

MARKET BUILDER HACKTHON

DAY 2

*PLANNING TECHNICAL FOUNDATION
FOR RENTAL MARKETPLACE*

*PREPARED BY:
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INTRODUCTION

Project Overview

This Hackathon project aims to create a website for rent-a-car services, providing users with a seamless and efficient car rental experience. The platform will enable users to browse and rent cars, manage bookings, and track payments.



PROBLEM STATEMENT

The car rental market faces challenges including a lack of user-friendly platforms, limited car options, and inefficient booking processes. This project addresses these issues by developing a comprehensive and intuitive car rental website.



PROJECT GOALS



Develop a user-friendly website with a wide range of car options



Implement a seamless booking and payment process



Provide real-time tracking and updates for bookings and payments



Ensure a secure and reliable platform

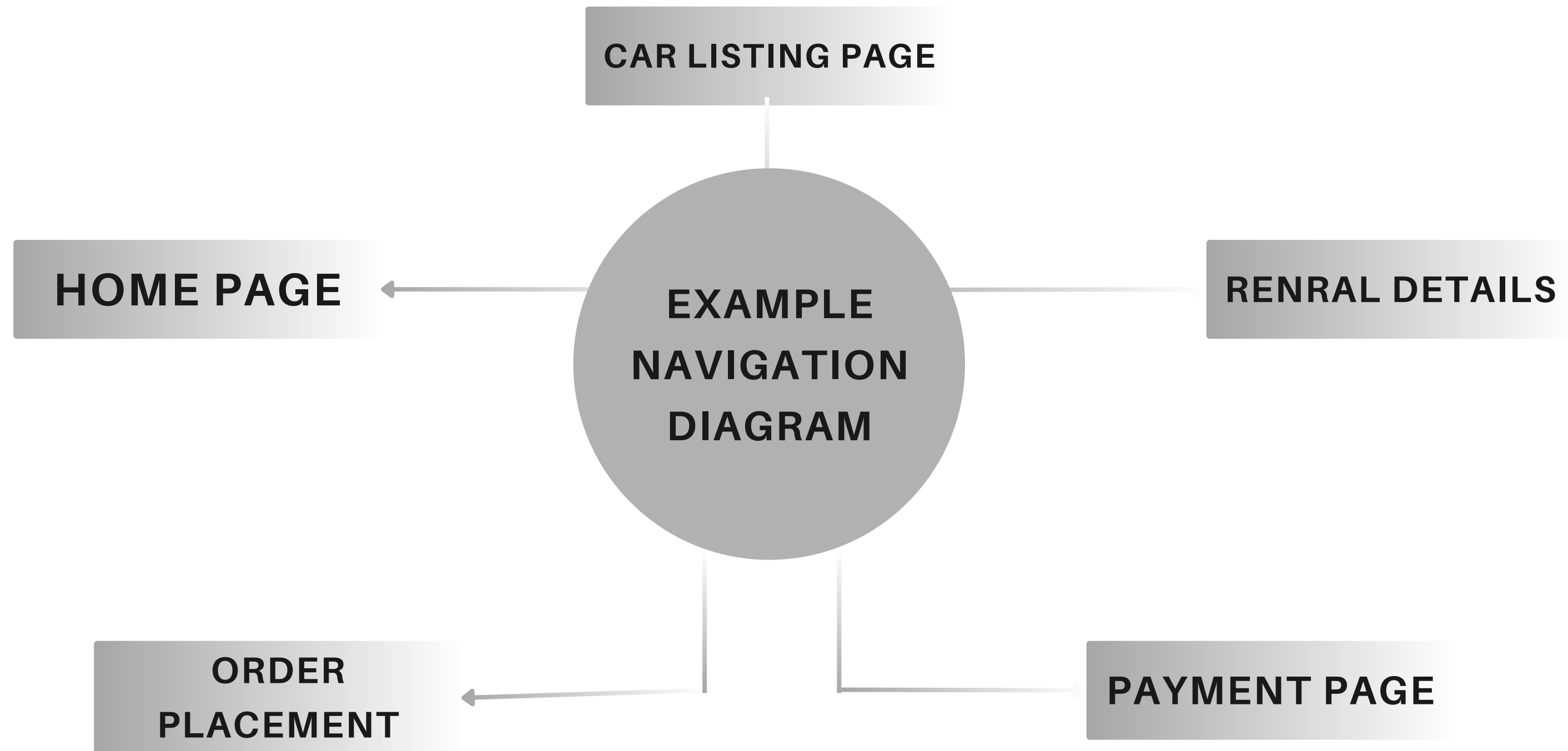
DEFINE TECHNICAL REQUIREMENTS

Frontend Requirements

- Framework: Next.js with server-side rendering for improved SEO
- Styling: Tailwind CSS
- Design: Responsive for mobile and desktop

