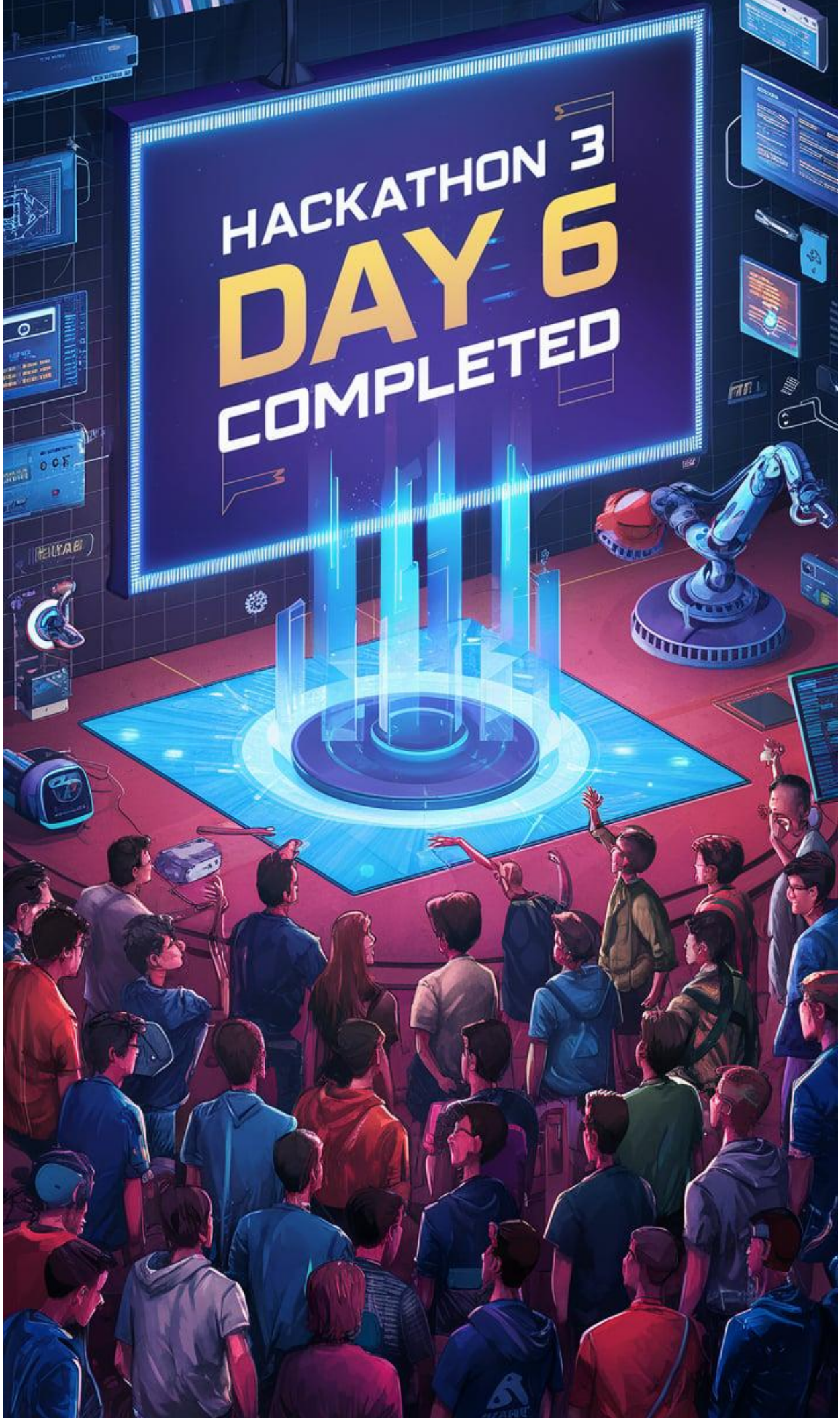
