## **Technical report**

## DAY: 4 - BUILDING DYNAMIC FRONTEND COMPONENTS FOR YOUR MARKETPLACE

## Product listing

## **Filter and Sorting Products:**

#### Filtering:

Filters products based on a user's search query, showing only those with titles that match the query. This enhances search accuracy and user experience.

#### **Sorting:**

Organizes filtered products by various criteria:

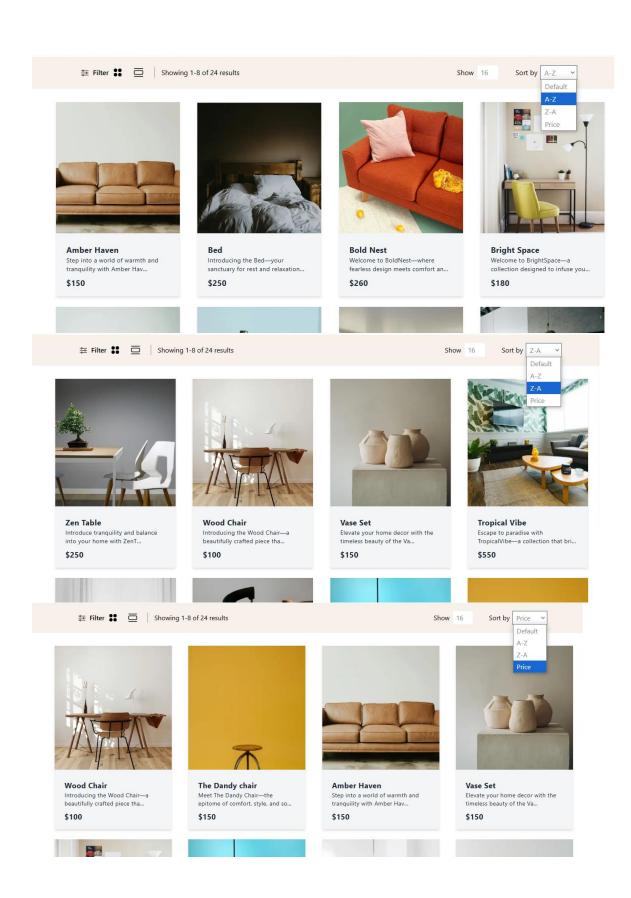
- A-Z: Sorts titles alphabetically.
- **Z-A:** Sorts titles in reverse alphabetical order.
- **Price:** Arranges products from lowest to highest price.

These functions streamline product navigation, making it user-friendly and efficient.

```
// Filter products based on search query
const filteredProducts = products.filter((product) =>
product.title?.toLowerCase().includes(searchQuery.toLowerCase())

// Sorting Logic
const sortedProducts = [...filteredProducts].sort((a, b) => {

if (sortOption === "a-z") {
    return (a.title ?? "").localeCompare(b.title ?? ""); // Sort in alphabetical order
} else if (sortOption === "z-a") {
    return (b.title ?? "").localeCompare(a.title ?? ""); // Sort in reverse alphabetical order
} else if (sortOption === "price") {
    return a.price - b.price; // Sort by Price (Low to High)
}
return 0; // Default order (no sorting)
});
```

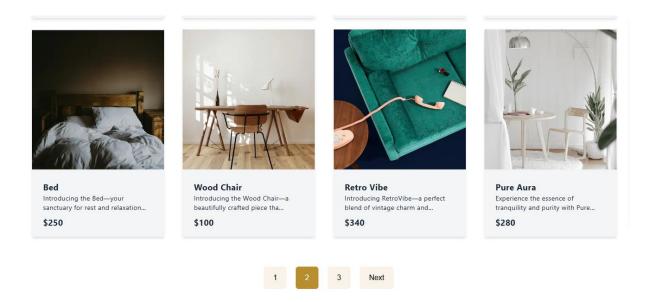


## **Pagination:**

In this e-commerce website, a total of 24 products are divided into 3 pages, with each page displaying 8 products. This approach ensures faster loading times and better navigation.