Key Pages

- Car Listing: Displays available cars with filters
- Rental Details: Provides detailed car information
- Order Placement: Allows users to book cars
- Payment and Tracking: Tracks payments and bookings



Backend Requirements

CMS :

Sanity CMS for custom schema design

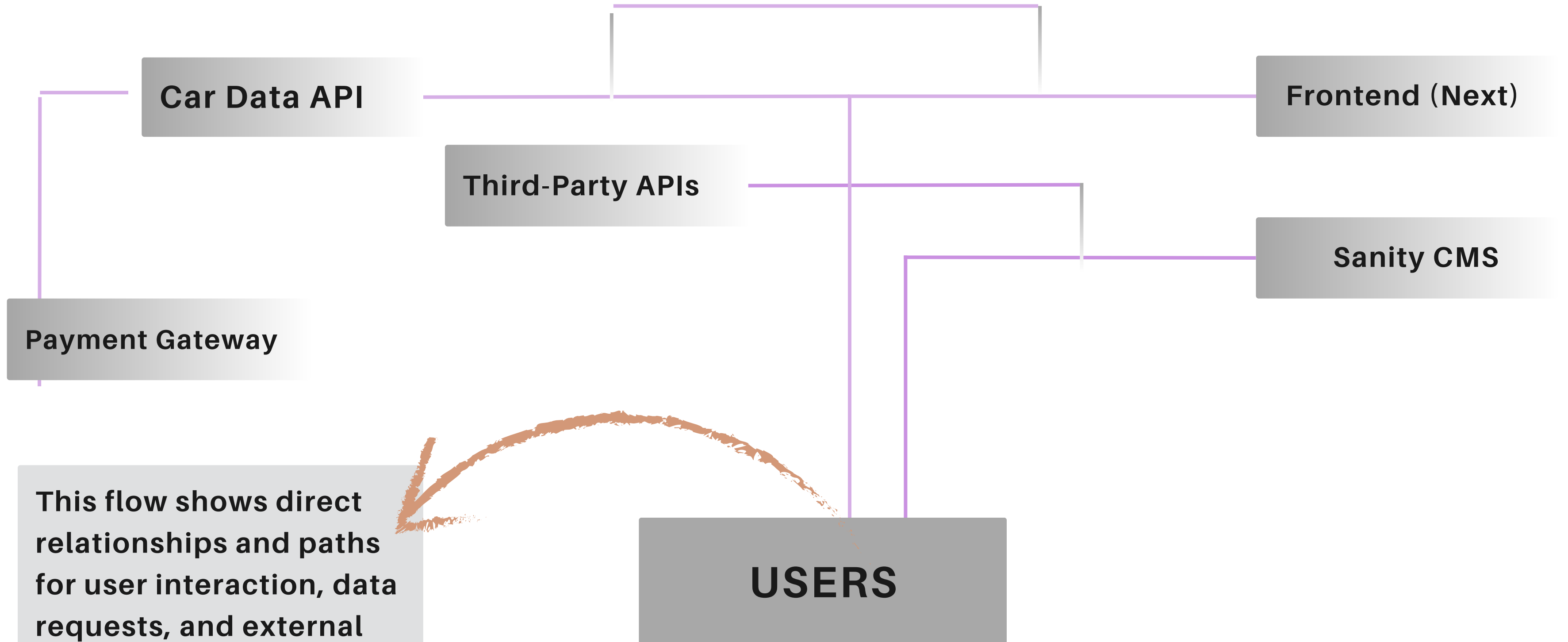
Key Features :

