



Virtual Internship 6.0

Presented By:  
Keerthanraj B



# NeuroFleetX: AI-Driven Urban Mobility Optimization

NeuroFleetX is an advanced AI-based urban mobility optimization system designed to revolutionize fleet operations. It achieves this through real-time tracking, automated trip workflows, and intelligent assignment algorithms, ensuring efficiency and responsiveness in dynamic urban environments.



# Driving the Future: Our Core Objectives



## AI-Powered Urban Mobility

Leveraging artificial intelligence to create more efficient and sustainable transportation networks within cities.



## Optimized Trip & Routing

Intelligently assigning trips and optimizing fleet routes to minimize travel time, fuel consumption, and operational costs.



## Enhanced Real-Time Visibility

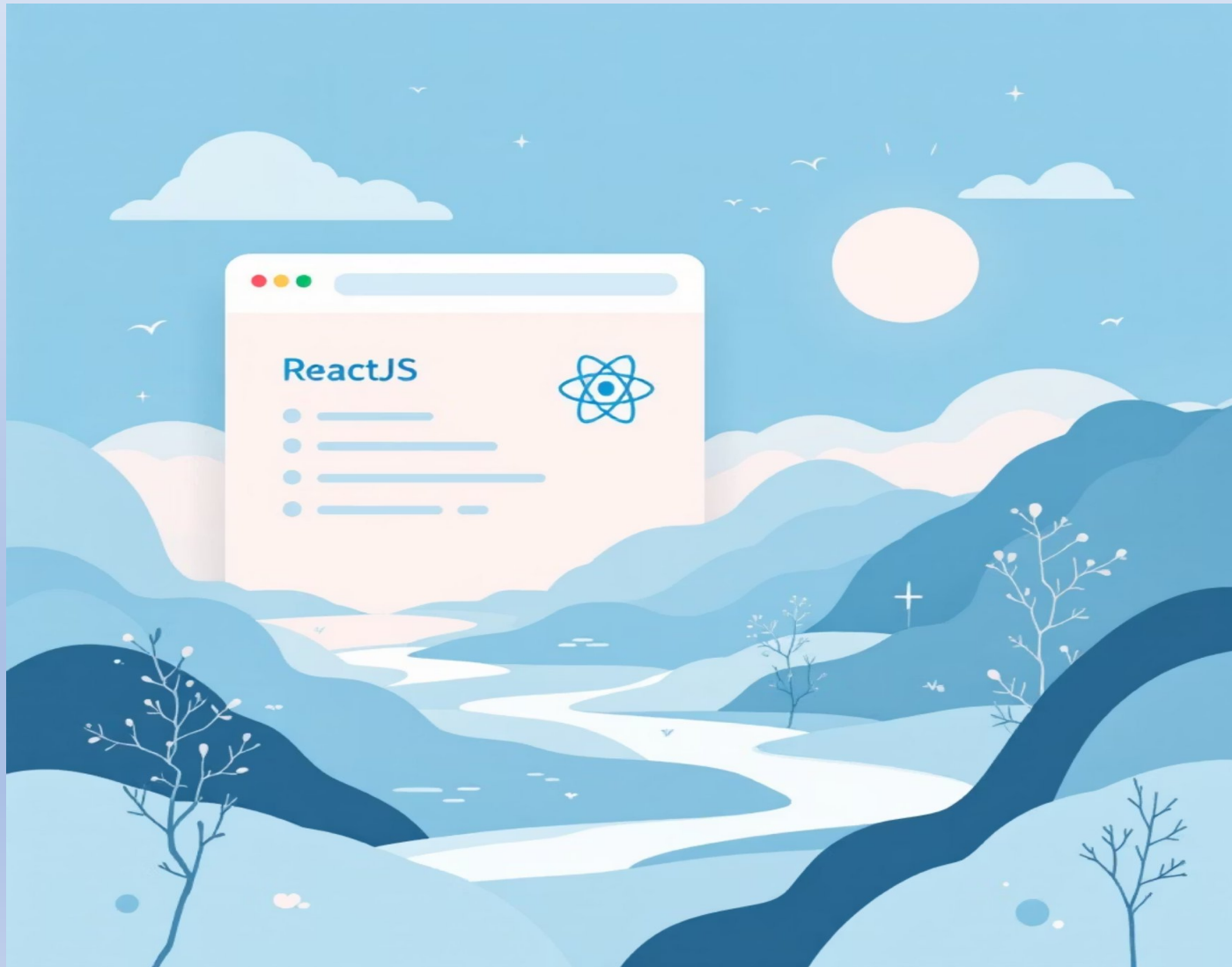
Providing comprehensive, live visibility into vehicle locations and driver statuses for proactive management.



# Technology Stack: Powering NeuroFleetX

## Frontend & Real-time

- **React.js:** Dynamic and responsive user interfaces.
- **WebSocket:** Enabling instant, bi-directional communication for live updates.
- **Leaflet + OpenStreetMap:** Interactive and detailed live map tracking.