To maintain a clean user interface, pagination controls (such as next, and page numbers) are rendered only when pagination is enabled.

```
const displayedProducts = enablePagination
  ? sortedProducts.slice(
      (currentPage - 1) * productsPerPage,
      currentPage * productsPerPage
  : sortedProducts;
{enablePagination && (
  className="flex space-x-5 ml-0 sm:ml-[300px] lg:ml-0 xl:ml-[640px] py-10 justify-center font-[sans-serif]">
    {[...Array(Math.ceil(products.length / productsPerPage))].map(
      (_, index) => (
         key={index + 1}
         onClick={() => setCurrentPage(index + 1)}
         className={`flex items-center justify-center shrink-0 px-[20px] h-12 rounded-md cursor-pointer text-base ${
          currentPage === index + 1
            ? " □bg-[#88822F] ■text-white"
: " □bg-[#FAF3EA] □text-black □hover:bg-[#888E2F] ■hover:text-white"
         {index + 1}
    )[]}
<1i
       setCurrentPage((prev) =>
         Math.min(prev + 1, Math.ceil(products.length / productsPerPage))
     currentPage === Math.ceil(products.length / productsPerPage)
       ? "opacity-50 cursor-not-allowe
         : "■bg-[#FAF3EA] □text-black ■hover:bg-[#B88E2F] ■hover:text-white"
     Next
```



#### **Product Grid:**

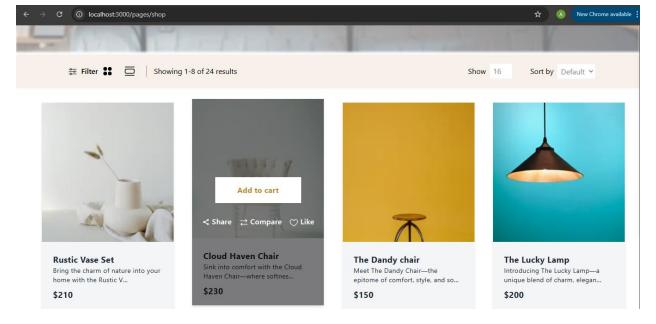
Each product is presented within a grid item that typically includes an image, title, price, and short description. The grid adjusts dynamically based on screen size, ensuring a responsive design for different devices.

By structuring products in a grid format, the website enhances user experience, improves navigation, and allows customers to compare multiple products easily at a glance.

## **Product Hover Overlay:**

In this e-commerce website, the overlay appears as a transparent grey background, providing a subtle yet visually distinct effect.

Within the overlay, key action buttons such as "Add to Cart" and interactive icons for Share, Compare, and Like are displayed. This allows users to quickly engage with products without leaving the grid view. By incorporating these interactive elements, the hover overlay improves usability, encourages user interaction, and enhances the overall shopping experience.



## **Fetching Products from Sanity with limit control**

To efficiently display products in the e-commerce website, products are fetched from **Sanity**, a headless CMS. The fetched data includes product details such as title, price, images, and descriptions.

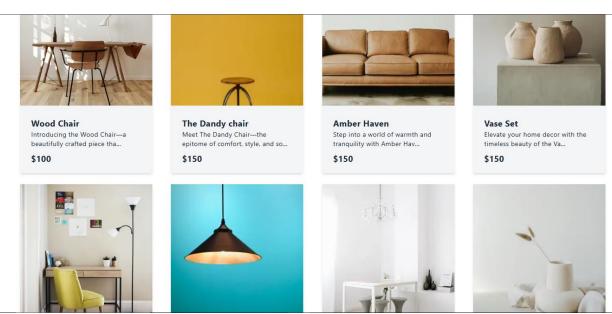
A **limit parameter** is defined to control the number of products displayed on any page. This limit is passed as a **prop** to the product grid component, ensuring flexibility in rendering products dynamically. If a limit is provided, only the specified number of products will be displayed, allowing for better performance and a tailored user experience. This approach ensures scalability and adaptability for different pages, such as featured products on the homepage or full product listings on the shop page.

```
useEffect(() => {
    async function fetchProducts() {
    const fetchedProducts: Product[] = await client.fetch(allProducts);

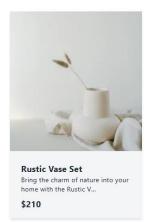
// Apply the limit if provided
    const limitedProducts = limit
    ? fetchedProducts.slice(0, limit)
    : fetchedProducts;
    setProducts(limitedProducts);
}

fetchProducts();
}

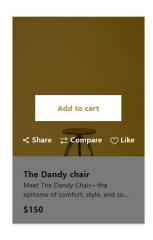
[limit]);
```



## With limit:









Show More

localhost:3000/product/YTjpX7glRs7VphrWQR03Yb

## **Add to Cart Functionality:**

When a user clicks the "Add to Cart" button on a product, the item is added to the cart state, ensuring it persists throughout the shopping session.

