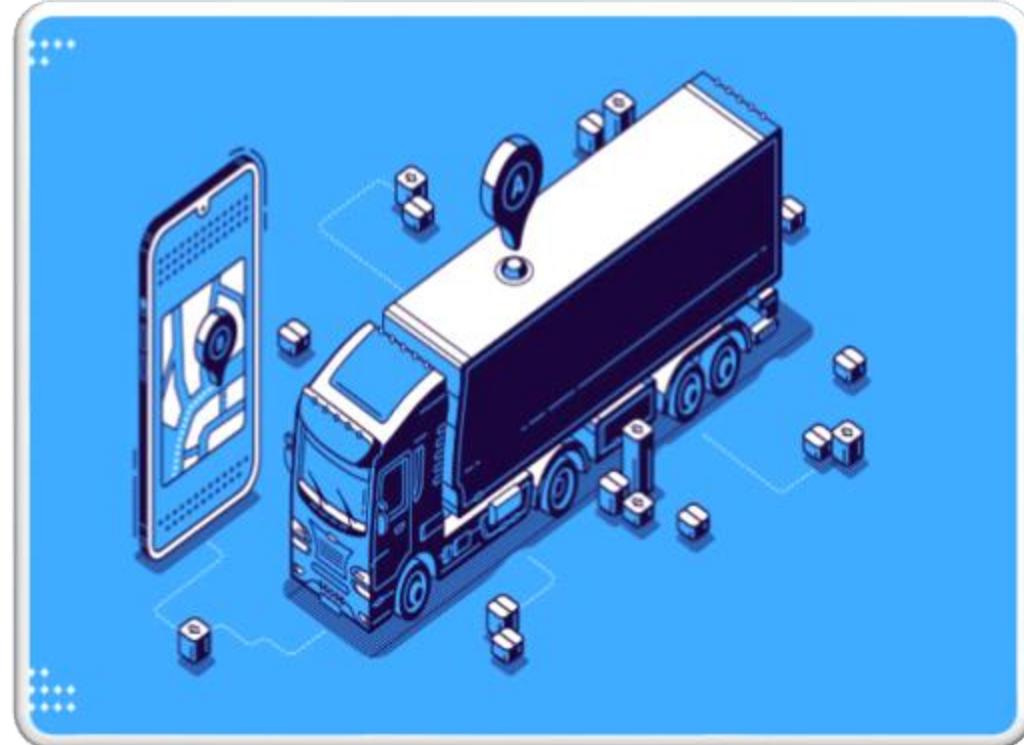
# System Overview & Core Modules

## » Core Functional Modules Developed

- Authentication System: Secure login, role-based access
- Fleet Dashboard: Real-time KPIs & operational insights
- Vehicles Module: Vehicle records + live tracking
- Bookings Module: Scheduling, conflict validation
- Maintenance Module: Alerts, reminders, service logs
- Settings Page: Configurations, theme options

## » Backend & Database

- Spring Boot REST API
- PostgreSQL relational schema
- Clean controllers, validations, entity mapping



# NeuroFleetX – AI-Driven Urban Mobility Optimization:



## Development Phase Overview

This phase focused on building the core system structure, essential modules, and the initial interface needed to operate NeuroFleetX effectively.



## Core Platform Setup

Configured the full-stack environment using React, Spring Boot, and PostgreSQL. Established reusable components, routing, and database schema to support scalable development.



## Backend API Development

Created key REST APIs for authentication, vehicles, bookings, maintenance, and settings. Implemented structured controllers, validations, and secure data communication across modules.



## Primary UI & Dashboard Design

Developed the initial Dashboard, Vehicles, Bookings, and Maintenance pages with responsive layouts and pastel-themed UI design. Added basic interactions, smooth transitions, and intuitive navigation.

# Milestones

01

## **Milestone 1 – Foundation Setup**

Learned Java, React, Spring Boot basics and built the initial login UI, API practice, and project environment setup.