## Backend & Data

- **Spring Boot:** Robust and scalable backend services.
- **MongoDB:** Flexible NoSQL database for efficient data storage and retrieval.



# Sprint 1: Laying the Foundation



## Authentication & Routing

Implemented secure user authentication and role-based access control, ensuring appropriate permissions for different user types.



## Vehicle & Driver Management

Developed core modules for adding, editing, and managing vehicle and driver profiles.



## Dispatcher UI Foundation

Initiated the dispatcher user interface, focusing on intuitive design for efficient fleet oversight.



## Initial Trip Workflow

Built the initial framework for trip creation, assignment, and basic workflow management.





# Sprint 2: Intelligent Automation & Real-time Capabilities

01

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## Real-time Live Map Integration

Integrated WebSocket for dynamic, real-time vehicle tracking on an interactive map, providing dispatchers with immediate insights.

02

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## Auto-Assign AI Engine

Deployed the AI-powered auto-assignment engine, significantly improving efficiency in matching trips to available vehicles and drivers.

03

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## Analytics Dashboard Development

Created a comprehensive analytics dashboard, offering key performance metrics and operational insights.

04

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## Driver Trip Lifecycle Interface

Completed the intuitive interface for drivers, managing their entire trip lifecycle from acceptance to completion.



# Development Timeline: Week-wise Progress

## Weeks 1-2

Requirements gathering, architectural design, and initial UI setup.

## Weeks 3-4

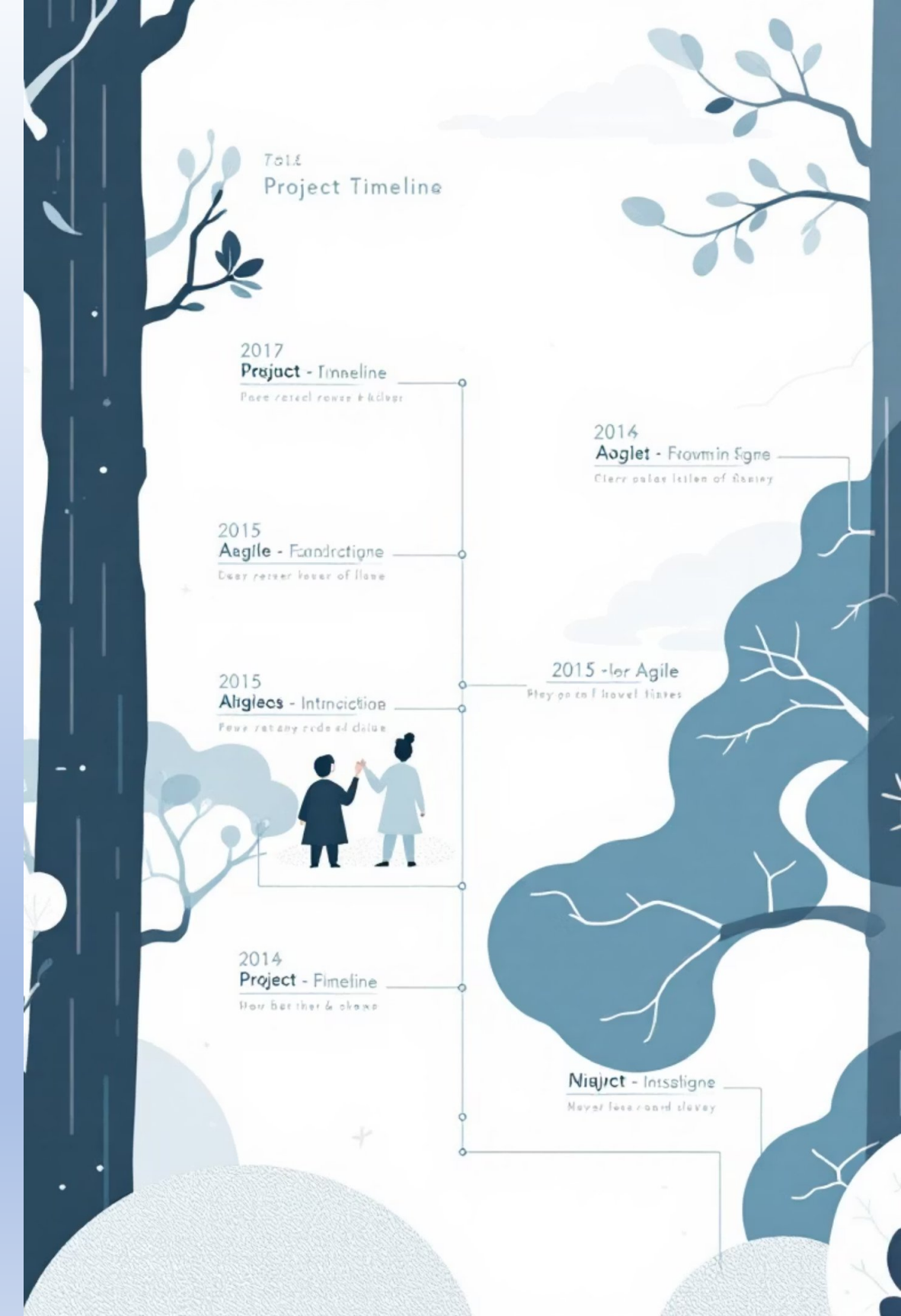
Development of vehicle and driver management modules, and the core trip system.

