

Technical Foundation of E-commerce Website

Furniture Website(Comforty)

My Website “Comforty” will sell furniture like Chairs, stool, sofa

Here is the Roadmap

Front-End Requirements

User Friendly Interface

The website have user friendly interface where the customer will find different categories products ,chairs sofa, stools

Responsive Design

The Website looks Perfect in Mobile as well as Desktop

Main Pages

1-Home Page

A page showcasing different categories products

Product Items Page

This page displays different items

Product Details Page

This page gives In-depth Information about the items

Cart Page

This page includes the items customer want to purchase

Checkout Page

A simple secure process to review the order before finalized order

Order Confirmation Page

Display Summary of Order Details Page

Backend Requirements

1-Product Management

Store and manage products easy updates to product catalog via sanity CMS

Customer and Order Management

Manage Order and Shipping Details. Track Customer data (names, address, order history).

Required API's

Display Product Information (GET API)

The GET Api display all the products in the catalog along with their details (name, price, description, stock, and image) retrieves a list of products and their details.

2. View Specific Product Details (GET API)

When the customer clicks on a product to view more details, then **GET API** to fetch detailed information about a specific product.

3- Add Product to Cart (POST API)

When a customer decides to purchase a product, and add product in their cart. **This is done by Context API.**

4. View Cart (GET API)

After add to cart GET Api shows the customer their cart contents, including product names, quantities, individual prices, and total price.

5. Proceed to Checkout (POST API)

Once the customer is ready to finalize the purchase, they will proceed to checkout. This involves providing a shipping address and selecting a payment method. This is done by POST Api.

6. Payment Processing (POST API)

After the checkout, the customer will make a payment. This is done by payment gateway (e.g., Stripe, PayPal).

7-Order Confirmation (PUT API)

After payment, update the order status to "confirmed," and notify the customer about the successful order placement it is done by PUT Api.

8. Shipping (PUT API)

Once the order is shipped, then order status updated to "shipped" and provide a tracking number.

9. Customer View Order Status (GET API)

The customer can check the status of their order at any time.

Complete API Workflow:

1. **GET /products** - Display a list of products.
2. **GET /products/{product_id}** - Show detailed product information.
3. **POST /cart /Context/-** Add products to cart.
4. **GET /cart/{cart_id}** - View the cart.
5. **POST /checkout** - Start the checkout process.
6. **POST /orders/{order_id}/payment** - Process payment.
7. **PUT /orders/{order_id}/confirm** - Confirm the order.
8. **PUT /orders/{order_id}/shipment** - Update shipment status.
9. **GET /orders/{order_id}** - Check order status.

Work Flow Explanation

Visit HOME Page

- The customer lands on your homepage where they can start browsing products.

Browse Products

- The customer can browse through a list of products. You might have filters for categories, price range, etc., to make the browsing experience easier.

View Product Detail Page

- When the customer clicks on a specific product, they are directed to the product detail page. Here, they can see more information like the product description, price, reviews, and stock availability.

Add to Cart

- The customer decides to add the product to their shopping cart. The product, quantity, and price are added to the cart.

Proceed to Checkout

- The customer clicks on the "Proceed to Checkout" button in the cart to begin the order completion process.

Complete Profile & Payment Details

- At checkout, the customer provides their shipping address and payment details (credit card, PayPal, etc.). They confirm their information and proceed with the payment.

Order Confirmation

- After successful payment, the order is confirmed. The customer receives a confirmation message and email with order details, including shipping information.