02

## **Milestone 2 – Core Module Development**

Completed Authentication, Dashboard, Vehicles, Bookings, Maintenance, and Settings pages with backend integration.

03

## **Milestone 3 – Feature Enhancements**

Added live tracking upgrades, maintenance reminders, booking validations, improved UI/UX.

04

## **Milestone 4 – Advanced Analytics Implementation**

Developed Admin, Employee, and Customer Analytics dashboards with KPIs, charts, filters, tables, reusable components.



## Weeks 1–2

- Learned Java, React basics, Spring Boot, and database setup.
- Built initial login page and practiced API connections.



## Weeks 3–4

- Developed core pages: Dashboard, Vehicles, Bookings, Maintenance, Settings.
- Implemented backend APIs and linked all modules.



## Weeks 5–6

- Completed full frontend–backend integration with PostgreSQL.
- Fixed issues, added validations, and presented core milestone.



## Weeks 7–8

- Added enhancements: tracking, reminders, theme options.
- Built Admin, Employee, Customer Analytics dashboards with KPIs & charts.

# Project Results:

NeuroFleetX  
INTELLIGENT FLEET MANAGEMENT

Menu

- Dashboard
- Vehicles
- Bookings
- Maintenance
- Settings
- Admin Analytics
- Employee Analytics
- Customer Analytics

Theme

Fleet Dashboard  
Real-time fleet management & analytics

Active Vehicles: 3 (+2 from yesterday)

In Service: 1 (Currently operating)

Offline: 1 (Requires attention)

Total Distance: 2,340km (This week)

Weekly Trip Activity

Today's Metrics: 340 Completed trips

Performance: 98.5% Fuel efficiency

Revenue: ₹85K (this month)

Live Location Map

Fleet Status

| Vehicle   | Model        | Status     | Location         |
|-----------|--------------|------------|------------------|
| NF-1001   | Toyota Prius | ACTIVE     | 12.976, 77.5946  |
| NF-1002   | Hyundai i20  | IN_SERVICE | 12.9750, 77.5990 |
| TN-9500   | SPLENDER     | ACTIVE     | 12.976, 77.5946  |
| BH-291D9  | HONDA        | OFFLINE    | 12.976, 77.5946  |
| TN-987539 | PASSION      | ACTIVE     | 12.976, 77.5946  |

# Project Results:

 NeuroFleetX  
INTELLIGENT FLEET MANAGEMENT

Search vehicles, bookings...

Menu

- Dashboard
- Vehicles
- Bookings
- Maintenance
- Settings
- Admin Analytics
- Employee Analytics
- Customer Analytics
- Theme

My Profile

Settings

Logout

+ Add Vehicle

## Vehicle Fleet Management

Manage and monitor all vehicles in real-time

### Add New Vehicle

Vehicle Number:  Model:  Status: ACTIVE  Latitude: 12.9716 Longitude: 77.5946

✓ Active: 3      ⚡ In Service: 1      X Offline: 1

|   |  |   |  |  |
|---|--|---|--|--|
| <b>NF-1001</b><br>Toyota Prius<br><br>ACTIVE<br>@ 12.972, 77.595<br><input type="button" value="View"/> <input type="button" value="Delete"/> | <b>NF-1002</b><br>Hyundai i20<br><br>IN_SERVICE<br>@ 12.975, 77.599<br><input type="button" value="View"/> <input type="button" value="Delete"/> | <b>TN-9500</b><br>SPLENDER<br><br>ACTIVE<br>@ 12.972, 77.595<br><input type="button" value="View"/> <input type="button" value="Delete"/> | <b>BH-29ID9</b><br>HONDA<br><br>OFFLINE<br>@ 12.972, 77.595<br><input type="button" value="View"/> <input type="button" value="Delete"/> | <b>TN-987539</b><br>PASSION<br><br>ACTIVE<br>@ 12.972, 77.595<br><input type="button" value="View"/> <input type="button" value="Delete"/> |
|---|--|---|--|--|

# » Project Results:

 NeuroFleetX  
INTELLIGENT FLEET MANAGEMENT

Menu

- Dashboard
- Vehicles
- Bookings**
- Maintenance
- Settings
- Admin Analytics
- Employee Analytics
- Customer Analytics
- Theme

Search vehicles, bookings...

