RentRide

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Introduction

- RentRide is a platform where users can rent vehicles and lend their own vehicles.

- Provides an easy and secure way to access vehicles on demand.

- Addresses the growing need for flexible transportation options.

Problem Statement

- Limited access to short-term vehicle rentals.

- Vehicle owners have idle cars that could generate income.

- Need for a trusted platform to connect renters and vehicle owners.

Objectives

- Develop a user-friendly vehicle rental platform.

- Ensure secure transactions and verification processes.

- Provide seamless booking functionalities.

System Architecture

- User Registration & Authentication
- Vehicle Listing & Searching
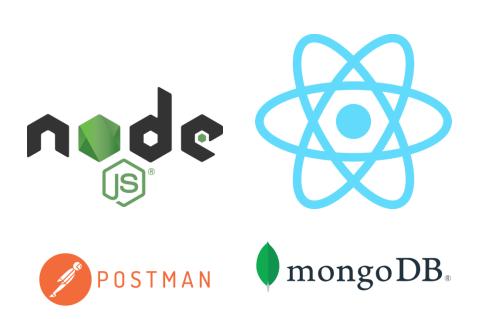- Booking & Payment Processing
- Admin Panel for Monitoring
- Reviews & Ratings System

Methodology

- Technologies Used:
  - React (Frontend), Node.js (Backend), MongoDB (Database)
- Agile development approach with iterative improvements.
- Khalti Integration for secure payment.
- Post Man for API testing.

Implementation

Challenges & Solutions

Challenge 1: Ensuring trust and security.

• Users need an application that allows only trusted vehicles to be present.

Solution:

• Implemented identity verification and user reviews.

Challenge 2: Pending Vehicle Listings

• Some vehicles remain in a **pending state** even after the rental date has passed.

Solution:

• Implemented a **Cron Job** to periodically check and update outdated pending rentals.

Challenge 3: Secure & Trusted Payment Integration

• Users need a **reliable and secure** payment system to build trust in transactions.

Solution:

• Integrated **Khalti API** for secure and seamless payment processing.

Challenge 4: Real-Time Booking, Notifications & Messaging

• Users require **instant updates** on bookings, payments, and messages.

Solution:

• Used **Socket.io** for real-time communication, ensuring instant booking confirmation, notifications, and live chat.

Conclusion & Future Work

- RentRide provides a seamless vehicle rental experience.
- **Future Enhancements:**
    - AI-based pricing recommendations.
    - AI-based verification.
    - GPS-Based Live Tracking.
    - Loyalty Programs.

Thank You

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