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DAY-2:

PLANNING THE TECHNICAL FOUNDATION

SYSTEM ARCHITECTURE:

Frontend (Next.js):

- Handles UI/UX, routing, and client-side interactions.
- Fetches data from Sanity and third-party API.
- Implements server-side rendering (SSR) and static site generation (SSG) for performance and SEO.

Backend (Sanity):

- Manages product data, categories, blogs, and user-generated content (e.g., reviews).
- Provides a GraphQL or REST API for querying product data, user profiles, and orders

Third-Party API:

- Payment Gateway: Stripe for handling payments.
- Shipping API: Calculate shipping costs and delivery times.
- Authentication: Next Auth.js or Clerk for user authentication.

Database:

Sanity's built-in database for storing product data, user profiles, and orders.

Hosting:

- Frontend hosted on Vercel.

- Sanity hosted on its cloud platform.

Frontend Requirements

Home Page:

Showcase featured products, categories, and promotions.

Product Listing Page:

Display products with filters (e.g., category, price range, material).

Product Detail Page:

Show product details, images, reviews, and add-to-cart functionality.

Shopping Cart:

Manage selected items, update quantities, and proceed to checkout.

Checkout Page:

Collect shipping details, apply coupons, and process payments.

User Authentication:

Sign-up, login, and profile management.

Order History:

Display past orders and their status.

Search Functionality:

Search for products by name, category, or keyword.

Responsive Design:

Ensure the website works seamlessly on mobile, tablet, and desktop.

User Accounts:

- Order tracking and history
- Wish list functionality
- Shipment tracking
- Sign-In and Authentication:
- User registration and secure login
- Social sign-in options (Google, Facebook, etc.)

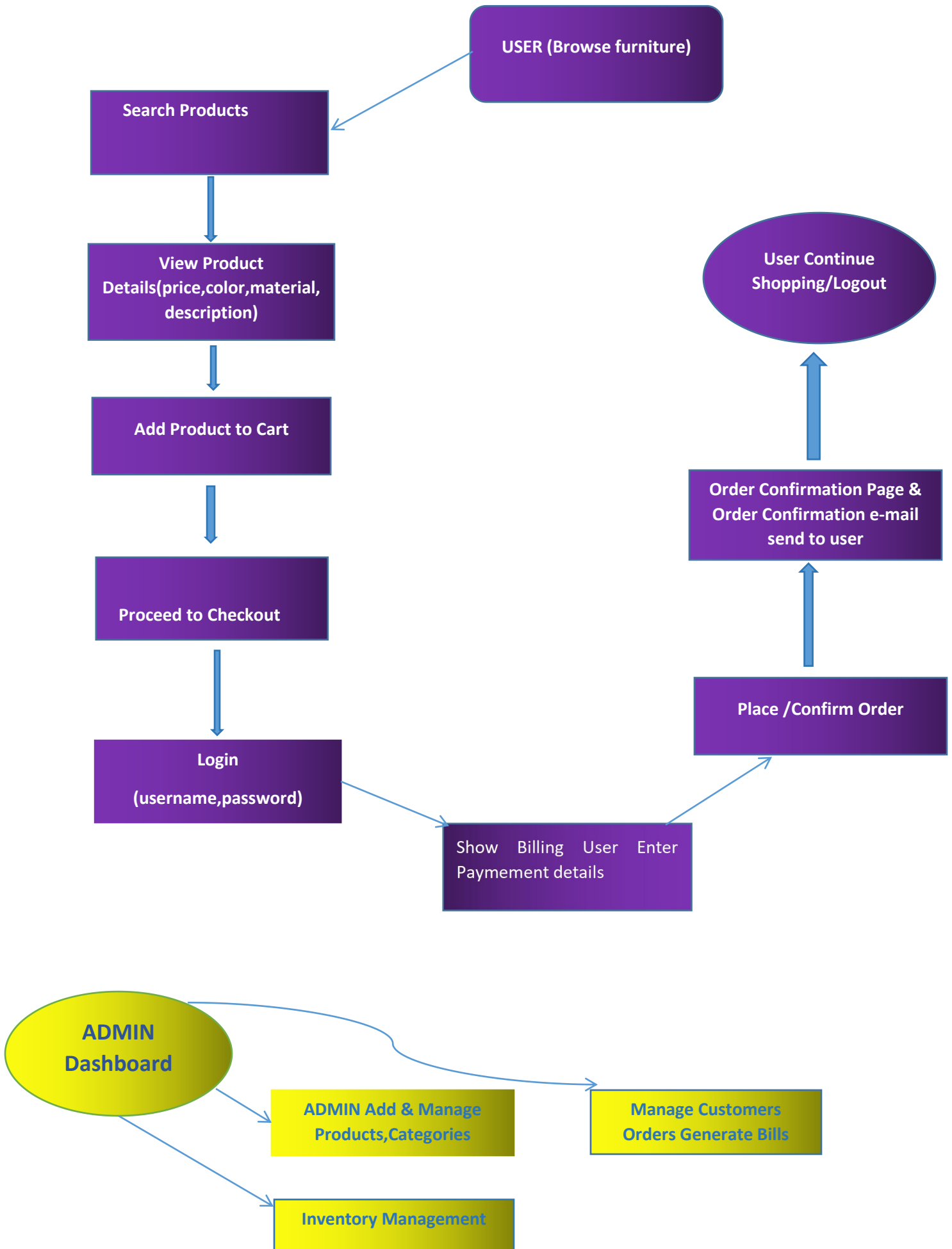
Admin Features:

