# Day 2: Planning the Technical Foundation

System Architecture Overview:

As mentioned on Day 1, I am building a general e-commerce platform specializing in modern and beautiful furniture, making it easy for anyone to purchase furniture for their home or office. Today, on Day 2, I will elaborate on the system architecture of my platform and explain how users can effortlessly buy furniture from my website.

My e-commerce platform is not only responsive but also provides an excellent user experience (UX). Visitors to the site will enjoy a seamless and intuitive interface, where everything is clear and easy to navigate.

Now, let's dive into the details of the architecture.

Our website consists of 6 pages, as shown in the diagram below:
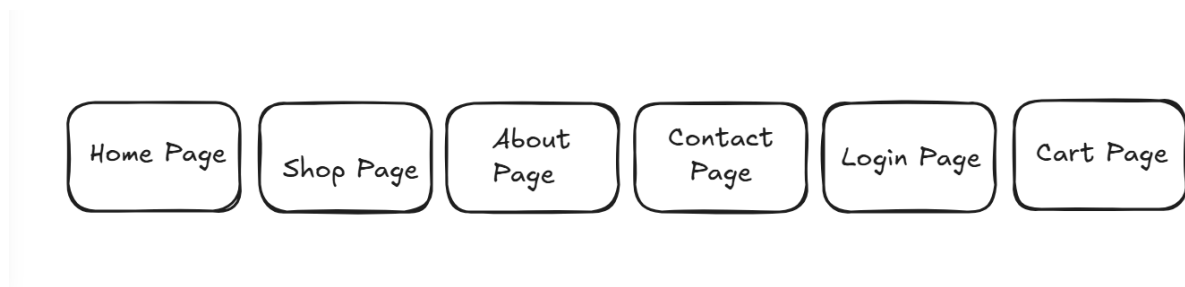
Home Page:
The landing page introduces users to our platform, showcasing the latest and best furniture collections. It features an engaging design with highlights of popular categories, promotions, and seamless navigation to other sections of the site. Users will immediately feel welcomed and can easily explore our offerings. Additionally, at the bottom of the page, I've included links to some blog posts, allowing users who are interested to visit our blog site for more information.

1. **Shop Page:**
   This page serves as the main store, where customers can browse all available furniture. It includes filters for categories (e.g., living room, office furniture), price ranges, and other features, making it easy for users to find the perfect item for their needs. Product images, descriptions, and prices are clearly displayed. The filter feature is still in progress, but I will be working on it soon. Users can click on any item to see its details,

and upon clicking a product, they will be directed to the product page where they can also add the item to their cart.

2. **About Page:**
The About page provides users with information about the brand, our story, and the values we uphold. This page helps build trust and gives customers insight into who we are, why we exist, and why they should choose our platform for their furniture needs.

3. **Contact Page:**
On the Contact page, customers can reach out to us for inquiries, customer support, or feedback. It includes contact details such as email addresses, phone numbers, and a contact form for convenience. We aim to make it easy for users to connect with us and address any questions or concerns.

4. **Login Page:**
This page is still in progress, but here's the vision for it: Users will be able to log into their accounts or create a new one. Once logged in, customers can manage their orders, save favorite products, and enjoy a personalized shopping experience. I will also add a functionality where, if a user is not logged in, they will not be able to add items to their cart—they can only view products.

5. **Cart Page:**
The Cart page displays all the items users have added to their cart. It allows customers to review their selections, adjust quantities, and proceed to checkout. Clear call-to-action buttons will guide users through the process, making the shopping experience smooth and easy.

Future Goals:

After a user completes a purchase, they will be directed to a payment page with options for shipment tracking. Additionally, I plan to provide users with a receipt for their purchase to further enhance their shopping experience.

I'm also considering adding a feature where logged-in users can request custom furniture designs, and we will craft these designs for them. To support this service, we plan to hire skilled carpenters, contributing to reducing unemployment in our country. This initiative will not only help users get personalized products but also provide jobs to local craftsmen.

Given the increasing importance of e-commerce in today's world, I believe it would be beneficial to explore virtual options for furniture shopping. This could include virtual showrooms or AR experiences, allowing customers to view and buy furniture entirely online, making the process even more convenient and immersive.

How a User Can Place a Perfect Order on Our Platform:

1. **Browsing and Selecting Products:**

   o The user visits the **Home Page** where they are greeted with the latest and best furniture collections.

   o The user can easily navigate to the **Shop Page** to explore a wide range of furniture items.

   o In future they will filter the products based on categories like living room, office furniture, price range, and more.

   o Product images, descriptions, and prices are clearly displayed, helping the user make an informed decision.

   o Once the user finds an item they like, they can click on it to view detailed information such as size, material, and additional features.

2. **Adding Items to the Cart:**

   o After reviewing the product details, the user can choose to add the item to their cart.

   o To proceed, in future the user may need to sign in or create an account if they haven't done so already. (Remember, logged-in users will have the ability to manage their orders and access a personalized shopping experience.)

   o The **Cart Page** shows the items the user has added, along with the option to adjust quantities or remove products.

3. **Reviewing the Order: (Future plan)**

   o On the **Cart Page**, the user can review their entire order, ensuring that all items, sizes, and quantities are correct.

   o They can also apply any available discounts or promo codes if applicable.

4. **Proceeding to Checkout:**

   o Once satisfied with their selection, the user clicks the **Checkout** button.

   o Here, the user will enter their shipping address, payment details, and select a shipping method.

   o The user will also be able to review the final total before confirming the purchase.

   o

5. **Making Payment: (Future plan)**

   o The user is directed to the **Payment Page**, where they can choose from various payment options, such as credit/debit cards, digital wallets, or other available methods.

   o After completing the payment process, the user receives a confirmation of the successful transaction, along with an estimated delivery date.