## Weeks 5-6

Integration of real-time updates and live map functionalities.

## Weeks 7-8

Finalization of the driver portal, comprehensive testing, and documentation preparation.



# Milestone Completion: A Journey of Achievement

1

## Milestone 1: Project Kickoff & Architecture

Defined project scope, established core architecture, and initiated development.

2

## Milestone 2: Core Modules Prototype

Successful development and testing of initial functional prototypes for key system components.

3

## Milestone 3: Mid-term Demonstration

Presented functional progress and gathered feedback for refinement.

4

## Milestone 4: Final Submission & Presentation

Delivered the complete NeuroFleetX solution and presented its capabilities.





# NeuroFleetX: A Comprehensive System Overview

## Admin Portal

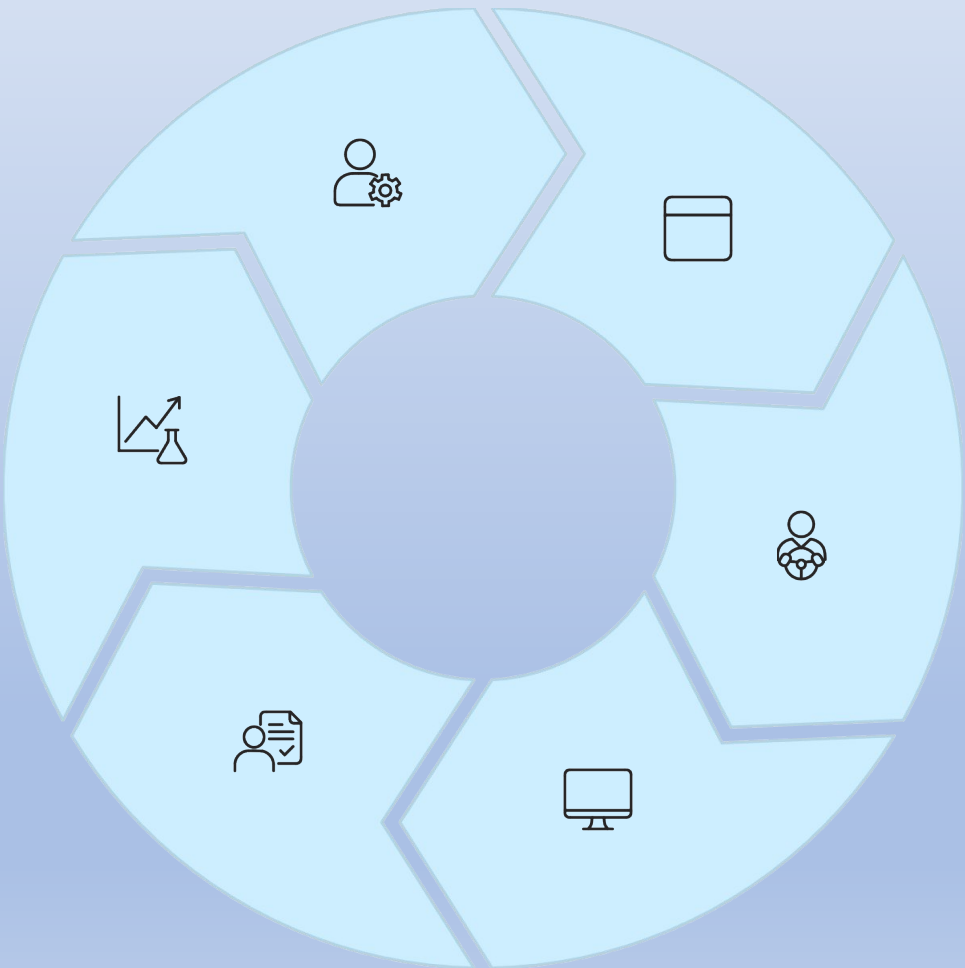
Centralized control and configuration for system administrators.

## Performance Analytics

Dashboard displaying key metrics and operational insights.

## Intelligent Trip Assignment

AI-powered allocation of tasks to enhance efficiency.



## Dispatcher Portal

Real-time fleet monitoring and intelligent trip assignment.