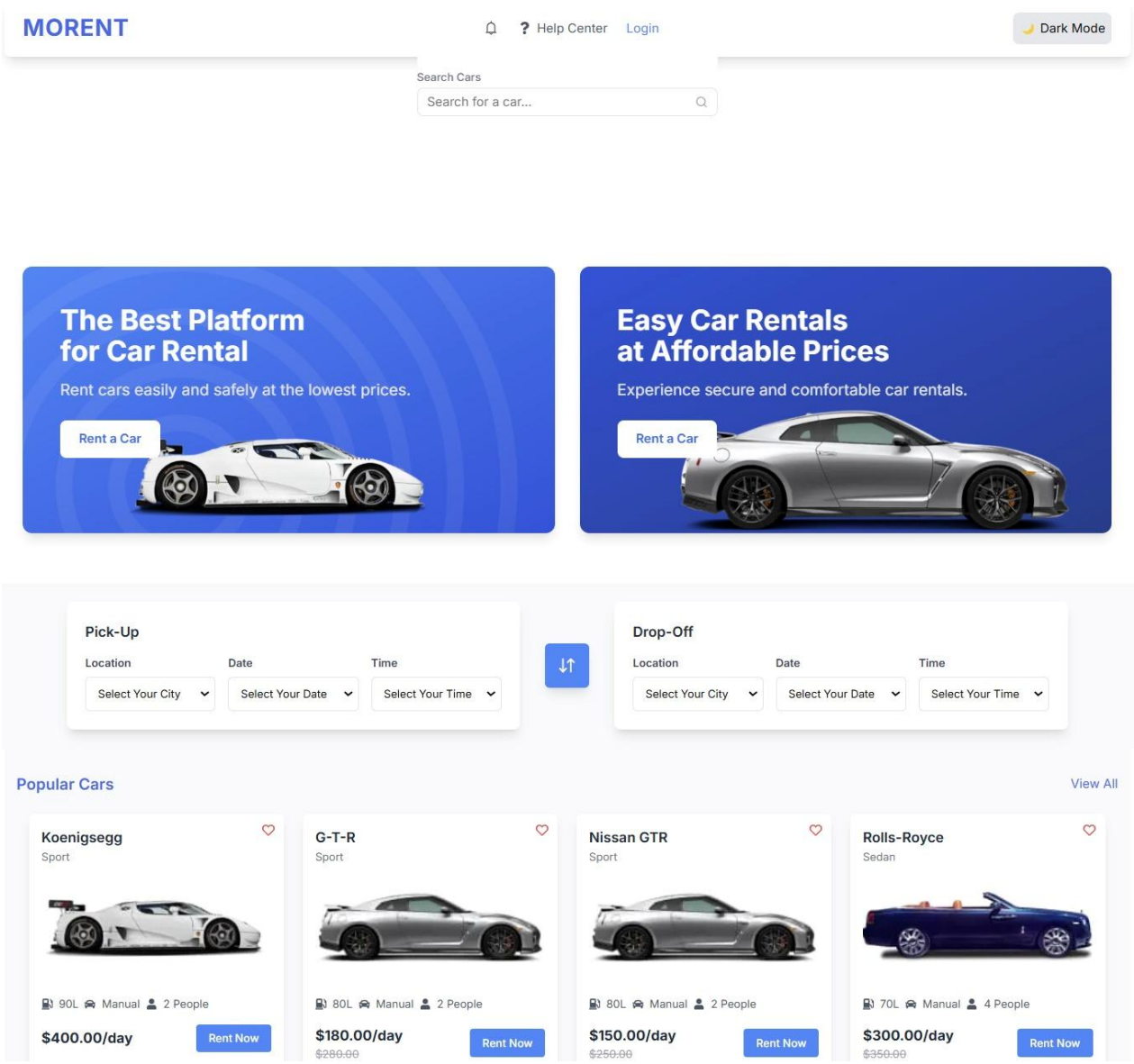