- Customizable schema
- Real-time collaboration
- Version control

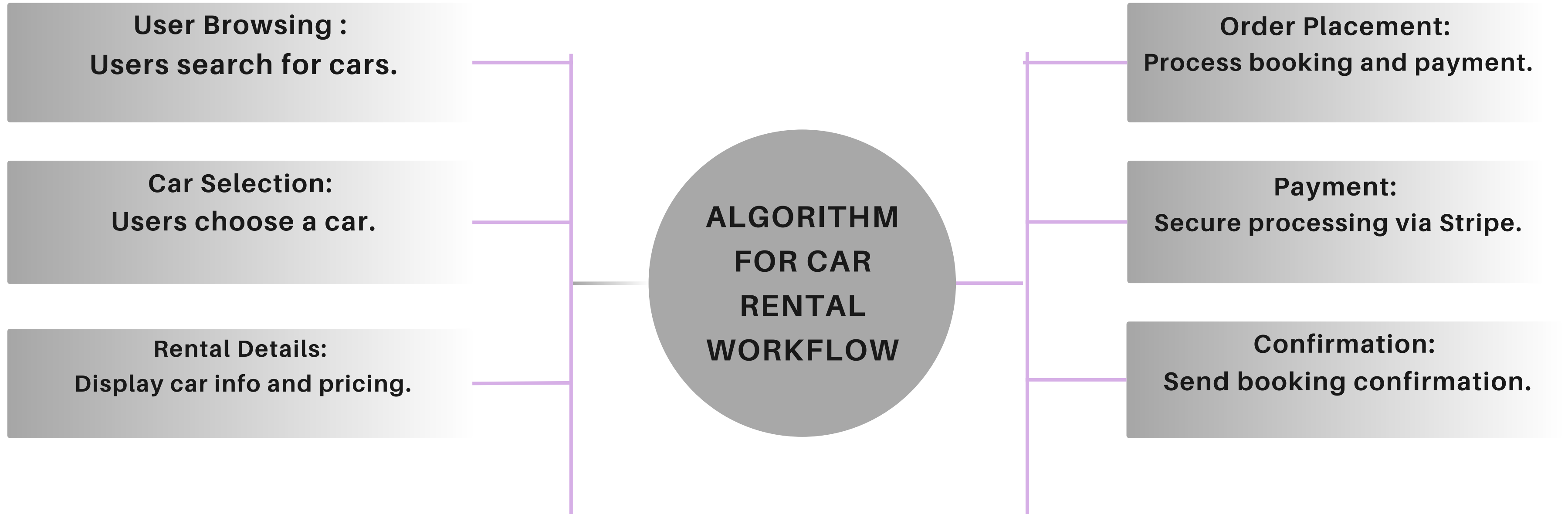
Third-Party APIs

- Stripe :
Secure payment processing
- Tracking APIs :
Real-time updates

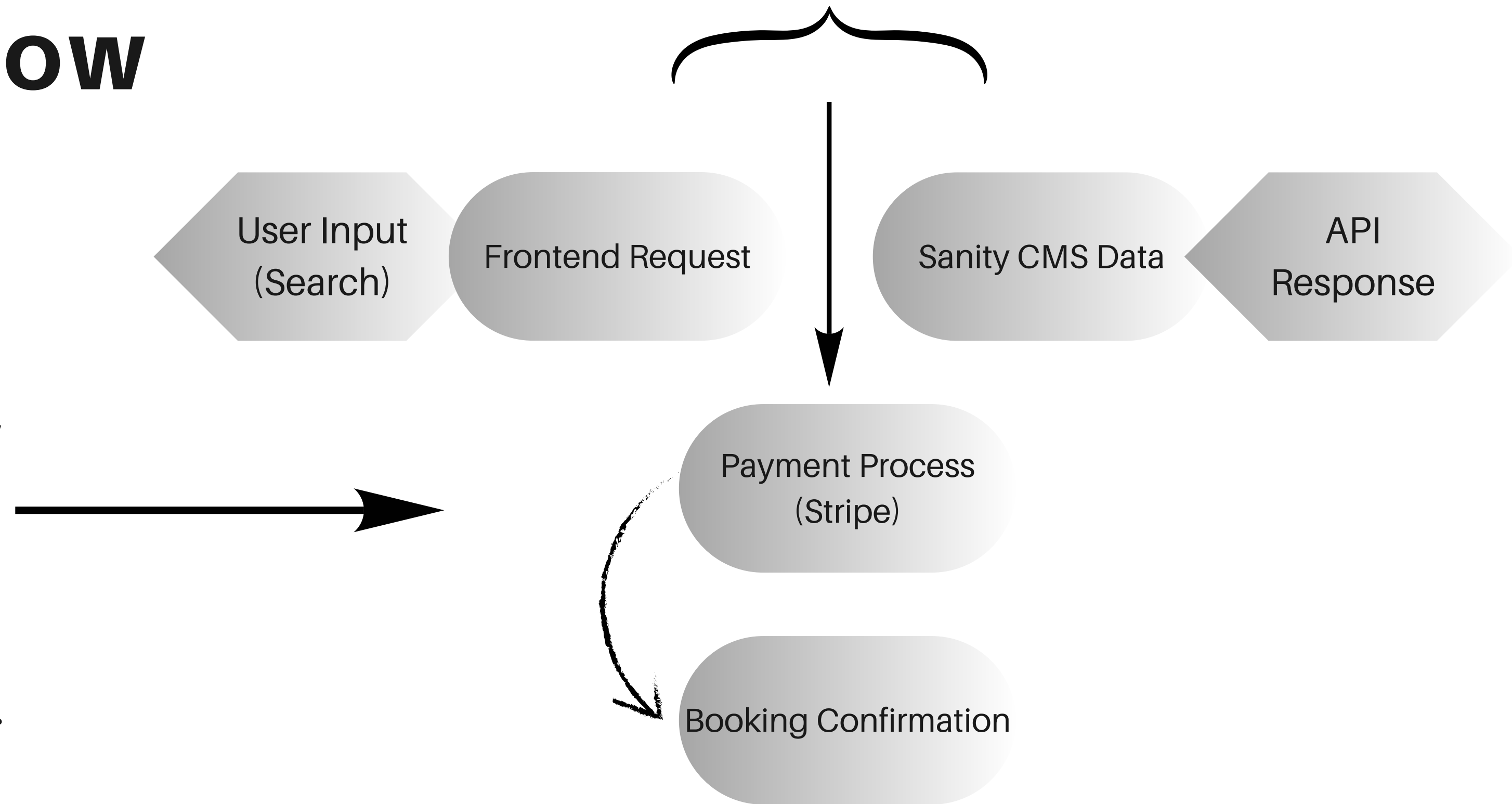
ENHANCED EXAMPLE ARCHITECTURE DIAGRAM



This flow shows direct relationships and paths for user interaction, data requests, and external services.