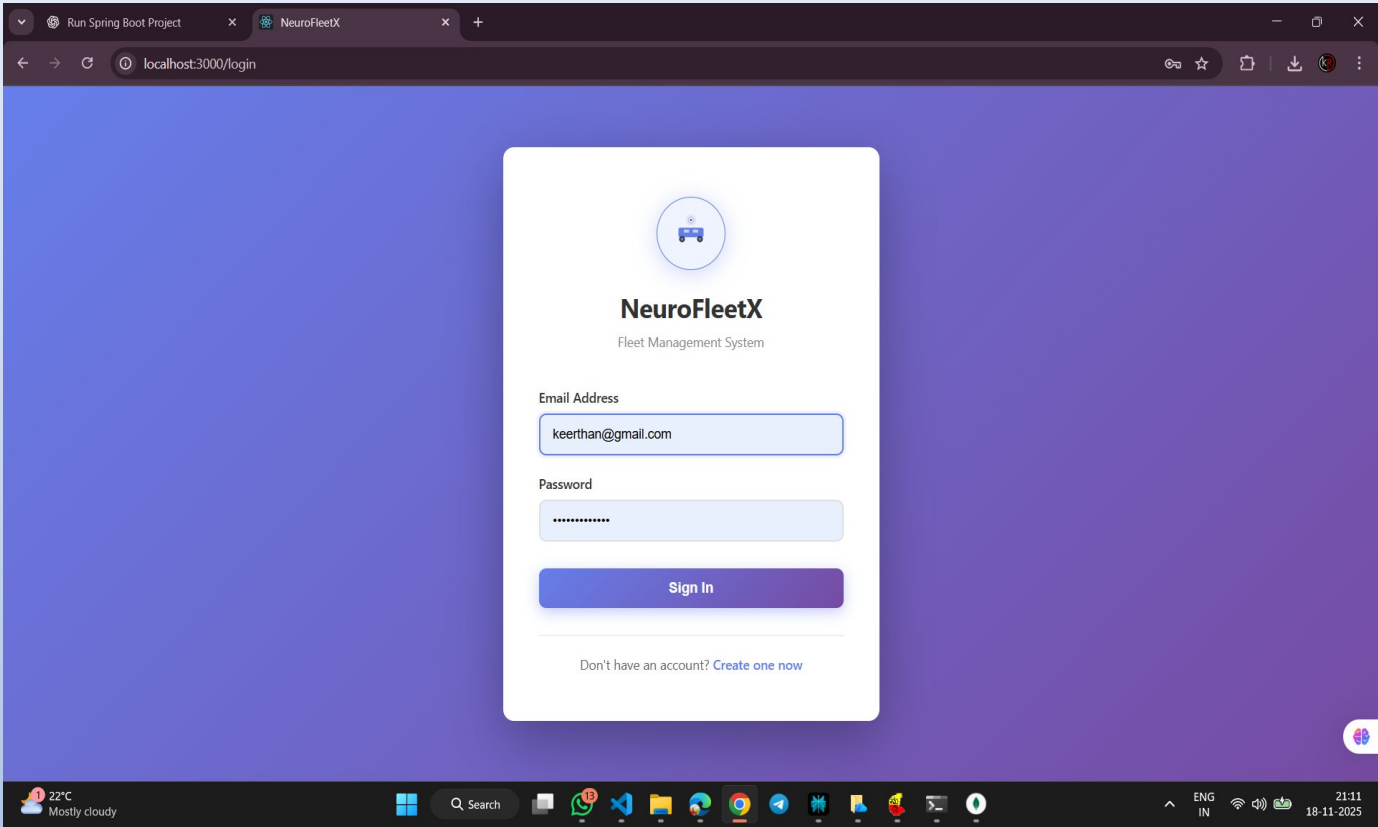
## Driver Portal

Intuitive interface for trip management and navigation.