To enhance user experience, a SweetAlert2 notification is displayed upon adding a product. This alert includes:

A success icon to indicate the action was completed.

A title saying "Product Added to Cart" to confirm the addition.

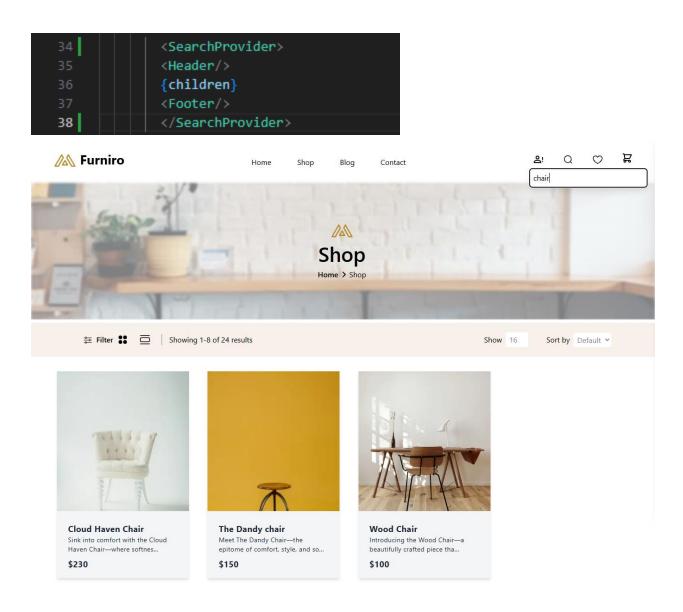
This feedback mechanism improves usability by providing real-time confirmation, making the shopping experience more interactive and engaging.

```
const handleAddToCart = (e: React.MouseEvent, product: Product) => {
           e.preventDefault();
           Swal.fire({
 68 🗸
              position: "center",
              icon: "success",
              title: `${product.title} added to cart`,
              showConfirmButton: false,
              timer: 1000,
           });
           addToCart(product);
                    <button
                     className=" ■ bg-white ■ text-[#B88E2F] py-4 px-12 font-lg font-bold mb-3"
                     onClick={(e) => handleAddToCart(e, product)}
                     Add to cart
/ Furniro
                                                                           Q
                                                                                \odot
    Home > Shop > Rustic Vase Set
                              Rustic Vase Set added to cart
                                    Add To Cart
   Description
```

## **Search Bar Implementation:**

The search functionality allows users to quickly find products by entering keywords in the **search input**, which is located in the **Header component**. When a user types a query, the products displayed in the **Product Grid component** are dynamically filtered based on the search term.

To ensure efficient state management, a **Search Context file** is used to handle the search functionality globally. The entire application is wrapped with this context provider, allowing any component to access and utilize the search query. This modular approach ensures seamless filtering across different pages and improves the user experience by providing real-time search results.



## Dynamic routing

Dynamic routing is implemented to generate individual product detail pages when a user clicks on a product in the **Product Grid**. Each product has a unique identifier (such as a slug or ID), which is used to dynamically fetch and display detailed information.