ENHANCED DATA FLOW

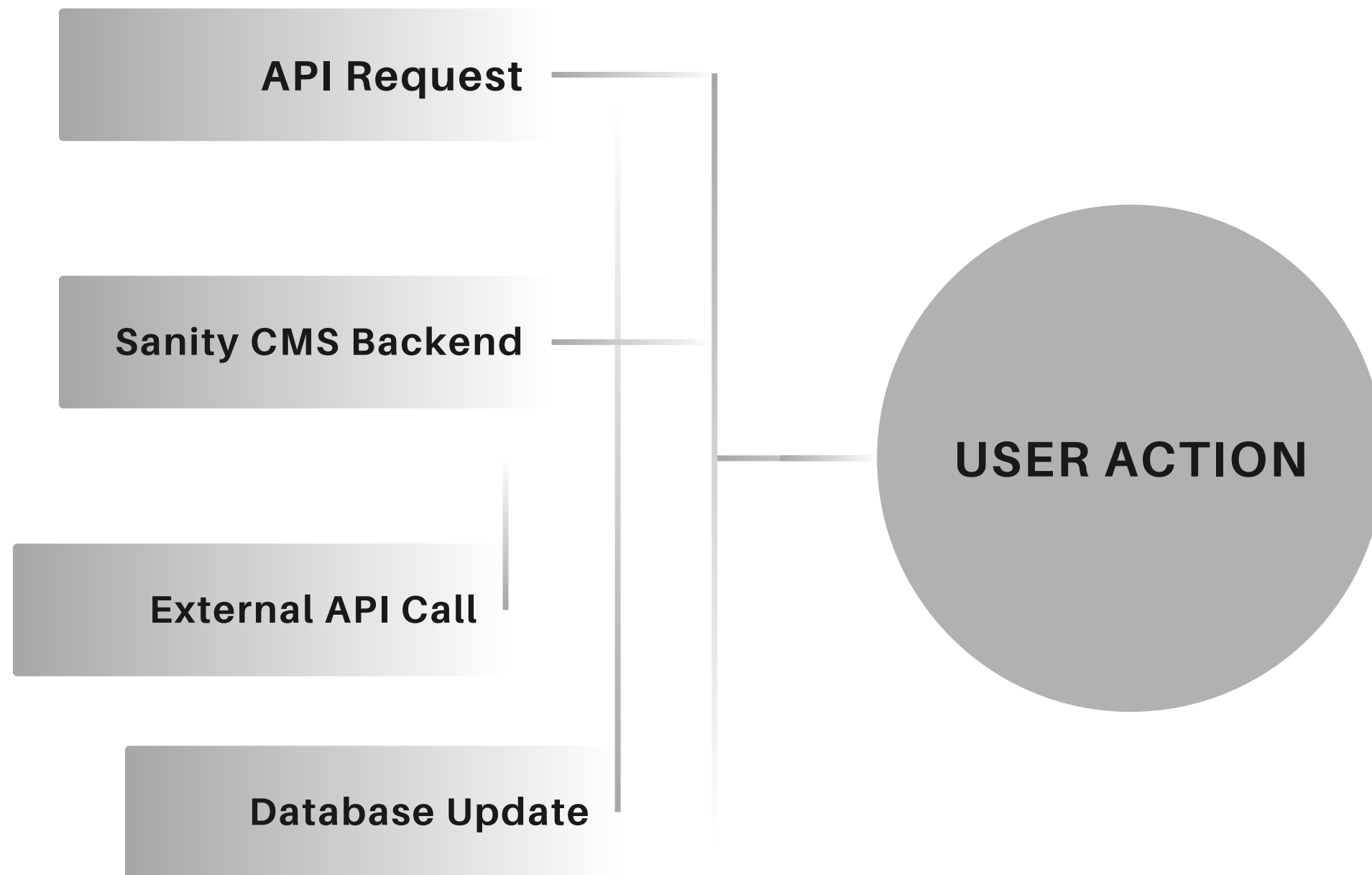


This detailed flow
clarifies data
movement from
user actions to
backend services.

PLAN API REQUIREMENTS

API ENDPOINTS

ENDPOINT	METHOD	DESCRIPTION	EXAMPLE RESPONSE
/cars	GET	Retrieve available cars	{ "carId": 1, "model": "SUV" }
/cars/:id	GET	Retrieve details of a specific car	{ "carId": 1, "details": {...} }
/bookings	POST	Create a new booking	{ "bookingId": 101, "status":...}
/bookings	GET	List bookings	[{ "bookingId": 101, "car": {...} }]
/bookings/:id	GET	Retrieve a booking	{ "bookingId": 101, "car": {...} }



DETAILED API REQUEST/RESPONSE

Each request updates data structures or retrieves relevant information to complete user actions.

BACKEND SCHEMA DESIGN (SANITY CMS)

CAR SCHEMA EXAMPLE

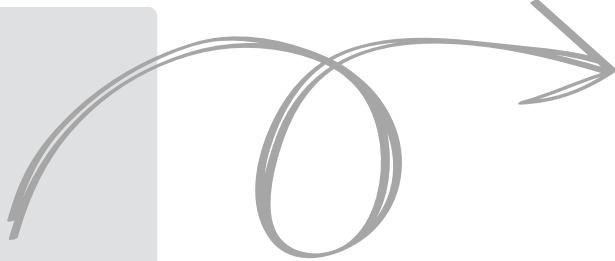
This schema enables dynamic management of cars with detailed attributes.



```
{
  "name": "car",
  "type": "document",
  "fields": [
    { "name": "name", "type": "string" },
    { "name": "description", "type": "text" },
    { "name": "price", "type": "number" },
    { "name": "availability", "type": "boolean" },
    { "name": "images", "type": "array", "of": [{ "type": "image" }] }
  ]
}
```


BOOKING SCHEMA

This design facilitates referencing related entities, ensuring relational data integrity.



```
{
  "name": "booking",
  "type": "document",
  "fields": [
    { "name": "car", "type": "reference", "to": [{ "type": "car" }] },
    { "name": "user", "type": "reference", "to": [{ "type": "user" }] },
    { "name": "startDate", "type": "date" },
    { "name": "endDate", "type": "date" },
    { "name": "totalPrice", "type": "number" },
    { "name": "paymentStatus", "type": "string" }
  ]
}
```



COLLABORATION AND REFINEMENT

We prioritize teamwork using GitHub for version control and Slack for real-time communication, ensuring seamless code management and effective collaboration. Regular standups keep progress aligned. Code refinement focuses on thorough reviews, user feedback integration, and performance optimization. Testing includes unit, integration, and end-to-end validation to ensure a stable, secure, and user-friendly platform.

FINAL THOUGHTS

By fostering strong collaboration, continuous refinement, and comprehensive testing, the project is designed to deliver a scalable, secure, and user-centric solution. With a solid architecture, seamless API integration, and performance-focused enhancements, this platform is positioned to drive engagement, efficiency, and long-term success.



Thank You..



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