

STEP - 01 :-

Primary Purpose :-

The Primary purpose of Rental E-commerce is to provide an online platform where individuals or businesses can rent out products or services. This model promotes cost saving, flexibility, and sustainability by allowing users to access high-value items within a limited period of time.

STEP - 02

DEFINE YOUR BUSINESS GOALS :-

→ What problem does your marketplace aim to solve?

Problem To Solve:

1. High Cost of Car Ownership:-

People cannot buy car due to high prices, maintenance cost, insurance etc. this model provides an affordable alternative of temporary transportation needs.

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2. Convenience & Flexibility:-

Customer can book cars online any time avoiding long paperwork and any other complexity. This model helps to customers to meet their needs easily.

3. Travel & Mobility Solutions:-

It is a best model for travellers for their travelling and mobility solutions.

STEP-03

What is Your Target Audience?

The Target audience for this mode will be:

1. Tourist and Travellers.

2. Corporate Clients and Business Professionals:-

3. Locals without Personal Vehicles.

4. Temporary and Renters Replacement.

5. Ride-Hailing and Delivery Drivers.

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STEP-04

What Products or Services You will offer?

This rental car e-commerce mode will provide following products and services to the clients.

- o Economy & Budget Cars.
- o Sedans & Executive Cars.
- o SUVs & 4x4 vehicles.
- o Luxury & Premium Cars.
- o Vans & Commercial Vehicles.
- o Self Drive Car Rental
- o Chauffeur - Driven Car Rentals.
- o Pick & Drop Services
- o Ride Hailing & Delivery Car Leasing.
- o Insurance Replacement Rentals.

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DATA SCHEMA For CAR Rental Marketplace

The data schema is as follows:-

01- Cars:-

The vehicles available for rent.

Attributes:-

- Car ID
- Make (e.g. Toyota, Honda)
- Model
- Year
- Rental Price
- Availability Status
- Type (Sedan, SUV)
- Fuel Type (Electric, Gasoline, Hybrid)
- Transmission Type (Manual, Automatic)
- Location
- Condition
- Image of the car.
- License Plate Number
- Mileage

02. Customers:-

Description:-

Clients renting a Car

Attributes:-

- Customer ID
- Full Name
- E-mail Address
- Phone Number
- Address
- Driver license Number.
- Payment Information.
- Date of birth
- Account Type (Business, Individual)
- Booking History.
- Rating & Reviews.

03. Reservations / Booking:-

Description:-

The record of a car rental transactions by a customer.

Attributes:-

- Reservation ID
- Customer ID.

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- Car ID
- Rental Start Date
- Rental End Date
- Total Price (based on rent)
- Pickup Location
- Return Location
- Rental Status
- Payment Status
- Additional Services (Car AC, GPS, etc)
- Pickup Time / Return Time

04- Payments:-

Description:-

Financial Transaction for current

Attributes:-

- Payment ID
- Reservation ID
- Customer ID
- Payment Method
- Payment Amount
- Payment Status
- Payment Date

• Transaction ID

- Refund ID (if applicable)

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5. Car Location :-

Physical location of the cars.

Description:-

Can be picked up and returned.

Attributes :-

- Location ID
- Location Name
- Address
- Available Cars
- Operating hours
- Delivery / Pickup.

6. Car Maintenance :-

Descriptions:

Total maintenance and service record.

Attributes:-

- Car ID
- Maintenance ID
- Maintenance Date
- Service Type.
- Maintenance Status.
- Description of work Done

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-7. Reviews & Ratings:-

Description:-

Customer feedback on Cars.

Attributes:-

- 1 Review ID
- 2 Customer ID
- 3 Car ID
- 4 Rating
- 5 Review TEXT
- 6 Review Date.

08. Promotions / Discounts:-

Description:-

Offers and discounts for customers.

Attributes:-

- 1 Promotion ID
- 2 Promotion Code.
- 3 Discount Percentage.
- 4 Validity Period.
- 5 Car Type / Category
- 6 Terms and Conditions.