On the **Product Detail Page**, the following elements are shown:

Product Image

- Size and Color Options
- Product Description
- Price

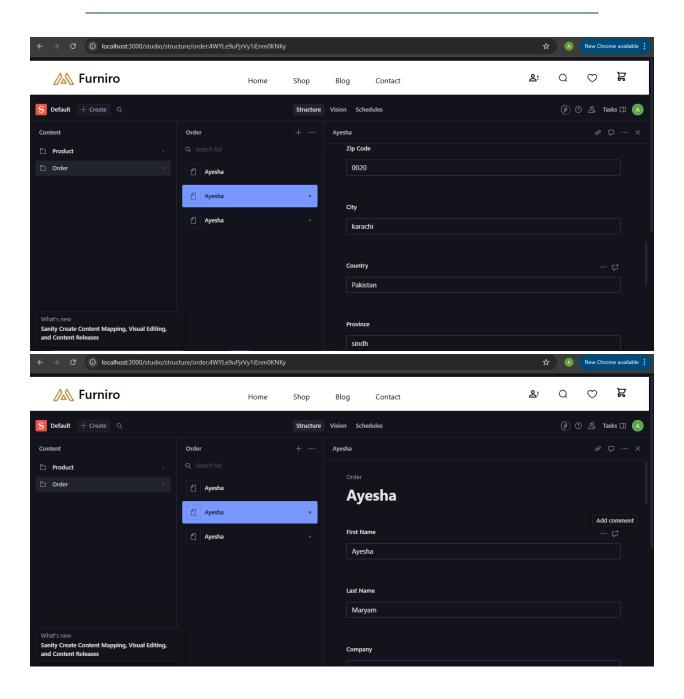
src > app > product > [id] > ∰ page.tsx > ...

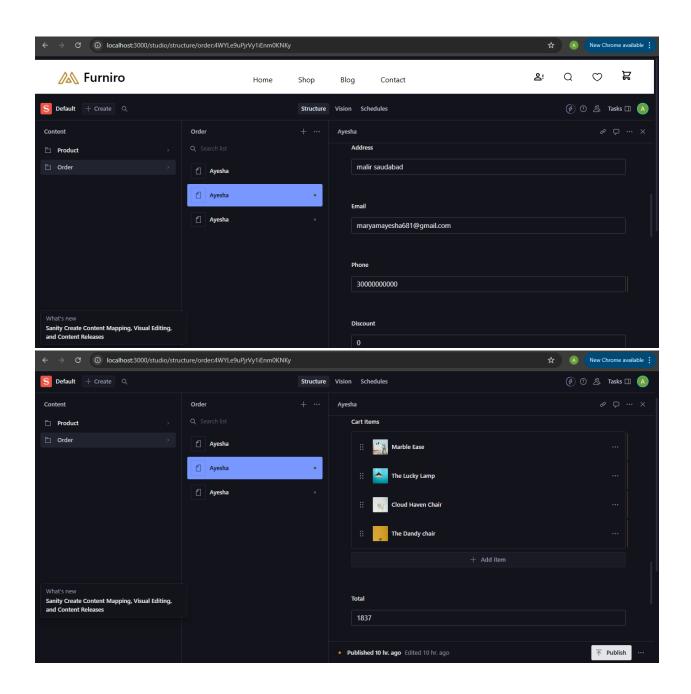
- Add to Cart Button (with SweetAlert2 confirmation)
- Related Products Section

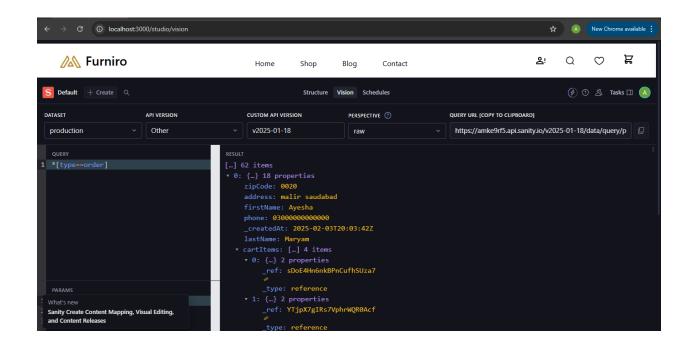
This approach ensures a seamless navigation experience, allowing users to explore products in detail while maintaining a structured and user-friendly e-commerce interface.

```
"use client'
import { groq } from "next-sanity";
import { urlFor } from "@/sanity/lib/image";
import Image from "next/image";
 import ProductGrid from "@/app/components/ProductGrid";
 import Link from "next/link";
import Swal from "sweetalert2";
import { addToCart } from "@/app/actions/actions";
import { Product } from "./../../types/product";
 interface ProductPageProps {
   params: { id: string };
 const getProduct = async (id: string) => {
  const query = groq`*[_type == "product" && _id == $id][0]{
    price,
productImage
   const handleAddToCart = (e: React.MouseEvent, product: Product) => {
   e.preventDefault();
Swal.fire({
     position: "center",
icon: "success",
 const handleAddToCart = (e: React.MouseEvent, product: Product) => {
   e.preventDefault();
Swal.fire({
     position: "center",
icon: "success",
title: `${product.title} added to cart`,
showConfirmButton: false,
        timer: 1000,
      addToCart(product);
 export default async function ProductPage({ params }: ProductPageProps) {
   const product = await getProduct(params.id);
   return <div>Product not found</div>;
}
    <div className="font-sans">
        <div className="flex items-center justify-between ■bg-[#f8f1e9] p-4 rounded-md shadow-sm">
          <div className="flex items-center lg:pl-24">
             <div className="flex items-center font-semibold □ text-black">
              Home  
                | xmlns="http://www.w3.org/2000/svg"
| width={24}
| height={24}
                    viewBox="0 0 12 24"
```