My Profile

Settings

Logout

## Booking Management

Create and manage your vehicle bookings

### Create Booking

Customer name

Customer email

Pickup

Drop

Vehicle type

**Create**

Booked 2

Completed 1

Total Revenue ₹250

**Alice**  
Booking ID: 1 ✓  
📍 MG Road → Indiranagar  
₹ 250  
**COMPLETED** Details

**JOHN**  
Booking ID: 2 📅  
📍 PARIS STREET → MNC ROAD  
**BOOKED** Details

**JACK**  
Booking ID: 3 📅  
📍 ABD ROAD → MOUNT VIEW STREET  
**BOOKED** Details

# » Project results:

The screenshot shows the Maintenance Management section of the NeuroFleetX platform. It displays a list of scheduled vehicle maintenance tasks across six rows. Each row includes the vehicle ID, type of service, scheduled date, and cost.

| Vehicle  | Type                               | Scheduled Date | Cost  |
|----------|------------------------------------|----------------|-------|
| NF-1002  | Oil Change                         | 2025-12-01     | ₹ -   |
| TN-2004  | TVS                                | 2025-11-18     | ₹ -   |
| TN-2004  | Bike Repair                        | 2025-11-18     | ₹ -   |
| KN-3869  | Tyre Change                        | 2025-11-17     | ₹ -   |
| BH-JI290 | Oil Change                         | 2025-11-18     | ₹250  |
| AP-4U8H  | Yearly Check                       | 2025-11-17     | ₹1000 |
| AP-4U8H  | Checking Full Condition of Vehicle | 2025-11-17     | ₹ -   |

The screenshot shows the Settings page of the NeuroFleetX platform. On the left, a sidebar lists navigation options: Dashboard, Vehicles, Bookings, Maintenance, Settings, Admin Analytics, Employee Analytics, Customer Analytics, and Theme. On the right, several configuration sections are displayed, each with an icon and a brief description.

- Settings**: Appearance, Notifications, Performance, Security (highlighted), About
- Two-Factor Authentication**: Add an extra layer of security. Includes an **Enable** button.
- Session Timeout**: Auto-logout after 30 minutes. Includes a **Configure** button.
- Data Privacy**: Manage your data and privacy settings. Includes a **Manage** button.
- Login Activity**: View recent login history. Includes a **View** button.

# » Project Results:

 NeuroFleetX  
INTELLIGENT FLEET MANAGEMENT

Search vehicles, bookings...

