"Marketplace Technical Foundation – Muniba e-shop"

1-Technical Requirements:

Frontend Requirements:

o User-friendly interface for browsing products.

o Responsive design with carousel from shadcn-ui for mobile and desktop users.

o Essential pages: Home, Login/signup, Product Details, Cart, Checkout, and Order Confirmation, error 404 page not found page.

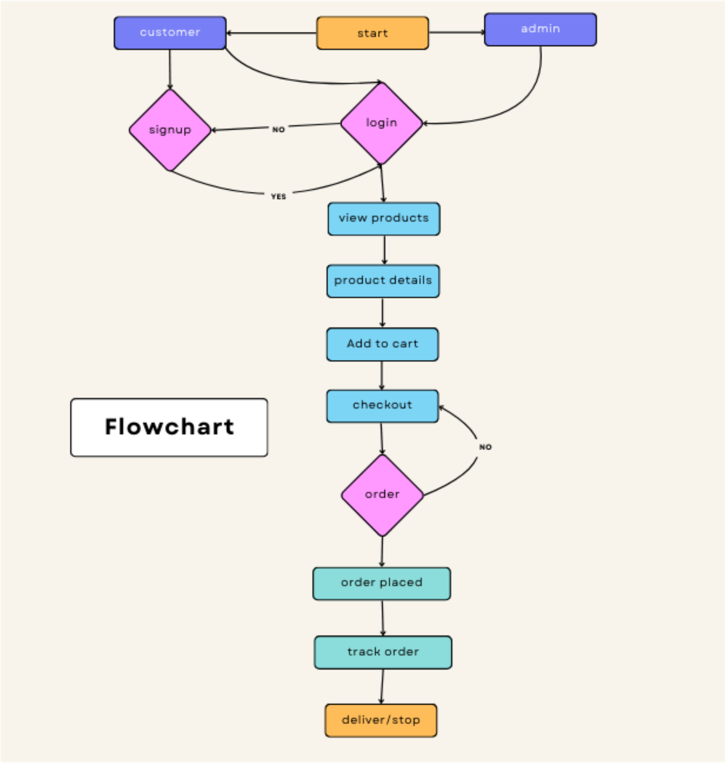
Sanity CMS as Backend:

o Use Sanity CMS to manage product data, customer details, and order records. Sanity acts as the database for my general ecommerce marketplace.

- ○ Designing schemas of product, order, shipment, customer details with sanity.

Third-Party APIs:

o Integrate APIs for shipment tracking, payment gateways, and other required backend services using shipEngine for shipment and stripe for payment.



2. Design System Architecture

[Frontend (Next.js) Login/sign-up]

|

[view products]

|

[Sanity CMS] ---------> [Product Data API]

|

[Third-Party API] -----> [Shipment Tracking API]

|

[Payment Gateway] ---->[stripe/easypaisa]

1- A user visits the marketplace frontend to browse products.

2- The frontend makes a request to the Product Data API (powered by Sanity CMS) to fetch product listings and details, which are displayed dynamically on the site.

3- When the user places an order, the order details are sent to Sanity CMS via an API request, where the order is recorded.

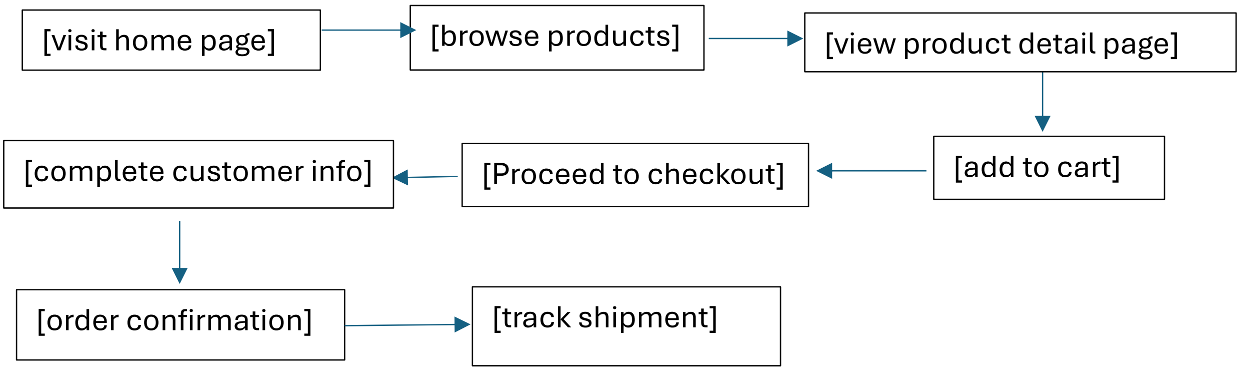
4- Shipment tracking information is fetched through a Third-Party API and displayed to the user in real-time.

Endpoint Name	Method	Description	Response Example
/products	GET	Fetch all product details.	{ "id": 1, "name": "Printed shirt", "price": 2000 }
/products	GET	Fetch all available products from Sanity.	Product details (ID, name, price, stock, image).
/orders	POST	Create a new order in Sanity.	Customer info, product details, payment status.