Tools and Libraries

Tailwind CSS: Styling

Clerk: Authentication,

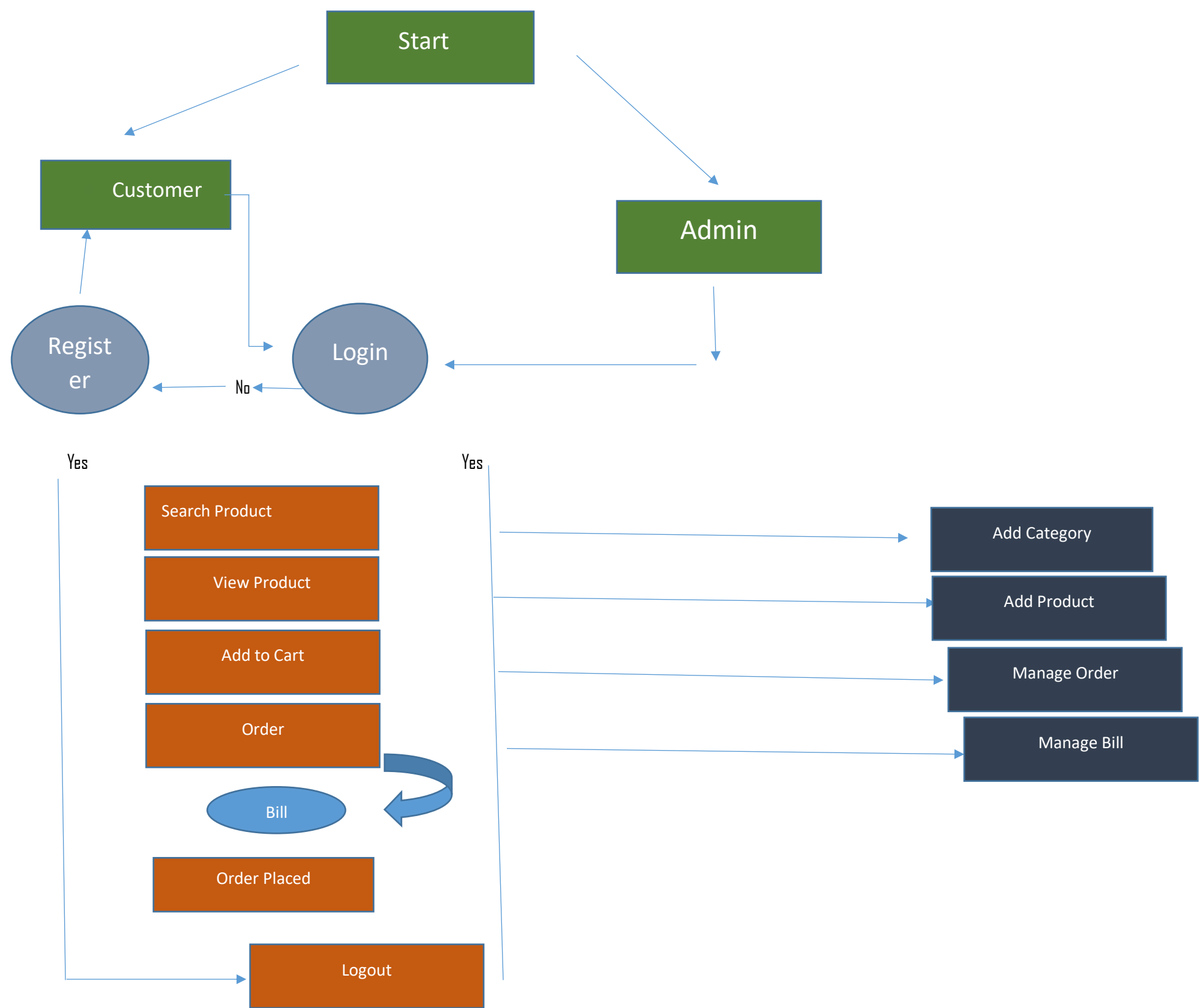
Ship Engine API: Shipping and tracking,

Sanity CMS: Content Management,

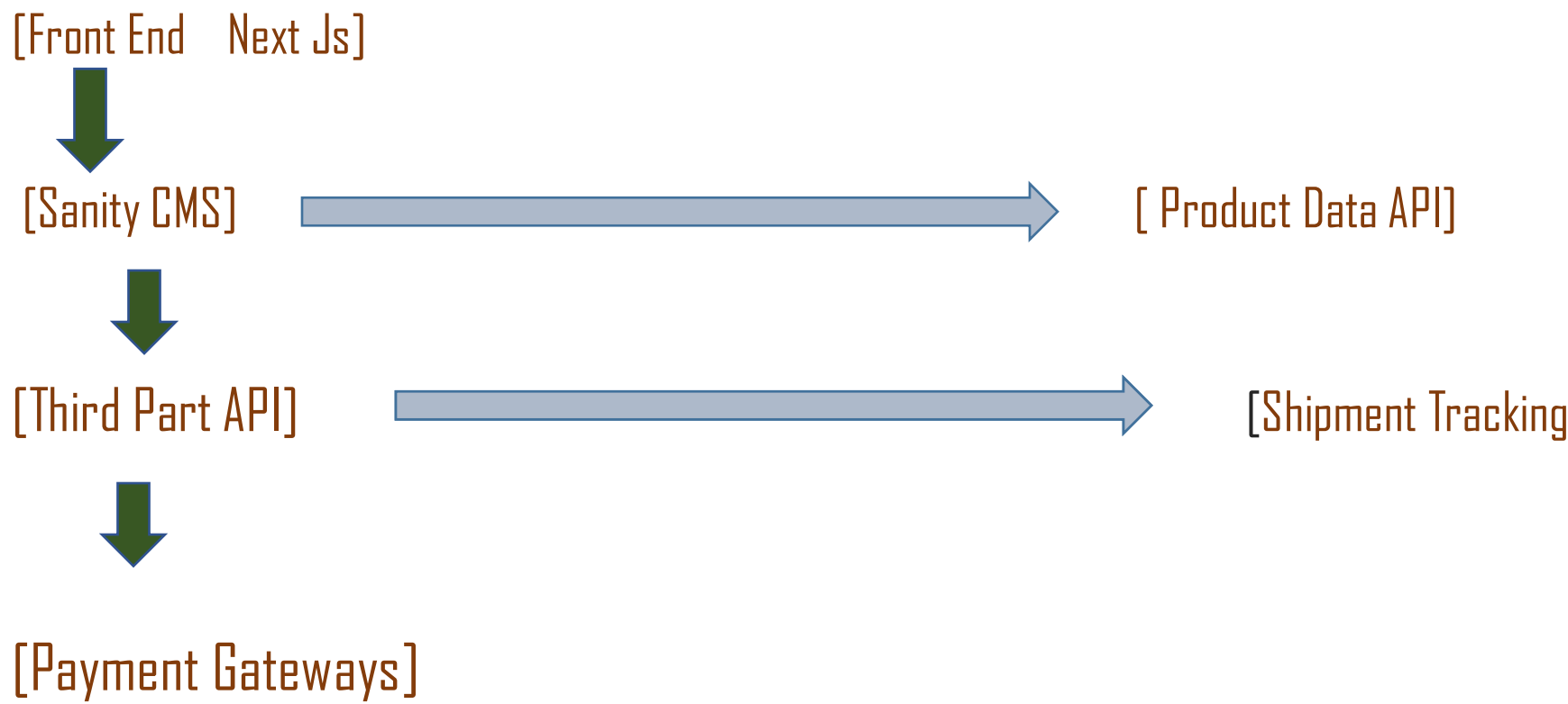