6. **Order Confirmation and Shipment Tracking: (in process)**

   o The user is provided with an order receipt and an option to track their shipment.

   o An email or SMS notification is sent to the user to confirm the order, along with the tracking number and expected delivery date.

7. **Custom Orders (Future Feature):**

   o If the user is interested in personalized furniture, they can visit the **Custom Design Page** (once implemented) to request a unique design.

   o The user will be able to submit their design preferences and specifications, which will be crafted by our skilled carpenters.

   o The user will receive updates on the progress of their custom order and can track its completion.

Here's a diagram which shows that how a user can place a flawless order:

Products page → Selected a product → Added product to cart → Pay → product track
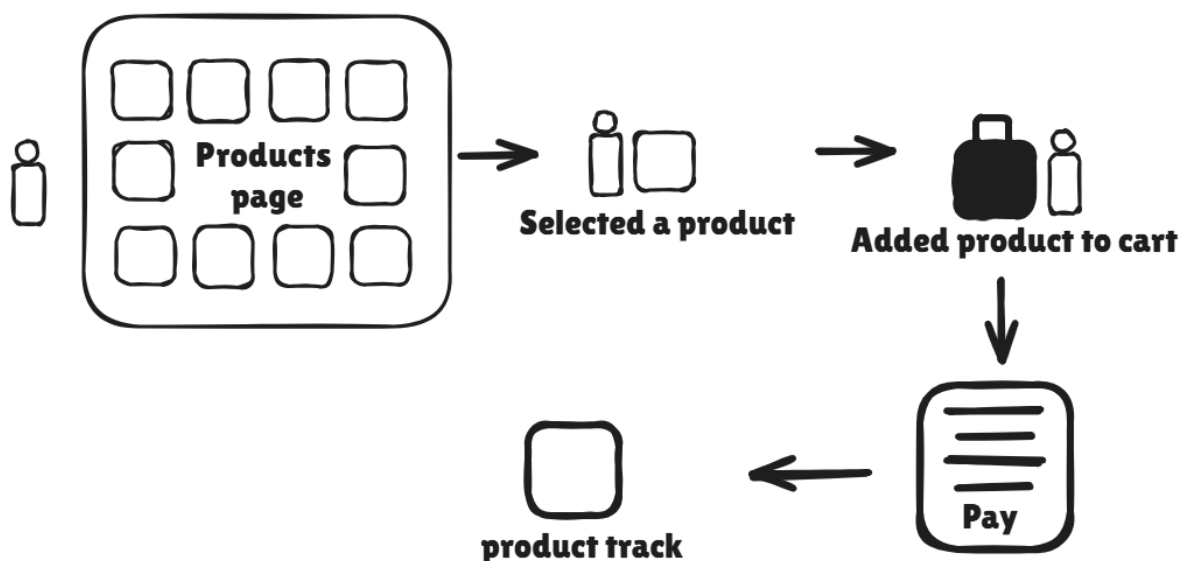
Now, Let's Talk About Our Backend (Sanity) or the API We Will Use in the Future:

For now, I have chosen **Sanity** as our backend solution because **Sanity** offers a flexible and scalable content management system (CMS) that is easy to integrate with modern web applications. It provides an intuitive interface for managing content, allowing us to structure data in a way that suits our platform's needs.

Why Sanity?

- **Customizable Data Models:** Sanity allows us to define custom content schemas, so we can organize products, categories, and user data in a way that fits our platform.

- **Real-Time Collaboration:** It supports real-time collaboration, enabling our team to work together efficiently when updating content or making changes to the site.

- **Scalability:** As our platform grows, Sanity scales seamlessly, ensuring that we can handle increased traffic and more complex data without any performance issues.

- **Powerful API:** Sanity's API allows us to easily fetch content and manage data, making it a great choice for dynamic and content-driven websites like ours.

In the future, as we add more complex features, we will continue to rely on Sanity's flexibility while also exploring additional APIs to enhance the functionality of our platform.

In **Sanity**, I currently have just one schema named **Product**, but in the future, I plan to include additional schemas for **Customers** and **Orders** as well. I've outlined the schemas for **Product**, **Customer**, and **Orders** in the Excel file within this repo. You can refer to it if you'd like to dive deeper into the structure.

Now, let's talk about our **Shipment Platform**:
For shipment tracking, I initially integrated **ShipEngine**, which allows users to track their products in real-time. However, I am planning to switch to another platform, as I've encountered some issues with **ShipEngine** that are affecting the tracking functionality.

Tech Stack:

- **Frontend:** Next.js, Tailwind CSS, Shadcn

- **Database:** Sanity

Components:

- **Navbar:**
  A responsive navigation bar for both large screens and mobile. For the mobile version, I used the **Sheet** component from Shadcn to provide an accessible and clean navigation experience.

- **Footer:**
  A footer component that contains relevant information, such as contact details, social media links, and other important sections of the site.

- **Item Page:**
  A dynamic item page that renders individual product details fetched from the Sanity database, allowing users to view more about the products.

- **Less Item Renderer:**
  This component renders the first 4 items from the Sanity database, providing a quick preview of the most popular or featured products on the homepage or other sections of the site.

As we conclude this documentation, I'm excited about the journey this project will take. From the initial ideas to the final product, every step is a reflection of creativity, innovation, and passion. This platform is not just a place to shop—it's a space where users can find quality, convenience, and personalized experiences.

Though we've covered the main aspects today, this is only the beginning. With continued dedication, we'll keep refining and expanding, making sure that every interaction is seamless and every user feels valued. Thank you for being a part of this process—your support and feedback are what drive us forward.

Stay tuned for more updates and improvements, as we work towards creating something truly exceptional.

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