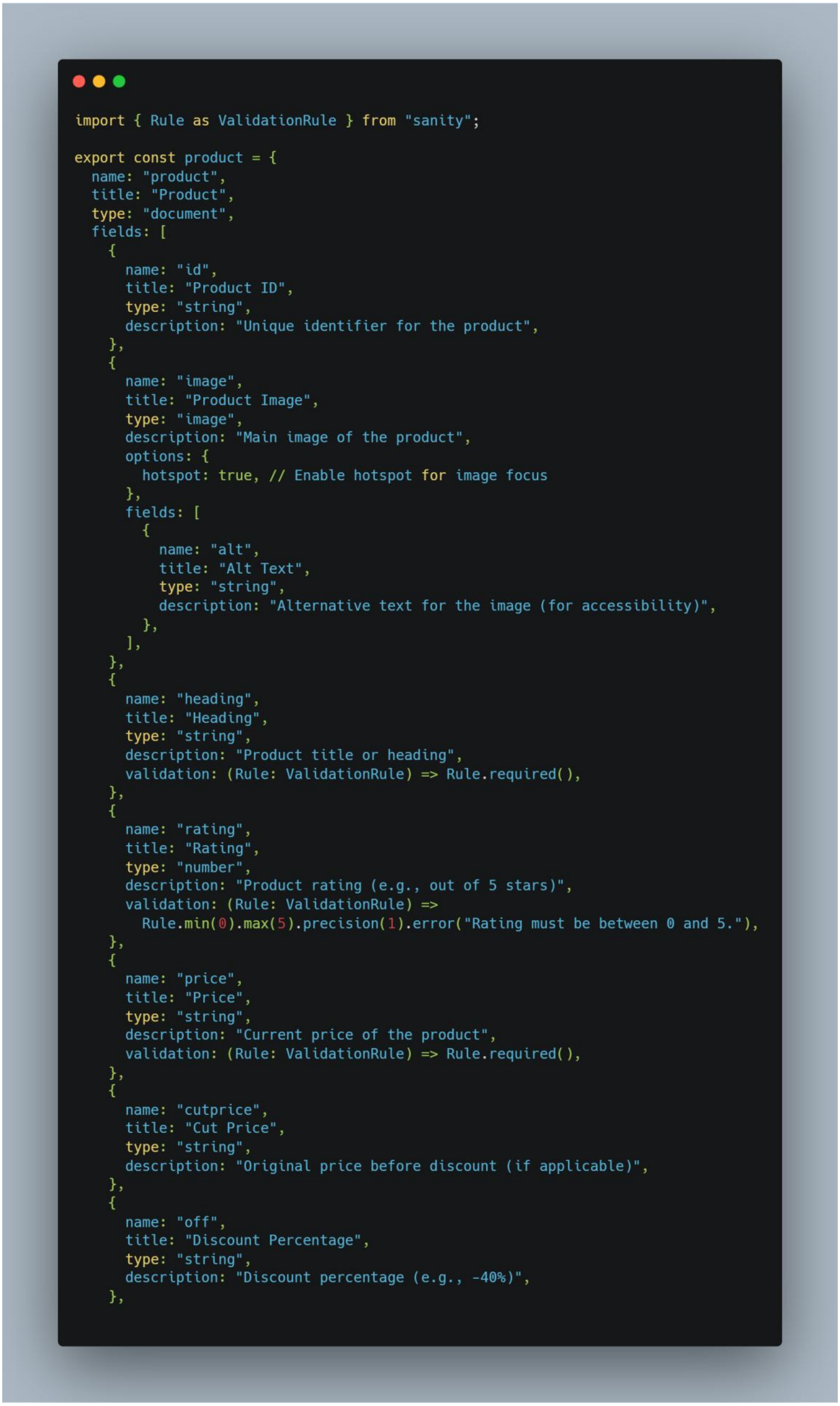
/shipment	GET	Track order status via third-party API.	Shipment ID, order ID, status, expected delivery date.

5- Payment details are securely processed through the Payment Gateway, and a confirmation is sent back to the user and recorded in Sanity CMS.