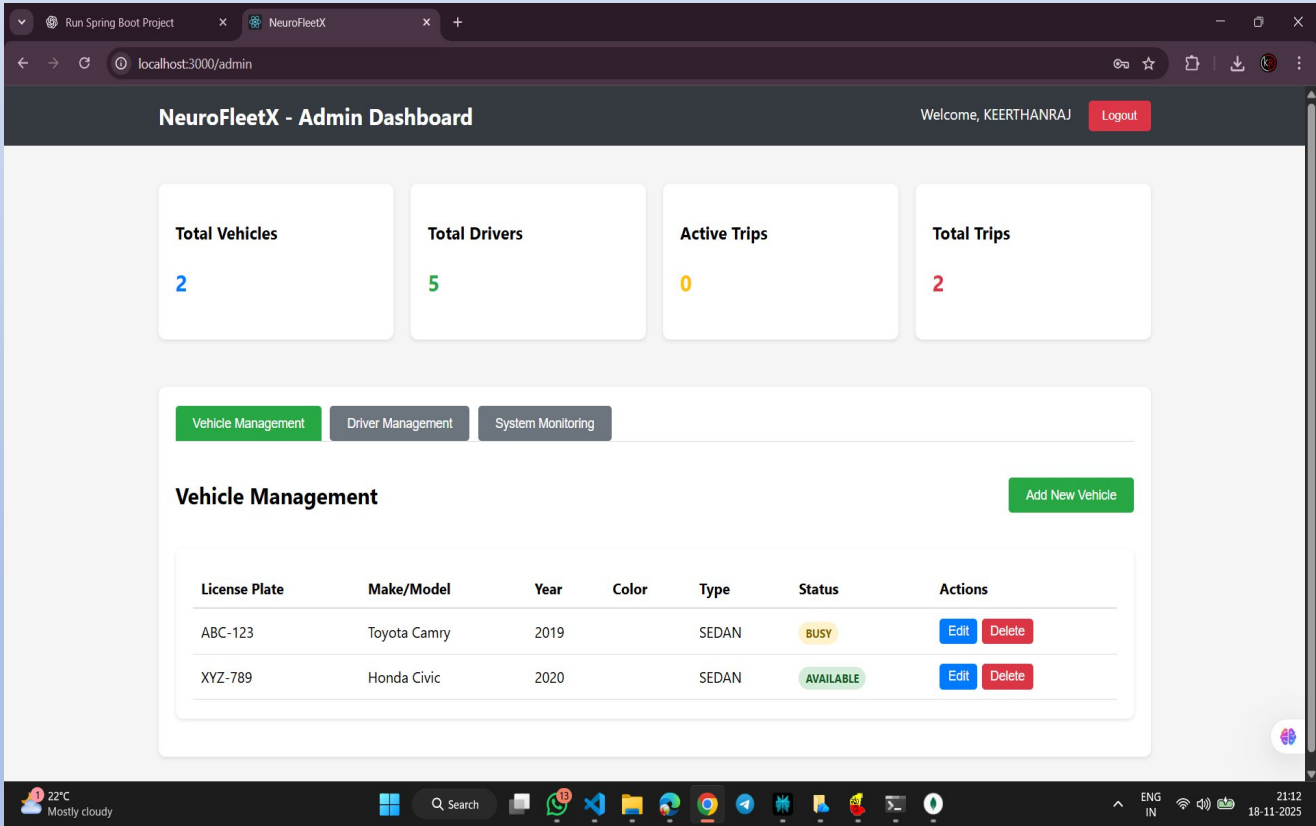
## Real-time Fleet Monitoring

Live tracking of vehicles and drivers for optimal oversight.