09. Suppliers / Partners:-

Description:-

Partners that provide vehicles

Attributes:-

- 1. Supplier ID
- 1. Business Name
- 2. Contact Info
- 2. Fleet of cars available.
- 2. Payment Terms
- 2. Rating & Reviews.

10. Insurance:

Description:-

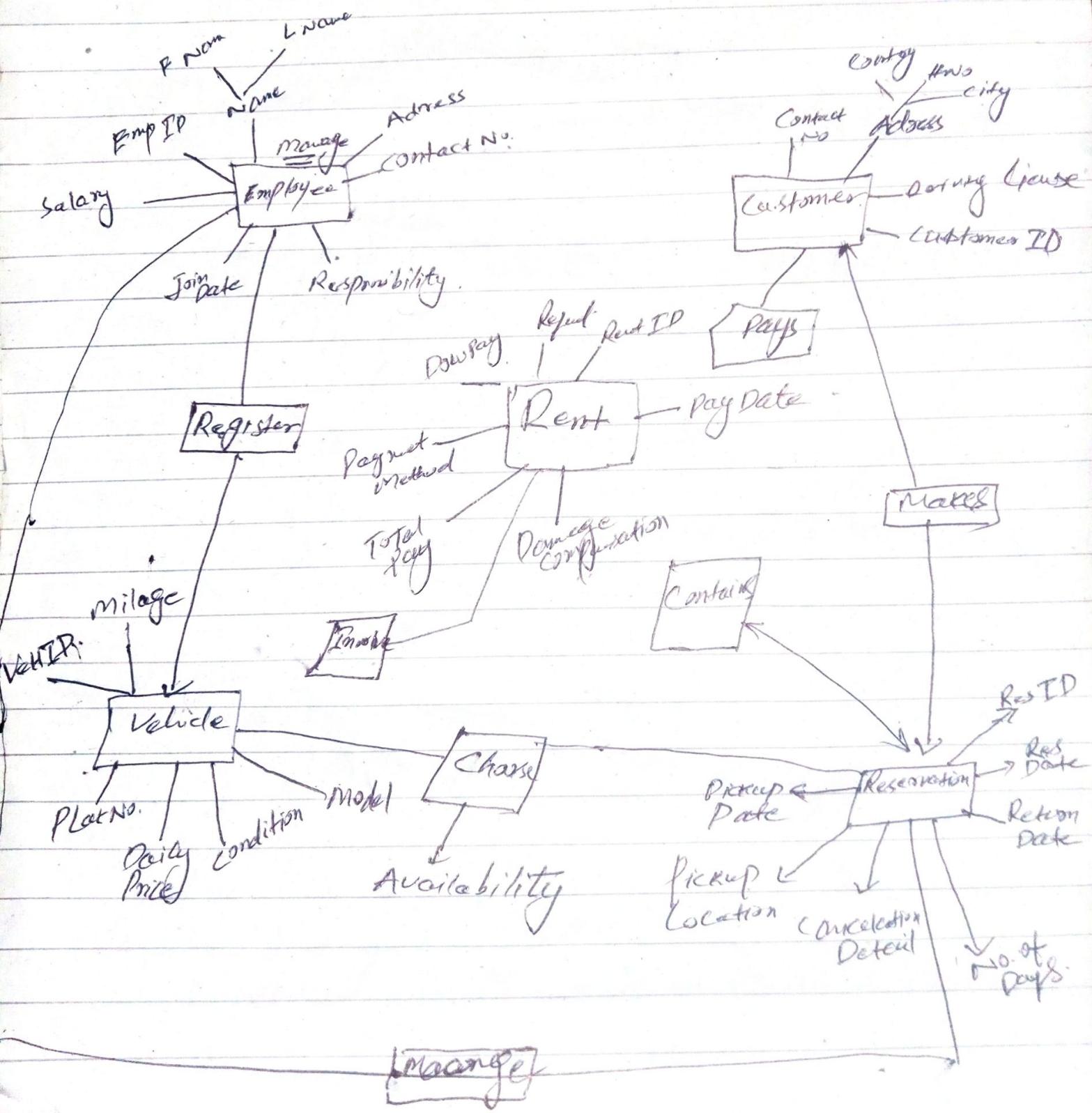
Insurance option for customized.