Work flow Diagram

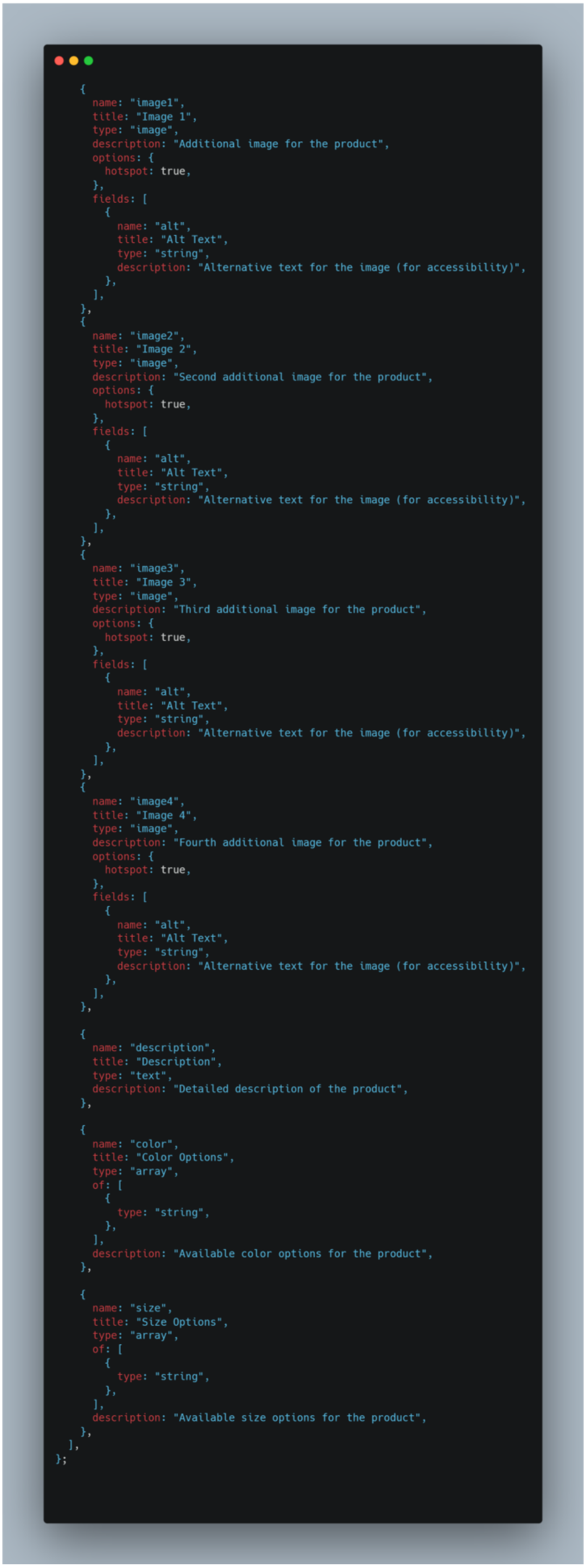


Sanity Schema



```
import { Rule as ValidationRule } from "sanity";

export const product = {
  name: "product",
  title: "Product",
  type: "document",
  fields: [
    {
      name: "id",
      title: "Product ID",
      type: "string",
      description: "Unique identifier for the product",
    },
    {
      name: "image",
      title: "Product Image",
      type: "image",
      description: "Main image of the product",
      options: {
        hotspot: true, // Enable hotspot for image focus
      },
      fields: [
        {
          name: "alt",
          title: "Alt Text",
          type: "string",
          description: "Alternative text for the image (for accessibility)",
        },
      ],
    },
    {
      name: "heading",
      title: "Heading",
      type: "string",
      description: "Product title or heading",
      validation: (Rule: ValidationRule) => Rule.required(),
    },
    {
      name: "rating",
      title: "Rating",
      type: "number",
      description: "Product rating (e.g., out of 5 stars)",
      validation: (Rule: ValidationRule) =>
        Rule.min(0).max(5).precision(1).error("Rating must be between 0 and 5."),
    },
    {
      name: "price",
      title: "Price",
      type: "string",
      description: "Current price of the product",
      validation: (Rule: ValidationRule) => Rule.required(),
    },
    {
      name: "cutprice",
      title: "Cut Price",
      type: "string",
      description: "Original price before discount (if applicable)",
    },
    {
      name: "off",
      title: "Discount Percentage",
      type: "string",
      description: "Discount percentage (e.g., -40%)",
    },
```



```
    {
      name: "image1",
      title: "Image 1",
      type: "image",
      description: "Additional image for the product",
      options: {
        hotspot: true,
      },
      fields: [
        {
          name: "alt",
          title: "Alt Text",
          type: "string",
          description: "Alternative text for the image (for accessibility)",
        },
      ],
    },
    {
      name: "image2",
      title: "Image 2",
      type: "image",
      description: "Second additional image for the product",
      options: {
        hotspot: true,
      },
      fields: [
        {
          name: "alt",
          title: "Alt Text",
          type: "string",
          description: "Alternative text for the image (for accessibility)",
        },
      ],
    },
    {
      name: "image3",
      title: "Image 3",
      type: "image",
      description: "Third additional image for the product",
      options: {
        hotspot: true,
      },
      fields: [
        {
          name: "alt",
          title: "Alt Text",
          type: "string",
          description: "Alternative text for the image (for accessibility)",
        },
      ],
    },
    {
      name: "image4",
      title: "Image 4",
      type: "image",
      description: "Fourth additional image for the product",
      options: {
        hotspot: true,
      },
      fields: [
        {
          name: "alt",
          title: "Alt Text",
          type: "string",
          description: "Alternative text for the image (for accessibility)",
        },
      ],
    },

    {
      name: "description",
      title: "Description",
      type: "text",
      description: "Detailed description of the product",
    },

    {
      name: "color",
      title: "Color Options",
      type: "array",
      of: [
        {
          type: "string",
        },
      ],
      description: "Available color options for the product",
    },

    {
      name: "size",
      title: "Size Options",
      type: "array",
      of: [
        {
          type: "string",
        },
      ],
      description: "Available size options for the product",
    },
  ],
};
```