# Screenshots of NeuroFleetX

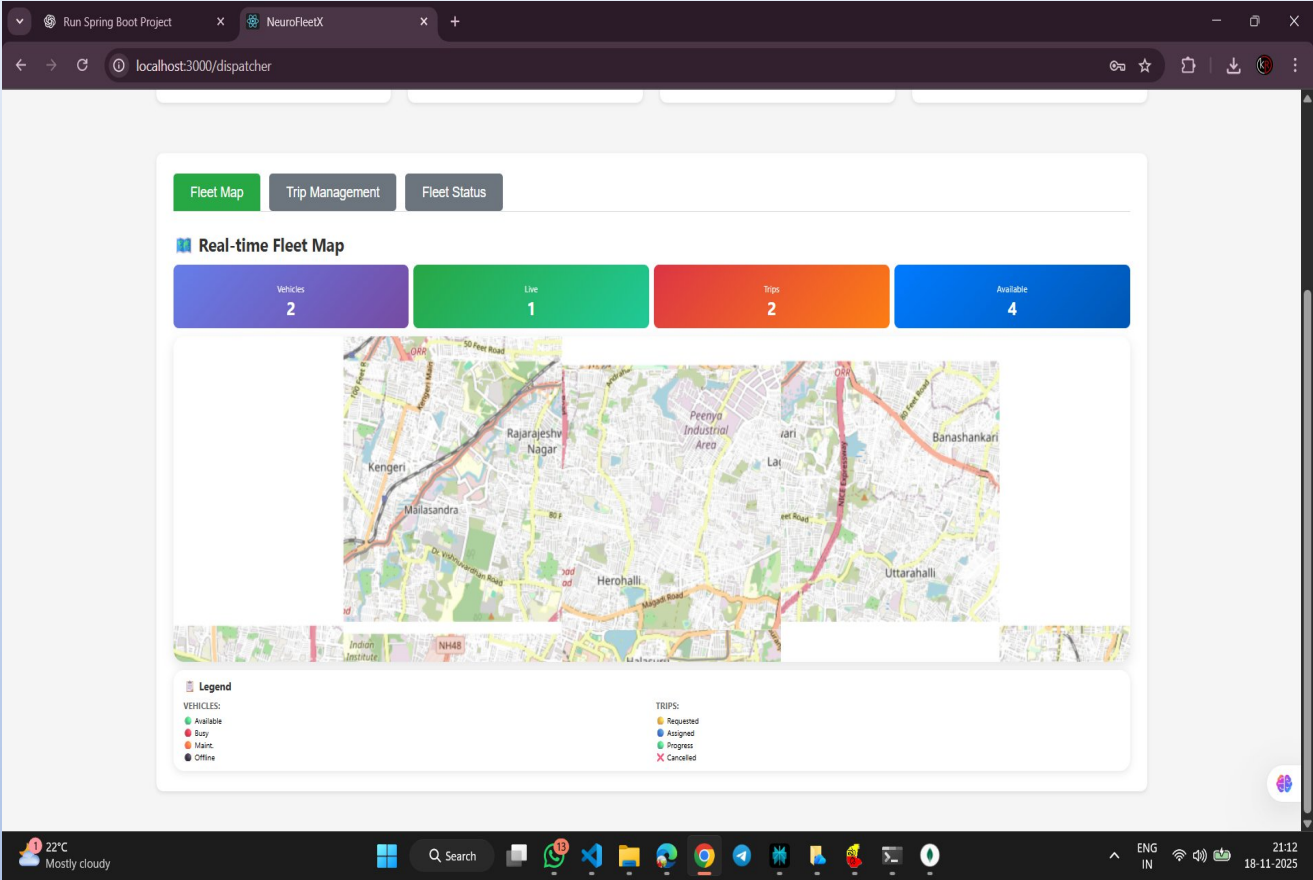


Login Page

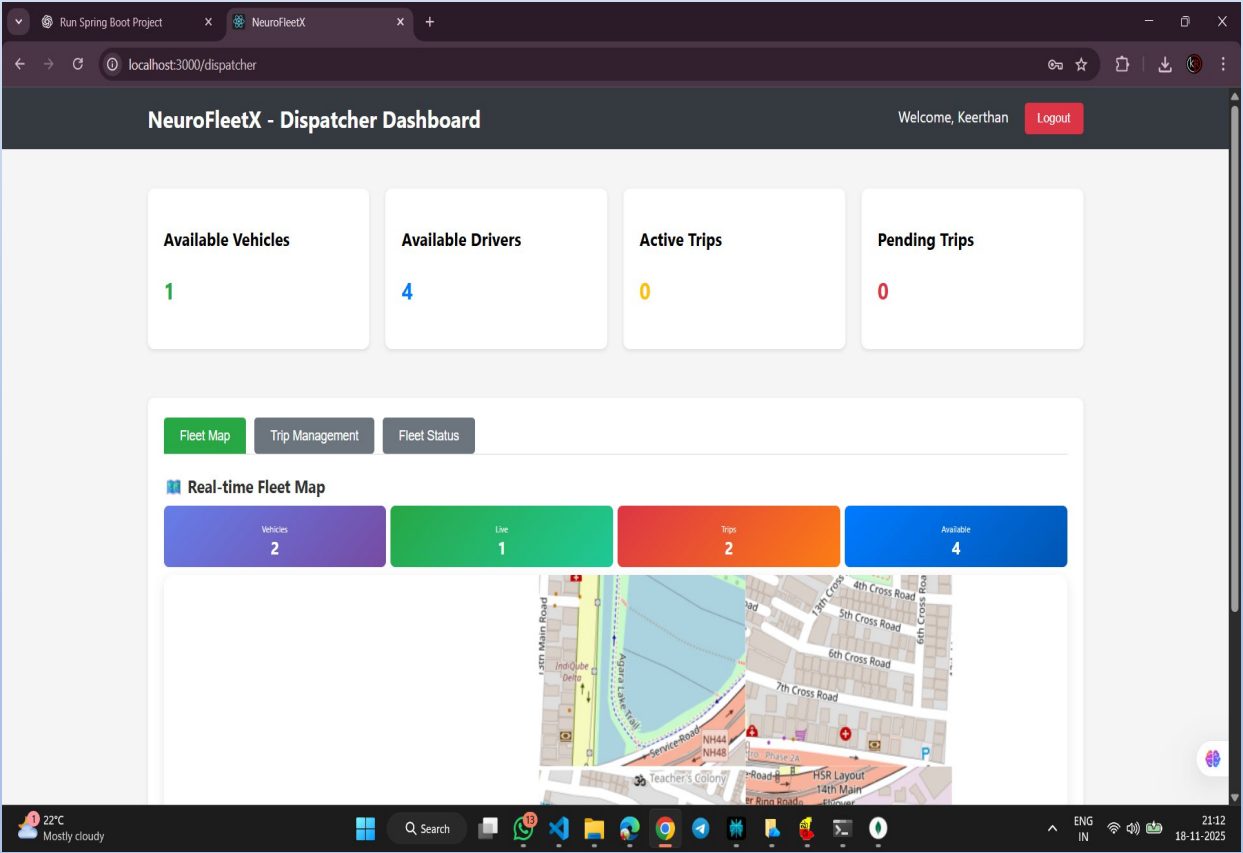


Admin Dashboard

# Screenshots of NeuroFleetX



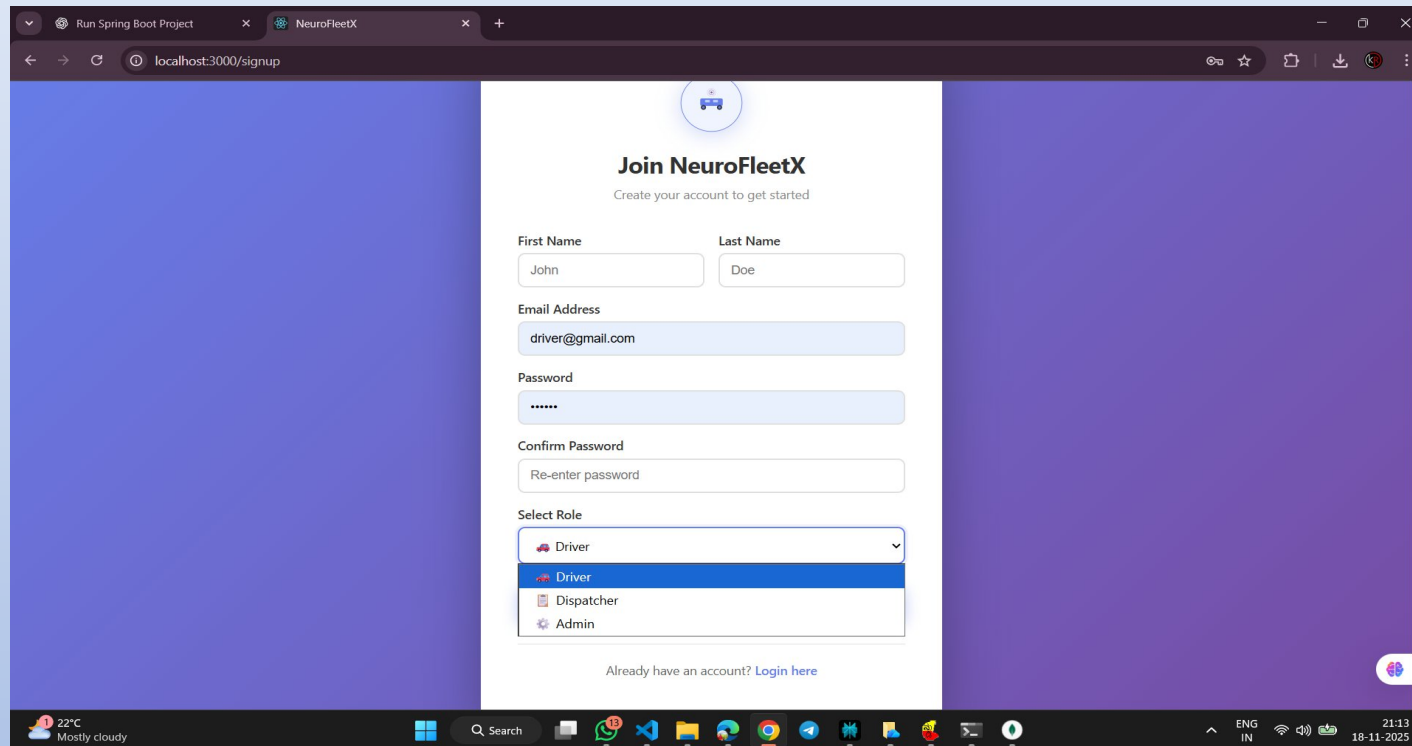
Real-Time Fleet Map



Dispatcher Dashboard



# Screenshots of NeuroFleetX



The screenshot shows a web browser window with the URL `localhost:3000/signup`. The page has a purple gradient background. In the center, there is a white card titled "Join NeuroFleetX" with the subtitle "Create your account to get started". Above the title is a small icon of a car with a brain. The form contains the following fields: "First Name" (with "John" entered), "Last Name" (with "Doe" entered), "Email Address" (with "driver@gmail.com" entered), "Password" (with "\*\*\*\*\*" entered), and "Confirm Password" (with "Re-enter password" entered). Below these is a "Select Role" dropdown menu with options: "Driver" (selected), "Dispatcher", and "Admin". At the bottom of the card, there is a link: "Already have an account? [Login here](#)". The browser's taskbar at the bottom shows the Windows logo, search bar, and various application icons. The system tray shows the date and time as 21:13 on 18-11-2025.