HACKATHON 3
DAY 6
COMPLETED



PRESTIGE RIDES MARKETPLACE (DAYS 1–6)

OVERVIEW

This Prestige Rides Marketplace is an advanced e-commerce solution designed to streamline the process of renting vehicles online. The platform provides customers with an easy-to-use interface for browsing and booking rental cars, while enabling rental businesses to manage their inventory, bookings, and customer interactions. Over six days, the project progressed from

initial conceptualization to a fully functional staging environment, incorporating dynamic components, secure payment systems, and comprehensive testing.

DAY 1: CONCEPTUALIZATION AND PLATFORM DESIGN

KEY ACHIEVEMENTS:

PLATFORM DEFINITION:

- Defined the platform as a rental car marketplace offering a wide variety of vehicles for short-term and long-term rentals.
- Focused on catering to individual customers and small rental agencies.

BUSINESS GOALS:

- Provide a seamless online experience for renting vehicles.
- Enable small rental businesses to list, manage, and track their fleet effectively.

DATA SCHEMA DESIGN:

ENTITIES:

- Cars: Details about each vehicle, including make, model, year, price per day, and availability.
- Bookings: Information on customer reservations, including rental period and payment status.
- Rental Locations: Data on branches or pickup/drop-off zones for vehicles.

RELATIONSHIPS:

- Customers create bookings that reference available cars.
- Rental locations are assigned to cars for logistical management.

DAY 2: TECHNICAL PLANNING

KEY ACHIEVEMENTS:

TECH STACK SELECTION:

FRONTEND:

- Next.js for fast page loads, server-side rendering, and SEO optimization.
- Tailwind CSS for creating a responsive, modern user interface.

BACKEND:

- Sanity CMS for managing dynamic content like car listings and blog posts.

APIS:

- Stripe for secure and seamless payment processing.
- ShipEngine for booking confirmations and real-time order tracking.

API ENDPOINTS DESIGN:

USER MANAGEMENT:

- /login: Authenticate users.
- /verify-session: Validate customer session status.

CAR MANAGEMENT:

- /cars: Fetch all available vehicles.
- /car/:id: Retrieve details of a specific car.

BOOKING MANAGEMENT:

- /bookings (POST): Create a new booking.
- /booking/:id (GET): View booking details and status.

DEPLOYMENT PLAN:

- Hosted the frontend on Vercel for high performance and scalability.

DAY 3: DATA MIGRATION

KEY ACHIEVEMENTS:

CUSTOM MIGRATION CODE:

- Migrated data from Sanity CMS using GROQ queries to populate the car database dynamically.
- Example Query: *[_type == "car"] {make, model, price, image, availability}.

SCHEMA DEFINITION:

CREATED SCHEMAS FOR:

- Cars: Fields included make, model, slug, price per day, images, and availability.
- Bookings: Captured customer details, vehicle reference, rental period, and payment status.

- Structured data to allow scalability and seamless integration with the frontend.

CLIENT INTEGRATION:

- Dynamically fetched and displayed car listings on the homepage and vehicle detail pages.

DAY 4: BUILDING DYNAMIC FRONTEND COMPONENTS

KEY ACHIEVEMENTS:

DYNAMIC CAR LISTINGS:

- Developed the CarList component to dynamically display available vehicles fetched from the Sanity CMS backend.
- Optimized image loading with lazy loading to improve page performance.

FILTERS AND SORTING:

DESIGNED INTUITIVE FILTERS:

- Filter by vehicle type (SUV, sedan, etc.), price range, and availability.

SORTING OPTIONS INCLUDED:

- By price (low to high or high to low), popularity, and newest additions.

REUSABLE COMPONENTS:

CARCARD:

- Displays essential details like car images, make, model, rental price, and availability.

FILTERSIDEBAR:

- Allows users to refine search results using multiple filters.

PAGINATIONCONTROLS:

- Implements smooth navigation across large vehicle inventories.

DAY 5: TESTING AND BACKEND REFINEMENT

KEY ACHIEVEMENTS:

TESTING TYPES:

FUNCTIONAL TESTING:

- Verified workflows like vehicle search, filtering, booking process, and payment integration.

PERFORMANCE TESTING:

- Used Lighthouse to analyze load times, ensuring optimal performance.

SECURITY TESTING:

- Validated secure API integrations, protected API keys, and ensured compliance with HTTPS protocols.

CSV-BASED TESTING REPORT:

Test Case ID	Project	Description	Steps	Expected Result	Actual Result	Status
TC001	Car Rental	Verify API integration for car listings	1. Load homepage	Car listings should load correctly from API	Data fetched and displayed successfully	Pass
TC002	Car Rental	Test data migration for customer details	1. Export customer data	Customer details should migrate correctly and appear in CMS	Migration successful, data validated	Pass
TC003	Car Rental	Test booking functionality	1. Select car, dates, and options	Booking should process without errors	Booking completed successfully	Pass
TC004	Car Rental	Verify payment gateway integration	1. Select payment method	Payment should be	Payment processed successfully	Pass

			(e.g., credit card)	processed successfully		
TC005	Car Rental	Test car search functionality	1. Enter search criteria (e.g., location, dates, car type)	Search results should display matching cars	Search results displayed correctly	Pass
TC006	Car Rental	Verify user login/registration	1. Create or log in to an account	User should be able to create or log in to an account	User account created/logged in successfully	Pass
TC007	Car Rental	Admin Dashboard Functionality	1. Log in as admin	Admin dashboard should display key metrics (e.g., total bookings, revenue, active rentals) and management tools (e.g., car inventory, customer management)	Dashboard displays metrics and tools correctly	Pass
TC008	Car Rental	Verify customer support contact	1. Contact customer support (e.g., email, chat)	Support should respond within expected timeframe	Support response received within timeframe	Pass
TC009	Car Rental	Test car details page	1. View car details	Car details page should display all relevant information (e.g., images, features, rates)	Car details page displays all information correctly	Pass

TC010	Car Rental	Test email notifications	1. Complete booking	Email notifications should be sent to user and rental company	Email notifications sent successfully	Pending

KEY TEST CASES:

- Verified navigation links work correctly.
- Checked accurate display of vehicle details and images.
- Tested booking operations, including creating, updating, and canceling bookings.
- Validated contact form submissions for inquiries.

