

Infosys Springboard Virtual Internship 6.0

Completion Report

Details

Batch Number : 5

Start date : 13-Oct-2025

Names: Sagarika Naik

Internship Duration: 8 Weeks

1. Project Title

NeuroFleetX – AI-Powered Fleet Management and Route Optimization Platform

2. Project Objective

The objective of this project was to design and conceptualize NeuroFleetX, an intelligent fleet management system powered by AI. The platform aims to simplify fleet operations through automated monitoring, optimized routing, driver-vehicle management, predictive insights, and real-time analytics.

The major goals included:

- Enhancing operational efficiency for rental and transport fleets
- Improving decision-making using analytics and data-driven insights
- Introducing health monitoring for vehicles
- Reducing manual overhead through automation
- Building a scalable architecture ready for AI-driven extensions

3. Project Description in detail

NeuroFleetX is a conceptual full-stack mobility management platform designed to support smart fleet operations. The system integrates AI, cloud technologies, data analytics, and telematics to optimize routing, monitoring, and resource allocation.

Key Features

- **Driver & Vehicle Management**
Unified module for registering, updating, and managing driver and vehicle records.
- **Booking Module**
Allows manual driver assignment for each trip using email-based booking.
- **Vehicle Condition Monitoring**
Tracks parameters such as engine status, braking response, accelerator usage, and fuel levels.
- **Route Distance Tool**
Shows straight-line distance between two locations (non-traffic aware).

- **Dashboard & Analytics**

Displays bar and pie charts for driver activity and vehicle health insights.

Technologies Used

- **Frontend:** React, HTML, CSS, JavaScript
- **Backend:** Node.js / Java (as applicable)
- **Database:** MongoDB / MySQL
- **AI & ML:** Python, NumPy, Pandas, Scikit-learn
- **APIs:** Google Maps API, Telematics APIs
- **Cloud (Conceptual):** AWS / Azure / GCP

Real-World Impact

- Improved fleet utilization and scheduling
- Reduced operational costs through preventive maintenance
- Enhanced safety via driver monitoring
- Support for smart city mobility initiatives

4. Timeline Overview

Week	Activities Planned	Activities Completed
Week 1	Research on fleet systems and architecture planning	Completed requirement study and architecture outline
Week 2	UI wireframing and feature planning	Wireframes prepared; feature list finalized
Week 3	Driver & vehicle management conceptualization	Module structure and workflows created
Week 4	Route distance + booking module planning	Logic and layouts designed
Week 5	Dashboard analytics planning	Chart structures and sample analytics prepared
Week 6	Vehicle health monitoring design	Flow diagrams created
Week 7	System integration + documentation	Report drafting and refinement
Week 8	Final review and submission	Project completed and finalized

5a. Key Milestones

Milestone	Description	Date Achieved
Project Kickoff	Requirement collection & architecture setup	Week 1
Prototype/First Draft	Initial module designs created	Week 3
Mid-Term Review	Feature refinements & additions	Week 5
Final Submission	Final project documentation completed	Week 7
Presentation	Final presentation delivered	Week 8

5b. Project execution details

The NeurofleetX project was executed in a structured and iterative manner, following a step-by-step workflow from planning to final submission.

1. Requirement Understanding and Research

The project began with understanding the problem statement and researching how modern fleet management and urban mobility platforms operate. I analyzed the needs of rental services, transport operators, and smart city systems to define the core features of NeurofleetX.

2. System Design and Architecture Planning

After understanding the requirements, I created the system architecture, including data flow diagrams, module separation, and backend–frontend communication structure. This helped in planning how real-time data, APIs, and dashboards would connect within the platform.

3. UI/UX and Dashboard Design

I designed the user interface for fleet tracking, vehicle health monitoring, and analytics dashboards. Wireframes and layout sketches were prepared to ensure clarity, simplicity, and ease of use.

4. Backend Development

Using Node.js and Express, REST APIs were created for handling fleet data, vehicle information, and analytical outputs. Data models were structured to support dynamic inputs such as location updates, vehicle status, and usage patterns.

5. Frontend Integration

The designed UI screens were connected with backend APIs to display real-time or sample fleet data. Components were tested individually to ensure accurate mapping of data on dashboards.

6. AI and Predictive Logic Planning

I explored machine learning concepts to design basic logic for predictive maintenance, smart routing, and demand forecasting—important elements for any intelligent mobility platform.