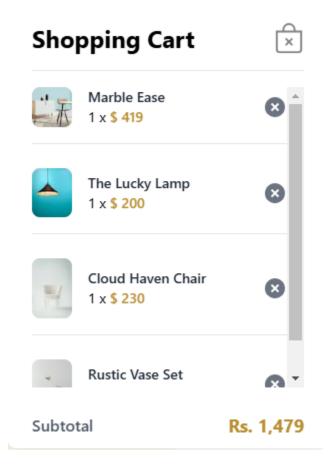
## **OUTPUTS**



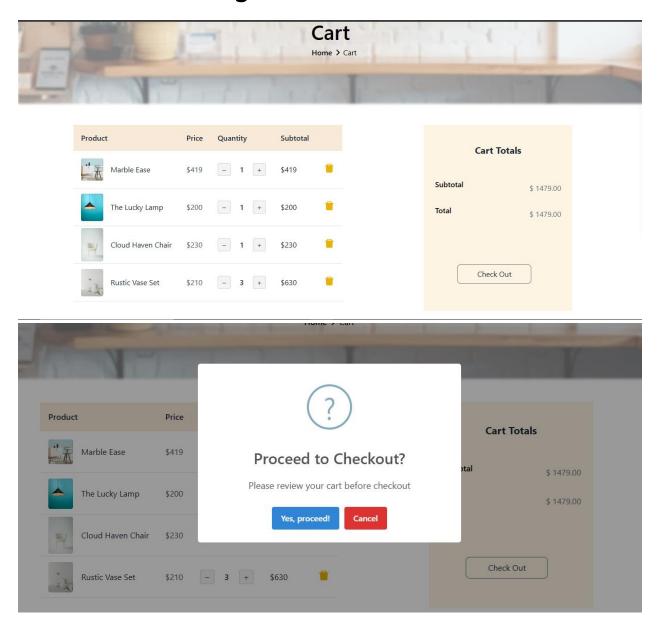


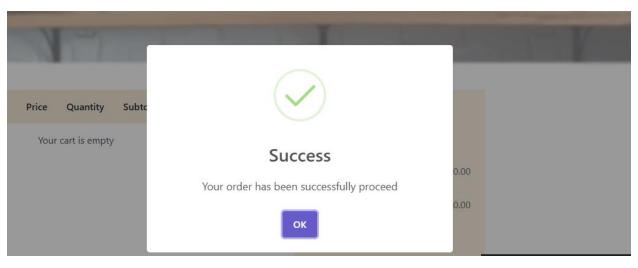


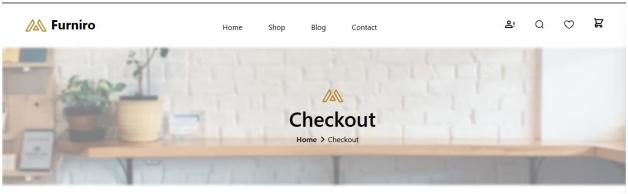
## **Cart Sidebar:**



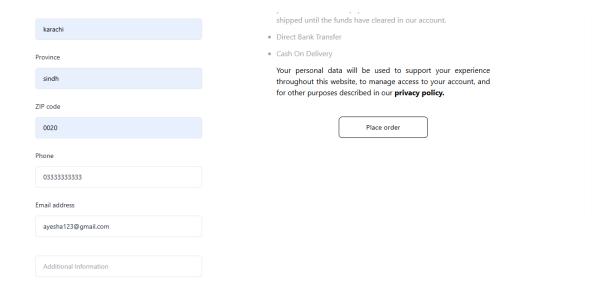
## **Cart to Checkout Page:**

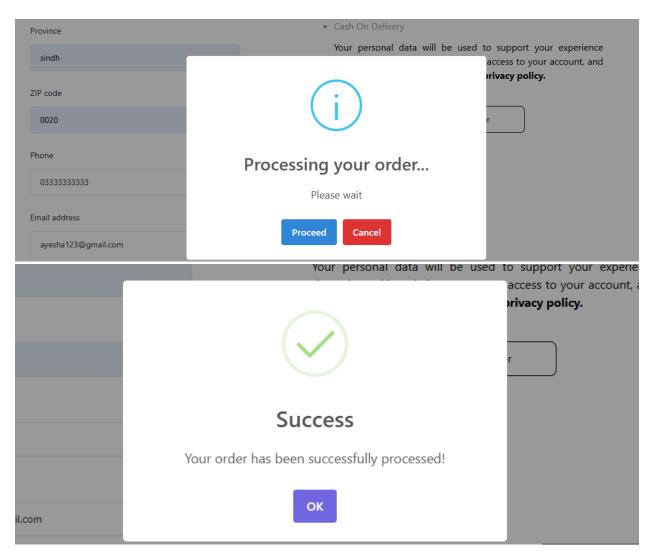






#### **Billing details** First Name Last Name **Product** Subtotal Ayesha Marble Ease \$419 The Lucky Lamp x 1 \$200 Company Name (Optional) Cloud Haven Chair x 1 \$230 Rustic Vase Set x 3 \$630 Contry / Region \$ 1479 Subtotal Discount \$ 0 Pakistan Total \$ 1479.00 Street Address • Direct Bank Transfer malir saudabad Make your payment directly into our bank account. Please use Town / City your Order ID as the payment reference. Your order will not be shipped until the funds have cleared in our account. karachi • Direct Bank Transfer • Cash On Delivery Province

