



Uyir Hackathon - 2025

Level 2 Online Presentation

Namma Padhai - நம்ம பாதை

Comprehensive Road Safety and Traffic Training Web Platform

UYIR - Hackathon2k25 ID :

UH_PROFE_0023

Category :

Professional

Team Name :

NexTurners

Team Leader :

RATNAKUMAR A

Team Members' Names :

PRAKASH KRISHNA , RADHAKRISHNAN S

Team Mentor :

PRAKASH KRISHNA





Venue & Organizing Partner



Sri Krishna College of
Engineering & Technology,
Coimbatore, Tamilnadu

Knowledge Partner

IEEE INDIA COUNCIL



Problem Statement

- **Limited access to real-time traffic guidance for the public:** In 2024, Tamil Nadu reported over 69,000 road accidents, underscoring the need for improved real-time traffic information to enhance public safety.
- **Lack of comprehensive training for traffic personnel:** As of January 2023, Tamil Nadu had a sanctioned strength of traffic police, but vacancies and limited training resources hinder effective traffic management.
- **High incidence of fatigue-related accidents:** Fatigue-related crashes contribute significantly to road accidents in Tamil Nadu, with driver fatigue being a major risk factor.
- **Insufficient public awareness about road safety laws and practices:** Despite various initiatives, a significant portion of Tamil Nadu's population remains unaware of essential road safety laws, leading to frequent violations and accidents.





- Among 16 state's Road Transport Corporation official Government website, Out Namma Padhai AI is the **first AI Chatbot tool** to be implemented for the easy user support.
- Among all the states in India this is the **first initiative tool for Traffic Personal Course Module Training** & Enhanced AI integrated Simulation.



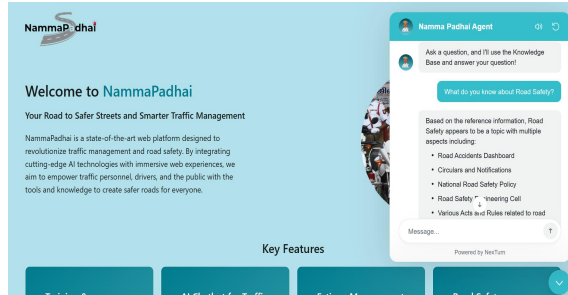
Expected Outcome:

- **Enhanced Training:** Traffic personnel will experience a virtual training and will get certification, improving on-ground performance through interactive modules.
- **Improved Safety:** AI-driven support systems provide real-time guidance and personalized safety alerts, promoting safer driving practices.

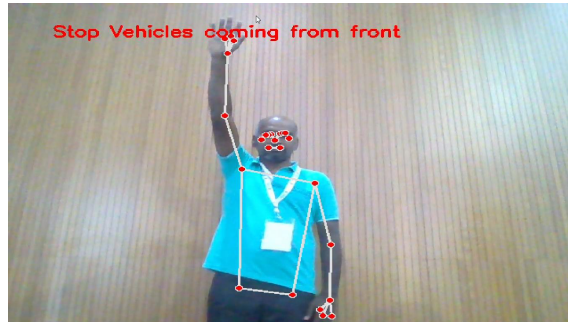
Execution Difficulties:

- **AI Integration:** Developing reliable AI chatbots and fatigue management requires extensive testing and optimization.
- **Content Updates:** Regularly updating training and safety materials demands ongoing collaboration with traffic authorities and experts.

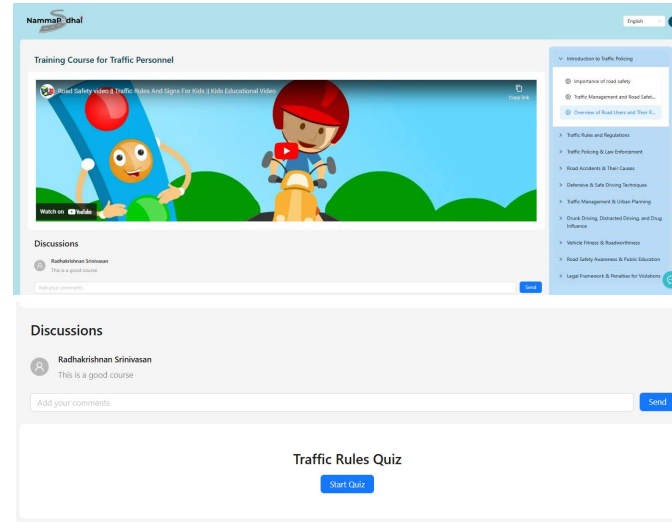




AI Chatbot



Simulation for Traffic Personnel



Time Remaining: 9:48

What should a driver do if an emergency vehicle (e.g., ambulance) is approaching with sirens on?