Product Management:

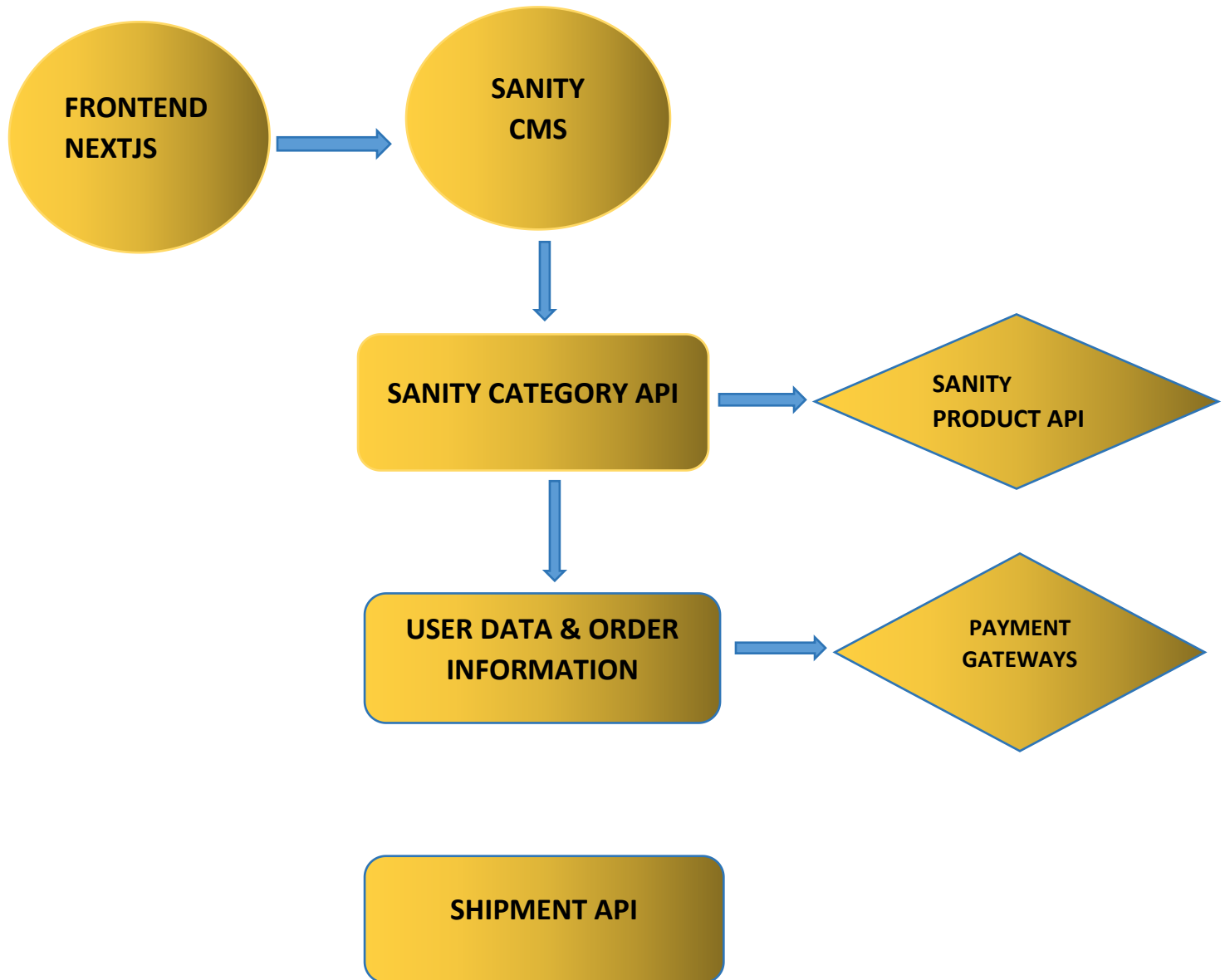
- Add, edit, and delete products through Sanity CMS
- Inventory tracking
- Order Management
- View and process orders
- Export order data for reporting

Shipment Management:

- Manage shipment details and integrate with third-party shipment APIs
- Update order statuses
- Content Updates:
- Manage banners, promotions, and category descriptions
- Scalability Considerations
- Database Scaling: Ensure the Sanity backend can handle increased queries and data volume.



SYSTEM ARCHITECTURE



System Architecture

(Workflow Overview):

1. User Registration:

User data is sent to Sanity CMS, and a confirmation is sent back to the user.

2.Viewing Categories and Products:

Categories are fetched from Sanity CMS Category API, and products are retrieved based on the selected category or displayed as a complete list.

3.Order Placement:

Products are added to the cart, and user details with order data are saved in Sanity CMS.

4.Shipment Tracking:

Order status is fetched via Shipment API and displayed to the user.

5.Payment Processing:

Payments are securely processed via Checkout and a confirmation is sent back to the user while being recorded in Sanity CMS.

Key Features of the Marketplace:

1. Category-Based Browsing:

Users can filter products by categories (e.g. Chair, Sofa etc).

2. Real-Time Shipment Tracking:

Users can check their order status, fetched through shipment API.

3. Secure Payment Gateways:

Multiple payment gateways ensure secure transactions.

4. Customization Furniture Options:

Certain products allow users to choose colors, materials, and sizes.

5. Mobile-Optimized Design:

Responsive layouts ensure a seamless experience on both desktop and mobile devices.

6. Order History:

Users can view and track their past orders along with status.