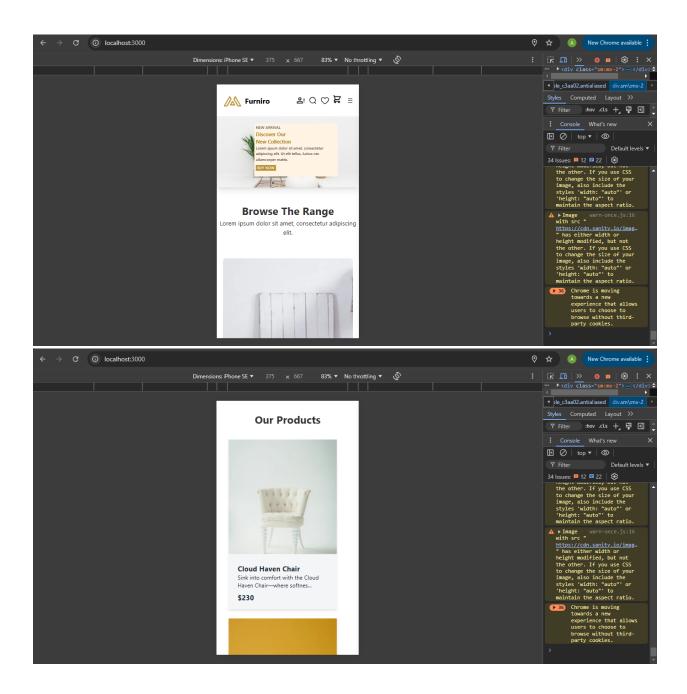


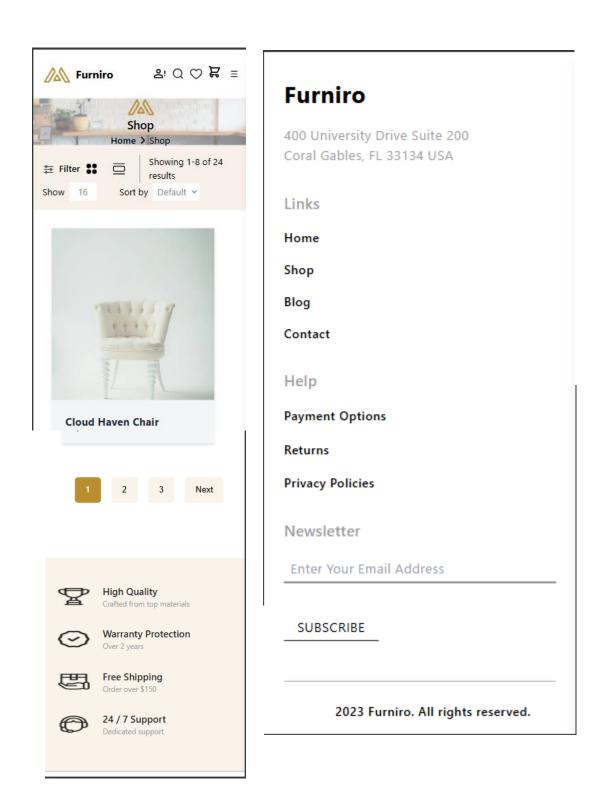


## **Responsive Design Implementation:**

This e-commerce website is fully responsive across all screen sizes, ensuring an optimal user experience on desktops, tablets, and mobile devices. Given the website's extensive content and multiple pages, responsiveness has been a key focus in its development.

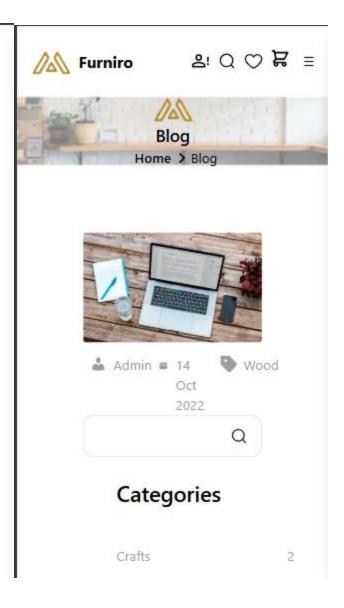
To demonstrate its adaptability, **screenshots of the website's responsiveness on an iPhone SE** have been included. These screenshots highlight how various elements, such as navigation, product grids, header, footer, shop page, blog page, cart sidebar, cart page, checkout page, sweetalerts and adjust seamlessly to smaller screens while maintaining usability and visual appeal. The responsive design ensures accessibility and a smooth browsing experience for all users, regardless of their device.





# Going all-in with millennial design

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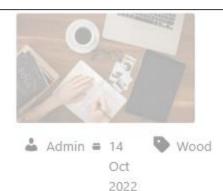
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**Exploring new** 

ways of

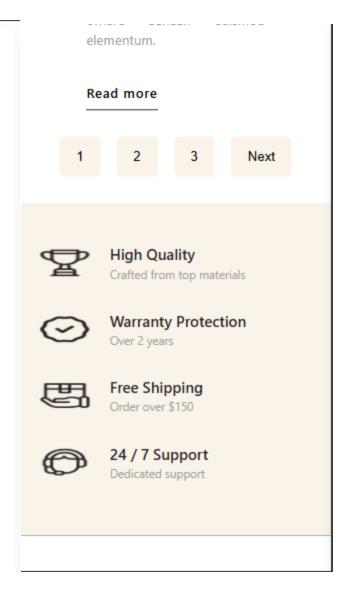
# Exploring new ways of decorating

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## Handmade pieces that took time to make

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## Working Time

Monday-Friday: 9:00 -22:00 Saturday-Sunday: 9:00 -21:00

#### Your Name

abc

#### Email address

Abc@def.com

#### Subject

This is an optional

#### Message

Hi! i'd like to ask about