RESULTS:

- All major workflows passed successfully with minor improvements implemented.

DAY 6: DEPLOYMENT PREPARATION AND STAGING ENVIRONMENT SETUP

KEY ACHIEVEMENTS:

DEPLOYMENT STRATEGY:

- Hosted the frontend on Vercel to ensure fast and reliable delivery.
- Integrated GitHub for CI/CD workflows to automate builds and deploy staging versions.

ENVIRONMENT VARIABLES:

- Secured sensitive credentials like API keys in an .env file.

Example:

- NEXT_PUBLIC_SANITY_PROJECT_ID=your_project_id
- NEXT_PUBLIC_SANITY_DATASET=production
- STRIPE_API_KEY=your_stripe_key
- SHIPENGINE_API_KEY
- GOOGLE_CLIENT_ID

STAGING ENVIRONMENT TESTING:

- Conducted a thorough testing cycle in a production-like environment:
  - Verified car listing, filtering, booking, and payment workflows.
  - Ensured robust security by validating input fields and securing API calls.

DOCUMENTATION:

PREPARED A README.MD SUMMARIZING:

- Project structure.
- Development milestones.
- Deployment instructions.

GITHUB REPOSITORY STRUCTURE

```
Prestige Rides Marketplace/
├── app/
|   ├── components/
|   |   ├── Payment.tsx
|   |   ├── HelpCentre.tsx
|   |   ├── PaginationControls.tsx
|   └── pages/
|       ├── index.tsx
|       ├── car/
|       |   └── [id].tsx
├── public/
|   ├── images/
├── documents/
|   ├── Day_1_Conceptualization.pdf
|   ├── Day_2_Technical_Planning.pdf
|   ├── Day_3_Data_Migration.pdf
|   ├── Day_4_Dynamic_Components.pdf
```

```
|   ├── Day_5_Testing_Report.csv
|   └── Day_6_Deployment.pdf
├── .env
├── README.md
```

CONCLUSION

The Prestige Rides Marketplace is a robust and feature-rich solution designed to make car rentals easy and efficient for both customers and rental businesses. With a modern tech stack, extensive testing, and dynamic features, the platform is ready for deployment. The next steps involve:

1. Monitoring the live platform for user feedback and addressing potential issues.
2. Scaling the platform to include advanced features like demand-based pricing and multi-language support.
3. Introducing additional services such as insurance options, loyalty programs, and advanced reporting tools for business owners.

This marks the successful completion of the Prestige Rides Marketplace Platform project, setting a strong foundation for future growth and success!

MORENT

Help Center Login

Light Mode

Search Cars

Search for a car...

The Best Platform for Car Rental

Rent cars easily and safely at the lowest prices.

Rent a Car

Easy Car Rentals at Affordable Prices

Experience secure and comfortable car rentals.