- ☒ Maintain speed and continue driving
 ☐ Stop immediately in the middle of the road
 ☐ Pull over to the side and give way
 ☐ Increase speed to avoid slowing down traffic

Previous

Next



English

Driver Fatigue Management System

Starting Place

Chennai

Destination Place

Madurai

Age of Driver

52

Total Sleep hours in last 24 hours

4

Mode of Transport

Car

Total Members Travelling (Includes Driver)

3

Date of Travel

12/02/2025

Journey Start time

10 AM

Clear

Submit

Your Route & Recommendations

Route Details

Total Distance: 479 KM
Duration: 8:30
Route Steps: Chennai → Tindivanam → Villupuram → Cuddalore → Trichy → Madurai

Weather Details

Temperature: 28°C
Condition: Sunny

Fatigue Risk Level

High

Pit Stop Recommendations

- Tindivanam
- Villupuram

Driving Tips

- Take frequent breaks every 2 hours
- Avoid driving at night
- Be aware of the construction zones

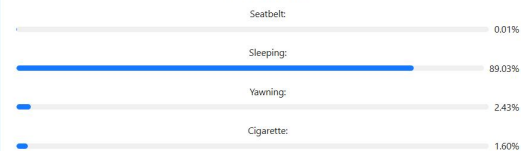
Safety Alerts

- Speed limits are strictly enforced
- Heavy traffic during peak hours
- Watch out for animals crossing the road

Fatigue Management System

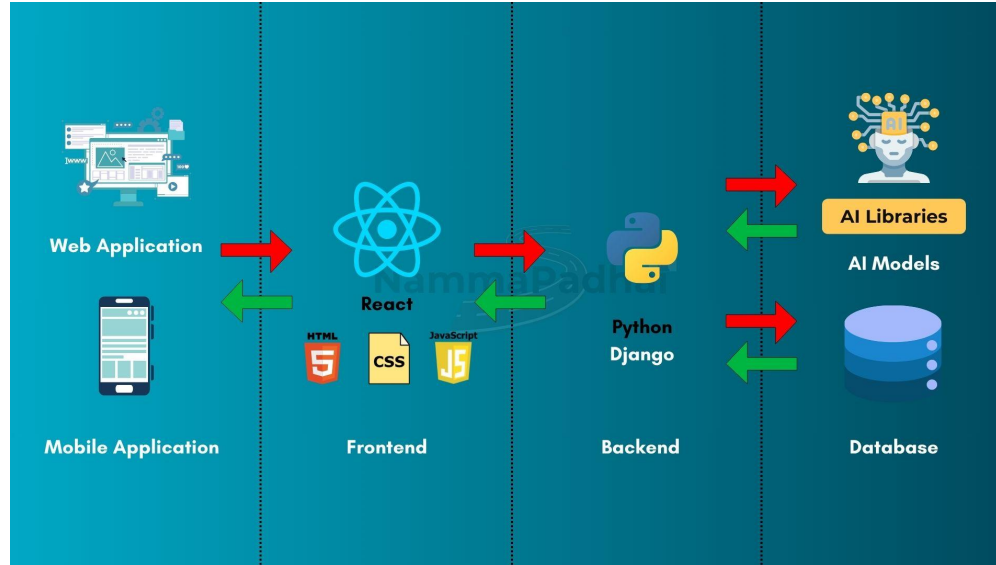


Predictions



Architecture Diagram & Prototype

[Click here to View Prototype](#)



TRL Level:
6-Web Functional
Prototype

Note : Choose "Fit-Width" in top right corner settings for better responsive view