7. Testing and Refinement

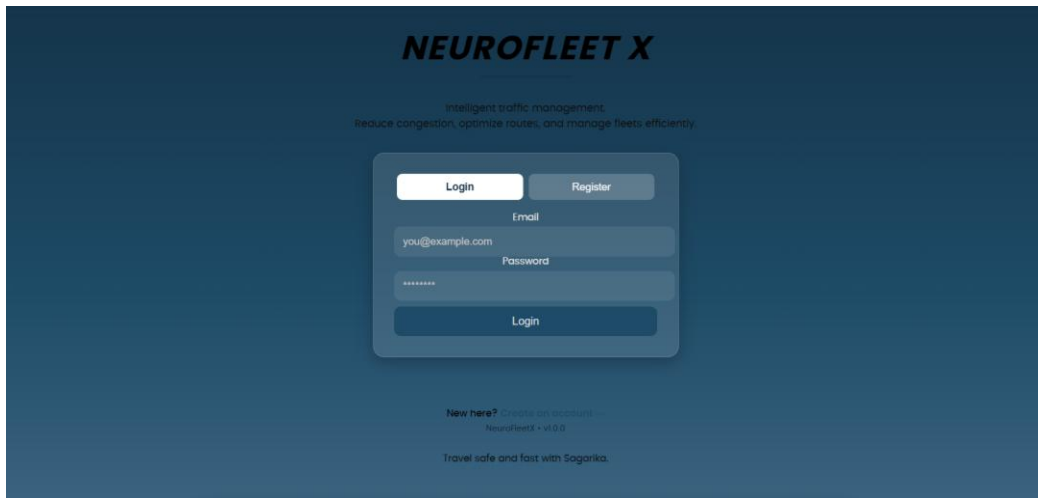
The platform underwent functional testing to ensure that APIs, UI components, and data flow worked smoothly. Based on issues found, improvements were made to optimize performance and clarity.

8. Documentation and Final Submission

Finally, the complete project—architecture, workflow, UI screens, backend structure, and conceptual AI modules—was documented clearly. A final presentation was prepared to summarize the project's purpose, features, and impact.

6. Snapshots / Screenshots

LOGIN & REGISTER WEBPAGE:



NEUROFLEET X

Intelligent traffic management.
Reduce congestion, optimize routes, and manage fleets efficiently.

Login Register

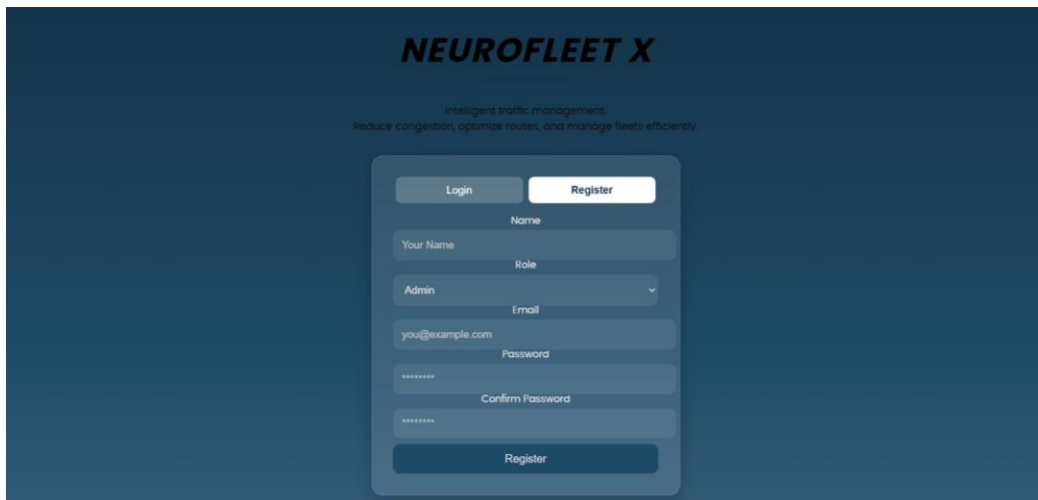
Email
you@example.com

Password

Login

New here? [Create an account](#) →
NeuroFleetX v1.0.0

Travel safe and fast with Sagarika.



NEUROFLEET X

Intelligent traffic management.
Reduce congestion, optimize routes, and manage fleets efficiently.