Rent a Car

Pick-Up

Location: Select Your City

Date: Select Your Date

Time: Select Your Time

Drop-Off

Location: Select Your City

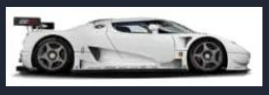
Date: Select Your Date

Time: Select Your Time

Popular Cars

View All

Koenigsegg
Sport

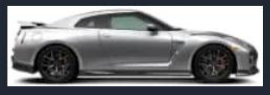


90L Manual 2 People

$400.00/day

Rent Now

G-T-R
Sport

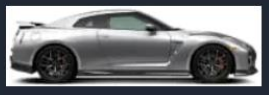


80L Manual 2 People

$180.00/day
~~$280.00~~

Rent Now

Nissan GTR
Sport



80L Manual 2 People

$150.00/day
~~$250.00~~

Rent Now

Rolls-Royce
Sedan

70L Manual 4 People

$300.00/day
~~$350.00~~

Rent Now

Recommended Cars

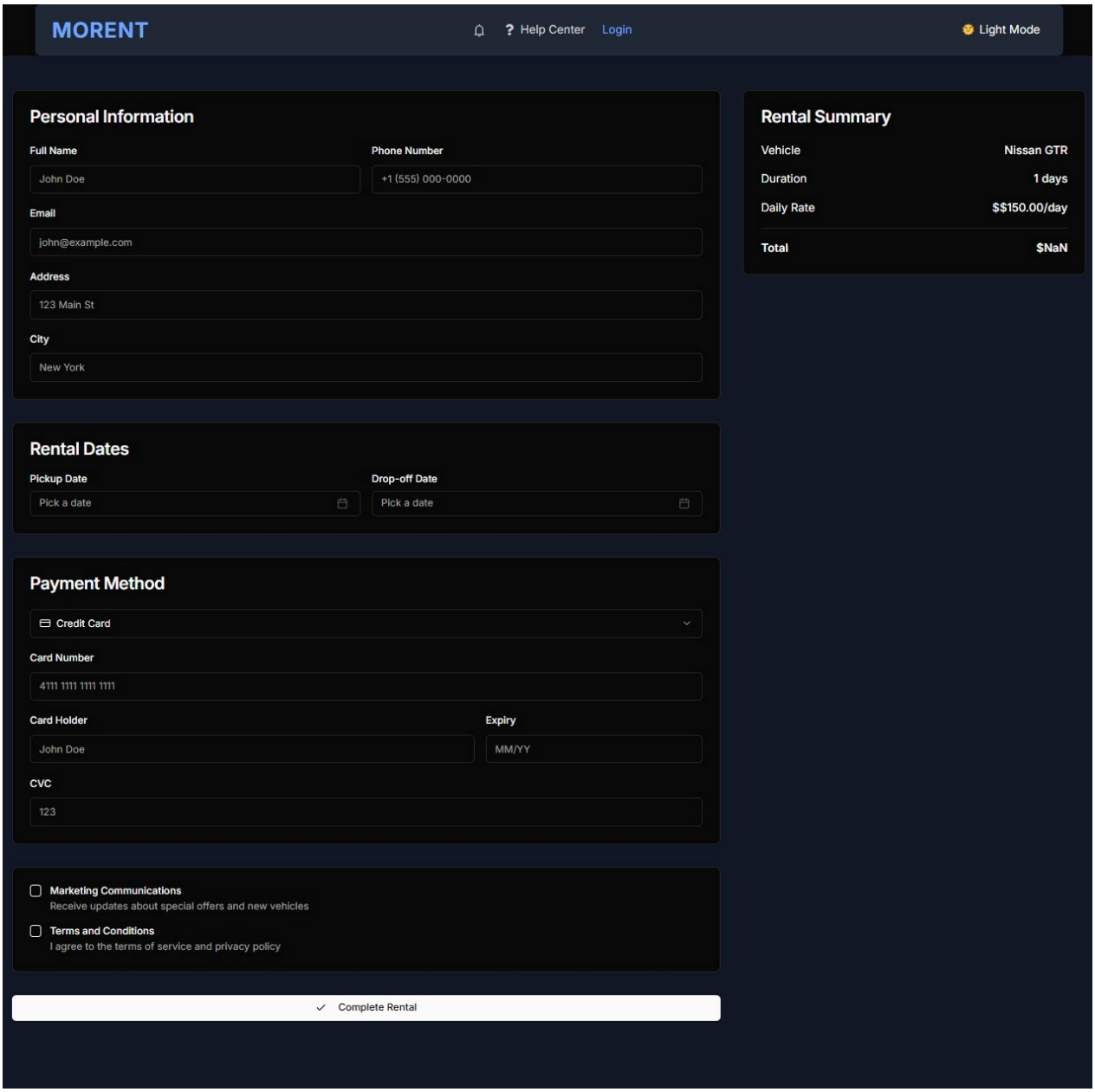
View All

BMW X5

Mercedes-Benz C-Class

Chevrolet Camaro

GTR NISMO


MORENT
Help Center
Login
Light Mode
Personal Information
Full Name
John Doe
Phone Number
+1 (555) 000-0000
Email
john@example.com
Address
123 Main St
City
New York
Rental Dates
Pickup Date
Pick a date
Drop-off Date
Pick a date
Payment Method
Credit Card
Card Number
4111 1111 1111 1111
Card Holder
John Doe
Expiry
MM/YY
CVC
123
Marketing Communications
Receive updates about special offers and new vehicles
Terms and Conditions
I agree to the terms of service and privacy policy
Complete Rental
Rental Summary
Vehicle
Nissan GTR
Duration
1 days
Daily Rate
$$150.00/day
Total
$NaN