Last 7 days ▾ Group by day ▾ Export CSV Refresh

Menu

- Dashboard
- Vehicles
- Bookings
- Maintenance
- Settings

Admin Analytics

High level fleet and usage overview

Active Vehicles: 1,254 

+3.2% vs last week

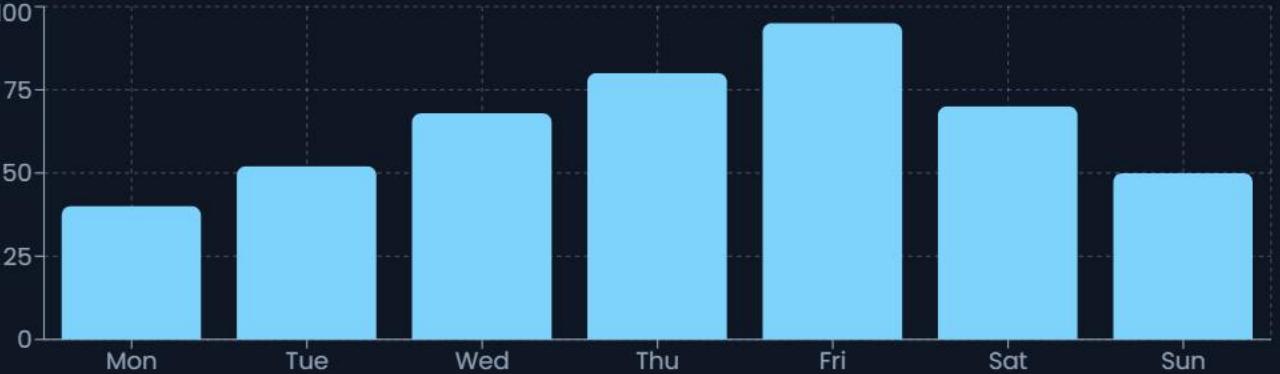
Total Rides: 18,420 

+6.8% month

Avg Rating: 4.82 

Top performers highlighted

Rides this week



| Day | Rides |
|-----|-------|
| Mon | 40    |
| Tue | 52    |
| Wed | 68    |
| Thu | 78    |
| Fri | 98    |
| Sat | 70    |
| Sun | 50    |

Fleet composition



| Type    | Count |
|---------|-------|
| Sedan   | 45    |
| Minivan | 25    |
| SUV     | 15    |
| Bicycle | 5     |

Top customers

| Name    | Rides | Revenue |
|---------|-------|---------|
| Alice M | 320   | \$3,200 |

Theme

- 
- 
-

# » Project Results:

 NeuroFleetX  
INTELLIGENT FLEET MANAGEMENT

Search vehicles, bookings...

drivers (1).csv  
68 B • Done

**Menu**

- Dashboard
- Vehicles
- Bookings
- Maintenance
- Settings
- Admin Analytics
- Employee Analytics**
- Customer Analytics

Theme

● ● ●

**Employee Analytics**  
Driver and operations performance

Last 7 days ▾ Group by day ▾ Export CSV Refresh

On-time % **89%** 

Avg Pickup time **4m 12s** 

Incidents **12** 

**On-time vs Delayed (weekly)**



| Week   | OnTime (%) | Delayed (%) |
|--------|------------|-------------|
| Week 1 | 75         | 25          |
| Week 2 | 78         | 22          |
| Week 3 | 76         | 24          |
| Week 4 | 79         | 21          |

Legend: onTime (light green), delayed (pink)

**Driver leaderboard**

| Name     | OnTime % | Rides |
|----------|----------|-------|
| Driver A | 96%      | 420   |
| Driver B | 94%      | 398   |
| Driver C | 91%      | 365   |

**Quick actions**

**Message top drivers** **Export leaderboard**

# Project Results:

**NeuroFleetX**  
INTELLIGENT FLEET MANAGEMENT

Search vehicles, bookings...

Last 7 days ▾ Group by day ▾ Export CSV Refresh

Active customers: 8,420 MRR: \$42,100 Churn: 1.8%

Revenue mix: Subscriptions (green), One-time (light blue), Promotions (pink) : 15

Cohort trend: Jan: 135, Feb: 140, Mar: 145, Apr: 150, May: 155, Jun: 160

| Segment  | Customers | Revenue  |
|----------|-----------|----------|
| Premium  | 2,340     | \$18,000 |
| Standard | 4,520     | \$18,500 |
| Promo    | 1,560     | \$5,600  |

**Customer Analytics**  
Customer engagement and revenue mix

Active customers: 8,420 MRR: \$42,100 Churn: 1.8%

Revenue mix: Subscriptions (green), One-time (light blue), Promotions (pink) : 15

Cohort trend: Jan: 135, Feb: 140, Mar: 145, Apr: 150, May: 155, Jun: 160

| Segment  | Customers | Revenue  |
|----------|-----------|----------|
| Premium  | 2,340     | \$18,000 |
| Standard | 4,520     | \$18,500 |
| Promo    | 1,560     | \$5,600  |



## Conclusion:

The NeuroFleetX project successfully delivered a full-stack fleet management system with modern UI, robust backend APIs, and advanced analytics dashboards. The work enhanced the platform's workflow efficiency, real-time visibility, and data-driven insights. Overall, the project demonstrates a strong integration of frontend, backend, and database technologies in a practical mobility solution.