Join NeuroFleetX  
Create your account to get started

First Name: John Last Name: Doe

Email Address: driver@gmail.com

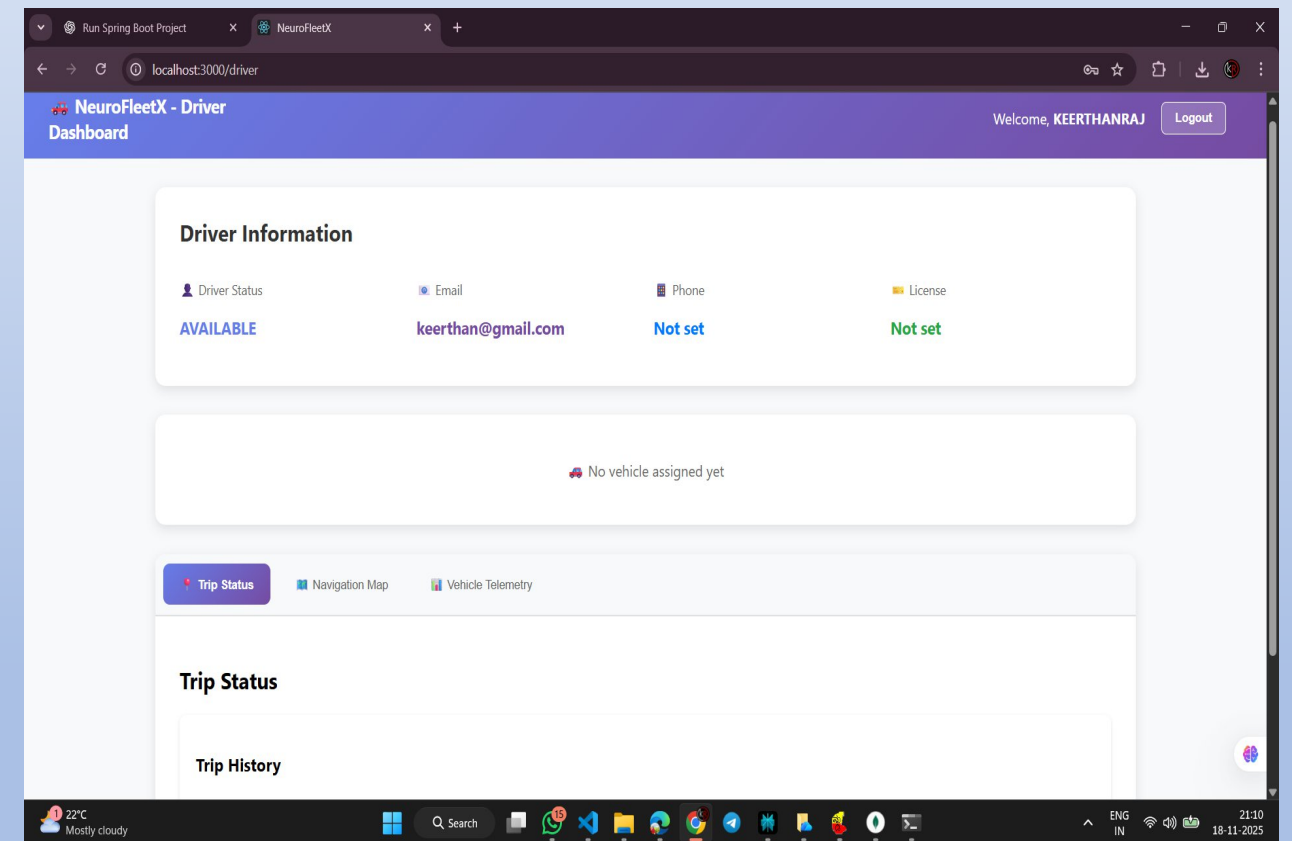
Password: \*\*\*\*\*

Confirm Password: Re-enter password

Select Role: Driver (selected), Dispatcher, Admin

[Already have an account? Login here](#)

Signup page with different Fields



The screenshot shows a web browser window with the URL `localhost:3000/driver`. The page has a purple header bar with the text "NeuroFleetX - Driver Dashboard" and "Welcome, KEERTHANRAJ" with a "Logout" button. The main content area is white and contains several sections: "Driver Information" with a table of driver details, a "No vehicle assigned yet" message, and a "Trip Status" section with a "Trip History" table. The browser's taskbar at the bottom shows the Windows logo, search bar, and various application icons. The system tray shows the date and time as 21:10 on 18-11-2025.

NeuroFleetX - Driver Dashboard  
Welcome, KEERTHANRAJ [Logout](#)

**Driver Information**

|               |                    |         |         |
|---------------|--------------------|---------|---------|
| Driver Status | Email              | Phone   | License |
| AVAILABLE     | keerthan@gmail.com | Not set | Not set |

No vehicle assigned yet

**Trip Status**

[Trip Status](#) [Navigation Map](#) [Vehicle Telemetry](#)

**Trip History**

Driver Dashboard



# Conclusion & Heartfelt Acknowledgement

NeuroFleetX successfully stands as a compelling demonstration of an end-to-end urban mobility optimization solution, showcasing the power of AI in enhancing fleet management.

## Special Thanks

Our profound gratitude extends to **Infosys Springboard** for providing the invaluable platform and resources, and to our dedicated mentors whose expert guidance and unwavering support were instrumental in bringing NeuroFleetX to fruition.