Attributes:-

- 1. Insurance ID
- 2. Car ID
- 2. Coverage Details
- 2. Insurance Price
- 2. Insurance Status
- 2. Terms and Conditions.

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CAR Rental Market Place Diagram:



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DAY-02 : Activities

Transitioning To Technical Planning:-

Here is a Systematic architecture diagram for the marketplace, including workflows and interaction between components.

System Architecture :-

1. Front End \Rightarrow Next.js :-

Acts as the user interface where users interact with the system.

2. Back End \Rightarrow Sanity CMS :-

Manages and stores products data, customers details and orders records. Provides APIs to the frontend for dynamic data retrieval.

3. 3rd Party APIs \Rightarrow Payment Gateway

Handle secure payment transactions.

4. Shipment Tracking APIs :-

Provide order updates about delivery.

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NOTIFICATION SERVICE:-

Send E-mail or SMS to Customers about order confirmation and delivery.

DATA FLOW EXAMPLES:-

4- User Browsing:-

User visits the Marketplace frontend "Nextjs" send a request to "Sanity" CMS API to fetch the latest Product listing. Product data is dynamically rendered.

5. Product Details.

User click on products Nextjs request data to Sanity and the data is displayed on front end.

6- Checkout:-

User add Products to cart and Checkout for payment with Shipping and Payment details.