Login Register

Name
Your Name

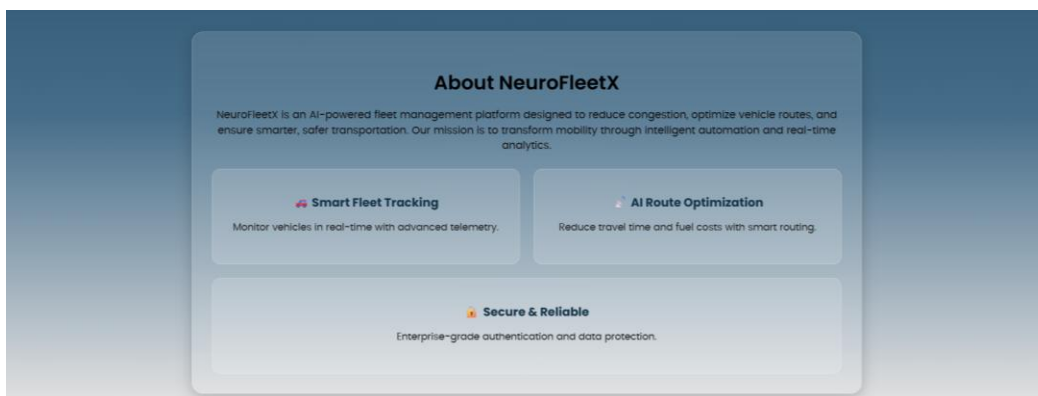
Role
Admin

Email
you@example.com

Password

Confirm Password

Register



About NeuroFleetX

NeuroFleetX is an AI-powered fleet management platform designed to reduce congestion, optimize vehicle routes, and ensure smarter, safer transportation. Our mission is to transform mobility through intelligent automation and real-time analytics.

Smart Fleet Tracking
Monitor vehicles in real-time with advanced telemetry.

AI Route Optimization
Reduce travel time and fuel costs with smart routing.

Secure & Reliable
Enterprise-grade authentication and data protection.

FLEET DASHBOARD WEBPAGE:



VEHICLE DASHBOARD WEBPAGE:

NeuroFleetX

Dashboard

Vehicles

Vehicles Dashboard

PLATE	STATUS	SPEED	BATTERY	FUEL	ACTION
NF-1001	IDLE	21 km/h	0%	0%	View
NF-1002	IN_USE	55 km/h	0%	0%	View
NF-1003	MAINTENANCE	51 km/h	0%	0%	View
NF-1004	IDLE	43 km/h	0%	0%	View
NF-1005	IN_USE	27 km/h	0%	0%	View
NF-1006	IDLE	17 km/h	0%	0%	View
NF-1007	MAINTENANCE	28 km/h	0%	0%	View
NF-1008	IN_USE	6 km/h	0%	0%	View
NF-1009	IDLE	37 km/h	0%	0%	View
NF-1010	IN_USE	40 km/h	0%	0%	View

The Vehicles Dashboard displays a table of 10 vehicles. Each row includes the vehicle's plate number, status (IDLE, IN_USE, or MAINTENANCE), current speed, battery level, and fuel level. A 'View' button is provided for each vehicle to access more details.

BOOKING DASHBOARD WEBPAGE:

