DAY 2: PLANNING THE TECHNICAL FOUNDATION

1. **Technical Requirements for furniture website:**

- **Frontend:**
  - React.js, Next.js, Tailwind Css will be use to create a dynamic, interactive and faster website.
  - Shadcn library can be use.
  - Adaptable layout for all devices (desktop, mobile, tablet)
  - Figma templates can be used for interactive designs.

- **Backend:**
  - Sanity CMS will serve as backend to receive and process the orders.
  - Analysis the sales and inventory stock level of the product.
  - Integration with Third party APIs to avail their services, saves time and cost.
  -
- **Third Party integration:**
  - **Payment Gateways:**
    - Stripe, Paypal or local alternatives to secure payment process and real time transaction updates.
   - It secures user's personal data.

  - **Shipping:**
    - Integration with FedEx, DHL, M&P APIs for real time tracking system.
    - Handling and labeling of orders efficiently.

  - **Other APIs:**
    - Email Marketing API (to send offers, promotions or receive feedback)
    - Social Media API (Facebook, Instagram, Linkedin, Youtube for sharing and social logins.)
    - SEO API (Google recommendation AI for advanced search capabilities.)
    - Localization API (For detecting user's location)
    - Currency API (using currency conversion tools)
    - Customer support API (For live chat or answer the queriers like chatbot, chatgpt API.)

2. <u>System Architecture:</u>
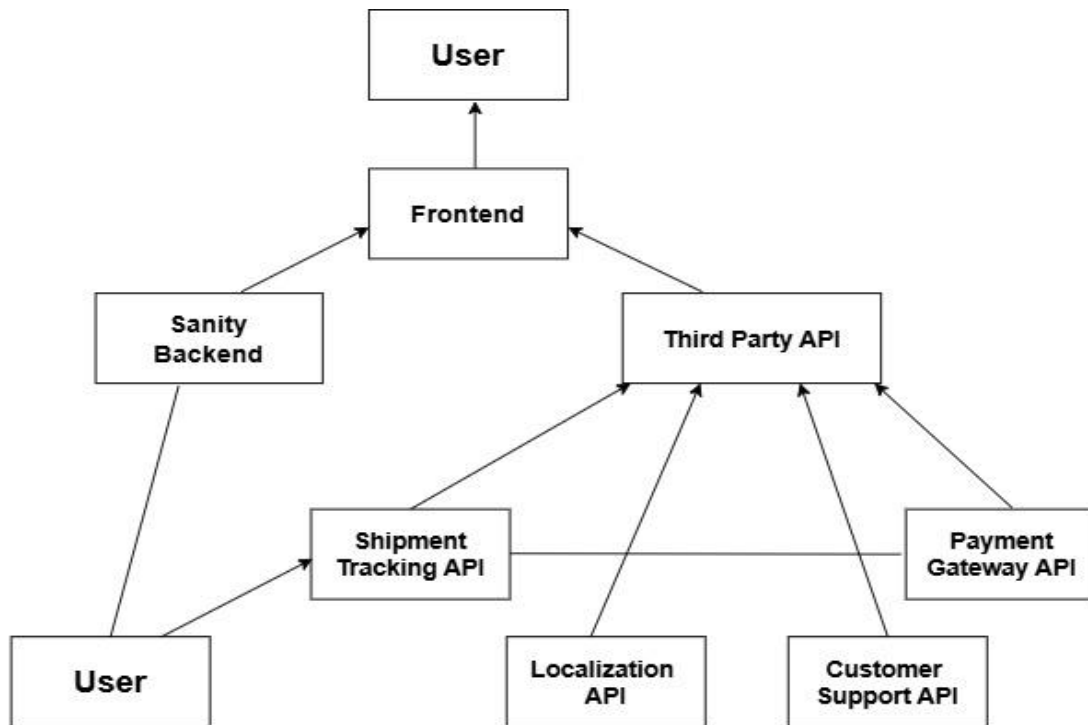
User ⟶ Visit the website to browse and placed the order.

Frontend ⟶
- Ensure responsive design for all devices.
- Categorize product by size, material, price, dimensions and style.
- Provide high resolution images with detailed description.
- Allow users to save items in cart page, review, update and delete the selected items.

Sanity Backend ⟶
- When receive an order check inventory of selected product.
- Track low stock levels
- Analysis of sales, traffic and user behavior.

Third Party Integration ⟶
- They simplify complex tasks.
- Enabling developers to leverage pre-built and tested functionality to save time and cost.

Shipping Tracking ⟶
- Provide tracking number.
- Order status update
- Handling orders effeciently without any damage.

Payment Gateway ⟶
- Integrate secure gateways like Paypal, stripe or local alternatives
- Handle the transactions effeciently.
- Order confirmation sent to user.
- Protect customer personal data

User ⟶ Product received

3. Key Workflows (from browsing to post-purchase):

- **Homepage:**
    - User visit the website to check the store's offering, discounts and promotions.
    - Select product category to find specific furniture item.
    - Customize product size, material, style, color etc.

- **Add items to the Cart:**
    - After customization add the item to the cart.
    - Check availability of product in the stock
    - Receive confirmation message after adding to the cart.
    - Select option to continue shopping or view the cart.

- **Cart Reviews:**
    - View the cart to check the selected item, quantities and total cost.
    - Delete or remove unnecessary items from the cart.
    - Estimated shipping cost based on order and location.
    - Process to checkout and check the payment method.

- **Payment Method:**
    - Finalize payment method and enter the shipping address.
    - Confirm delivery time period

- **Tracking:**
    - Track the order status and delivery progress.
    - Check tracking updates via email or sms for shipping and also ask for feedback or review.

- **Feedback**:
    - Leave a review or rating for the product purchased.
    - Offer customer loyalty card or coupon for repeat purchase.

    .

4. API Endpoints:

Endpoint	Method	Description
/api/user	GET	Authenticate and login a user
/api/product	GET	Retrieve a list of all product with customize option
/api/product/:id	GET	Get detailed information about a specific product
/api/cart	POST	Add an item to the cart
/api/remove	DELETE	Remove unwanted item from the cart
/api/checkout	POST	Process the final order
/api/shipping	POST	Calculate shipping cost based on order and location
/api/payment	POST	Process payment via the selected gateway
/api/tracking	GET	Get tracking information for an order

5. Sanity Schemas:

- **User:**
    - User id
    - First Name
    - Last Name
    - Email
    - Phone No
    - Address

- **Product:**
    - Product id
    - Name
    - Description
    - Price
    - Discount / offers
    - Image
    - Stock
    - Size / weight
    - Color option
    - Quantity

- **Category:**
  - Category Id
  - Name
  - Price

- **Order:**
  - Order id
  - User id
  - Product id
  - Total price
  - Shipping address
  - Order status
  - Payment method
  - Order date
  - Order delivering date

- **Delivery Zone:**
  - Zone id
  - Zone name
  - Coverage area
  - Delivery charges
  - Order type
  - Average delivery time

- **Reviews:**
  - Review id
  - Product id
  - User id
  - Rating
  - Comments
  - Submitted at