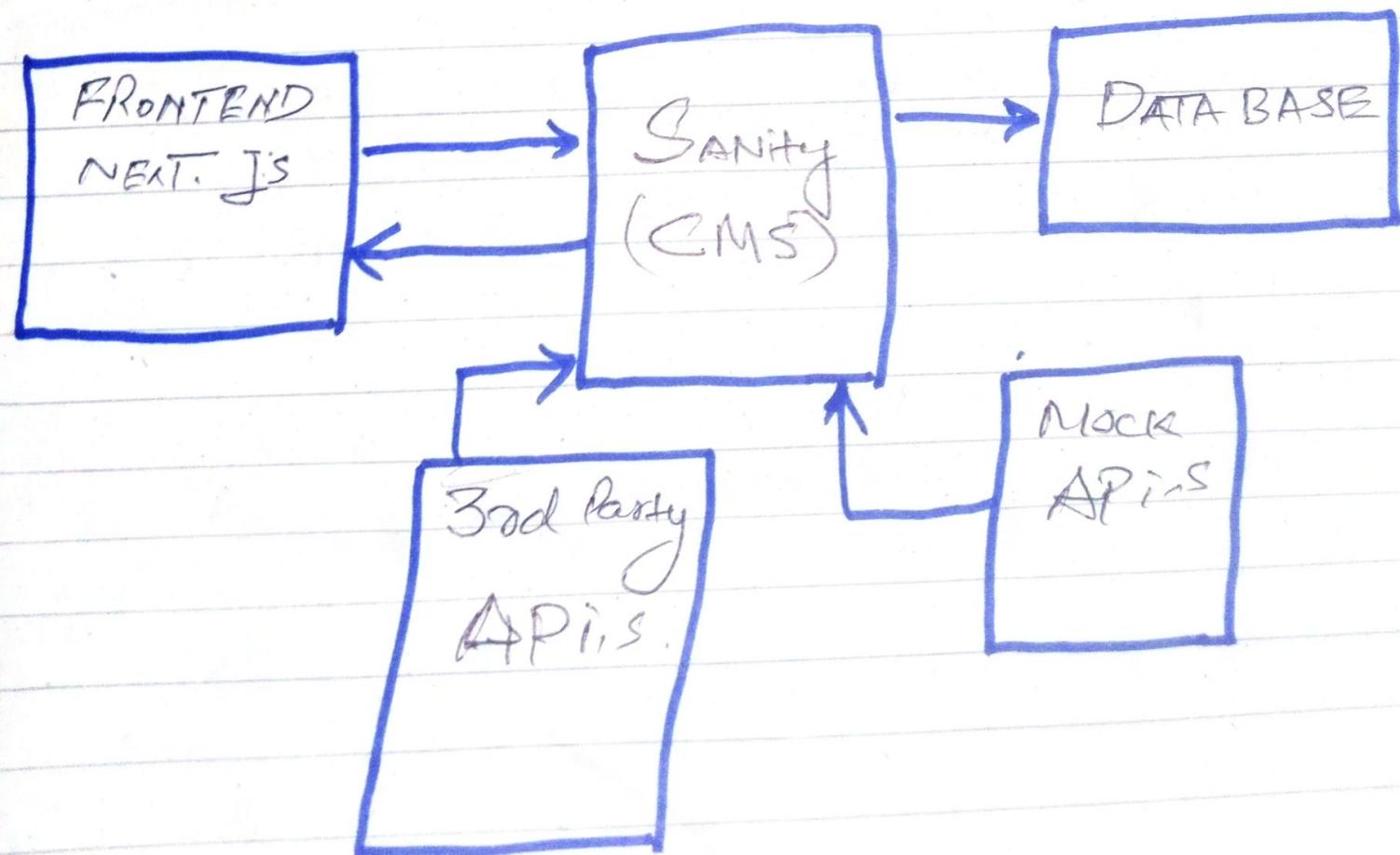
7. Order Management:-

After payment confirmation Neat.js sends order detail to Sanity, for storage. New order confirmation is displayed to user.

8. Shipment Tracking:-

Shipment tracking API provide delivery updates to front end for customers.

System Architecture Diagram.



PLAN API Requirements

01. Product Management :/ Products

Method:- GET

Description:- Fetch all available products from sanity.

Response Example:-

```
[  
  {  
    "id": "123",  
    "Name": "SUV Rental",  
    "Price": "100",  
    "Stock": 5,  
    "image": "suv-image.jpg"  
  }  
,  
 ]
```

2. Product Details:-

Endpoint Name: /Products/:id

Method: GET

Description: Fetch information for a specific product.

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Response Example:-

```
{ "id": "123",  
  "name": "SUV Rental",  
  "Description": "For family Trip",  
  "Price": 100,  
  "Stock": 5,  
  "image": "SUV-image.jpg",  
  "Features": ["GPS", "Automatic Transmission"] }
```

3. Add Rental Duration:-

End Point Name: /RentalDuration

METHOD: Post

Description: Add rental details for a specific product

Payload Example:-

```
{ "ProductID": "123",  
  "Duration": "7 days",  
  "deposit": 500 }
```

Response Example:-

```
{ "confirmationID": "789",  
  "status": "Success" }
```

Order Management DAY-02 (Page-06)

End Point Name: /Order Management /00

Method: POST

Description: Create New order in Sanity.

Payload Example:-

```
{ "customer info": { "Name": "JOHN",  
"e-mail": "John123@gmail.com",  
"Phone": "12345678"},  
"Product details":  
[ { "id": "123",  
"Name": "SCV Rental",  
"Quantity": 1,  
"Price": 100},  
"Payment status": "Paid" ] }
```

Response Example:-

```
{ "Order id": "456",  
"Status": "Order Created" }
```

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05- Shipment Tracking:-

EndPoint Name: /Shipment
method: GET

Description: Track Order Shipment states via 3rd Party API.

Response Example:-

```
{ "ShipmentId": "Shp123",  
  "OrderID": "O156",  
  "Status": "in-transit",  
  "Expected delivery date": "2025-01-20" }
```

06- Customer Management:-

EndPoint Name: /Customer/{id}

method: GET

Description: Fetch Customer detail by id.

Response Example:-

```
{ "id": "001",  
  "Name": "John",  
  "E-mail": "john123@gmail.com",  
  "Phone": "123456",  
  "Order history": [ { "Order ID": "O156",  
    "Date": "2025-01-15",  
    "Total": 150 } ] }
```