NeuroFleetX

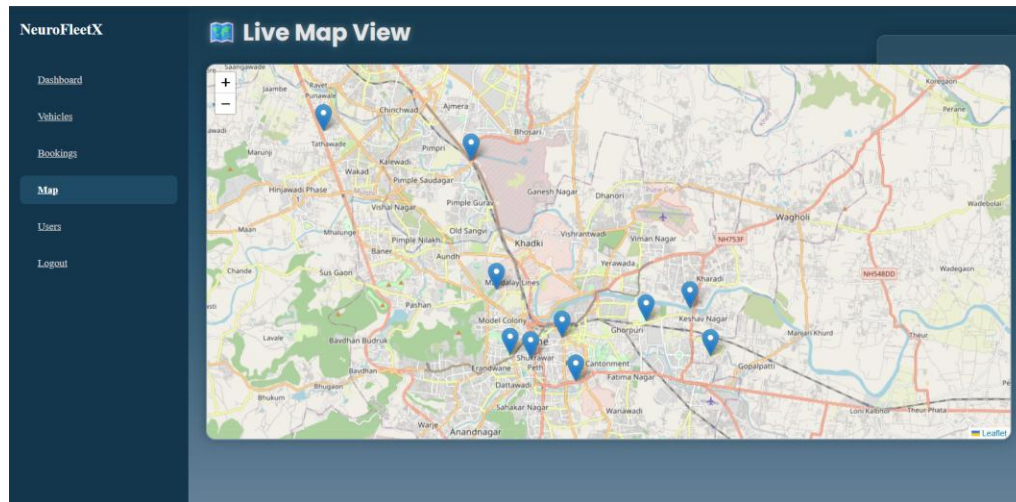
Dashboard

Bookings

Booking Dashboard

User	Vehicle	Date	Status	Action
Kabir Das	NF-1004	11/20/2024, 3:00:00 PM	COMPLETED	View Details
Customer One	NF-1001	11/28/2025, 2:45:00 PM	COMPLETED	View Details
Aarav Mehta	NF-1002	11/29/2025, 12:50:00 PM	PENDING	View Details
Kabir Das	NF-1003	11/29/2025, 11:30:00 AM	CANCELLED	View Details
Mehra Joshi	NF-1004	11/30/2025, 4:15:00 PM	COMPLETED	View Details
Vivaan Rao	NF-1005	11/26/2025, 7:50:00 PM	PENDING	View Details
Customer One	NF-1006	11/25/2025, 1:30:00 PM	CANCELLED	View Details
Aarav Mehta	NF-1007	11/24/2025, 4:40:00 PM	COMPLETED	View Details
Kabir Das	NF-1008	11/22/2025, 6:30:00 PM	PENDING	View Details
Mehra Joshi	NF-1009	11/21/2025, 3:30:00 PM	COMPLETED	View Details
Vivaan Rao	NF-1010	11/20/2025, 9:30:00 PM	CANCELLED	View Details

The Booking Dashboard displays a table of 11 bookings. Each row includes the user, vehicle, booking date and time, status (COMPLETED, PENDING, or CANCELLED), and a 'View Details' button.

MAP VIEW WEBPAGE:**USER MANAGEMENT WEBPAGE:**

NeuroFleetX Users Management

[+ Add User](#)

NAME	EMAIL	ROLE	ACTIONS
Admin User	admin@test.com	ADMIN	Delete
Manager One	manager1@test.com	MANAGER	Delete
Customer One	customer1@test.com	CUSTOMER	Delete
Priya Sharma	priya.manager@test.com	MANAGER	Delete
Rahul Verma	rahul.manager@test.com	MANAGER	Delete
Susha Patel	susha.manager@test.com	MANAGER	Delete
Aarav Mehta	aarav.customer@test.com	CUSTOMER	Delete
Riya Singh	riya.customer@test.com	CUSTOMER	Delete
Kabir Das	kabir.customer@test.com	CUSTOMER	Delete
Meera Joshi	meera.customer@test.com	CUSTOMER	Delete
Vivian Rao	vivian.customer@test.com	CUSTOMER	Delete
Susha Kumar	susha564@gmail.com	CUSTOMER	Delete

7. Challenges Faced**API Integration**

Integrating the backend APIs with the frontend components was difficult due to mismatched data formats and response handling.

Resolution: I used Postman to test each API, corrected data structures, and integrated them step by step to ensure smooth communication.

Time Management

Balancing design, development, testing, and documentation within the internship duration was challenging.

Resolution: I created weekly schedules, prioritized key tasks, and followed a milestone-based workflow to stay organized.

Clarifying Requirements

At times, understanding certain project expectations or system requirements was unclear.

Resolution: I sought clarification through discussions, revisited project briefs, and documented requirements properly to avoid confusion.

8. Learnings & Skills Acquired

- Understanding of fleet management systems
- Basics of route optimization and telematics
- Improved knowledge of frontend-backend architecture
- Experience with AI concepts like predictive maintenance
- Enhanced problem-solving, documentation, and planning skills
- Improved communication and project organization abilities

9. Testimonials from team

This internship enriched my understanding of large-scale mobility systems and strengthened my confidence in designing real-world technical solutions. Working on NeuroFleetX helped me translate concepts into structured, practical system designs.

10. Conclusion

This internship provided a strong foundation in intelligent fleet management and system design. The Infosys Springboard internship offered hands-on exposure to real-world project development. Working on Neurofleet X allowed me to explore AI, mobility systems, and scalable architecture. This experience strengthened my technical confidence and aligned perfectly with my career goals in **software engineering and intelligent systems development**.

11. Acknowledgements

I would like to thank **Infosys Springboard**, my mentor, for their guidance and support throughout this internship. Their resources and mentorship greatly contributed to my learning experience.