Stripe: Payment gateway,

React Context API: Cart functionality.

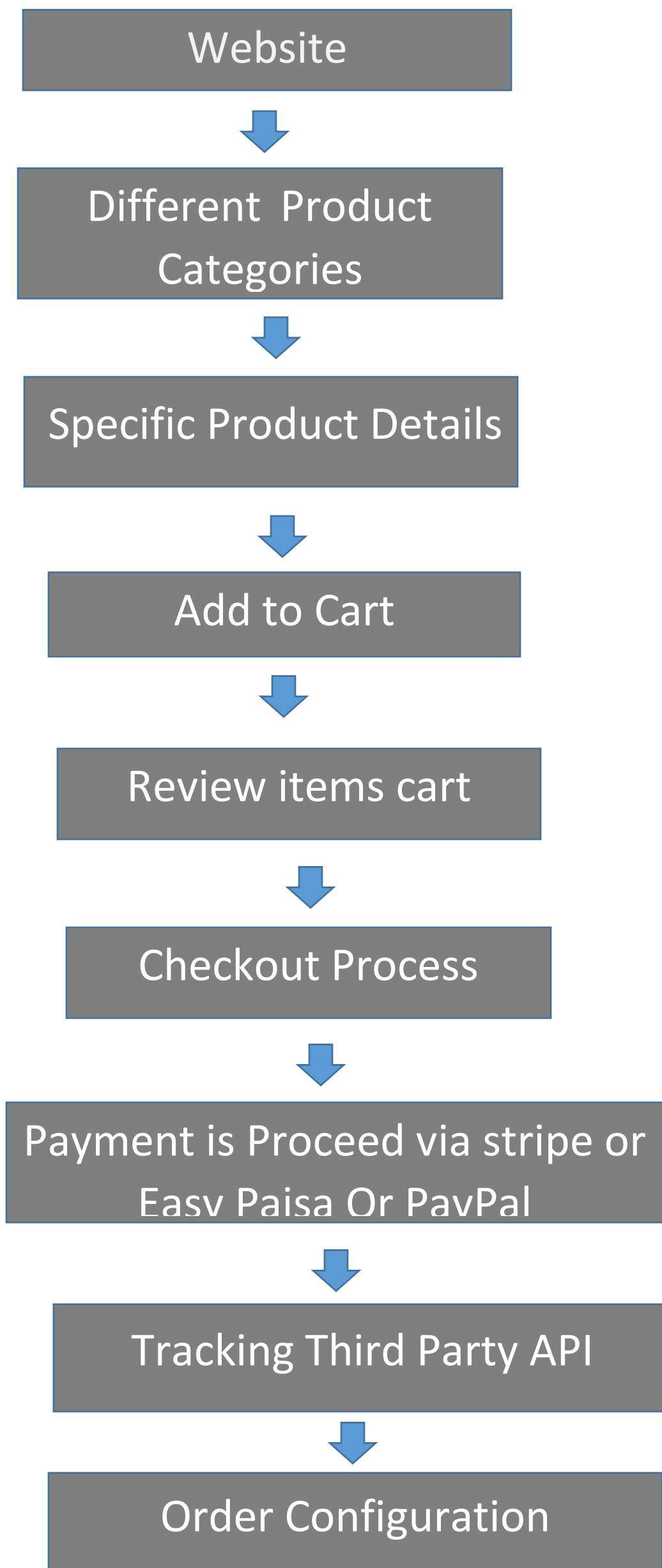
Flowchart of" Comforty Website"



Architecture Diagram



Architecture Diagram 2



Workflow Diagram

