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# Overview

This project involves building a single-page e-commerce website using the AngularJS framework for the company, Incredible Connection. The site will showcase a new line of smart home products and will provide an intuitive shopping experience through a responsive, modern interface.

# Project Brief Analysis Report

## Objectives

* Create a dynamic, responsive, single-page web application.
* Showcase a catalogue of smart home products with interactive features.
* Integrate a functional shopping cart and checkout system.

## Requirements

* Use AngularJS for front-end development.
* Include sections for product categories, detailed product descriptions, and images.
* Implement shopping cart and checkout features.
* Ensure the website is responsive and functional across devices.

## Constraints

* The project must adhere to the client’s branding and aesthetic.
* All functionalities should work efficiently on both desktop and mobile platforms.

**[Add project brief analysis findings or adjustments here if needed]**

# Research Documentation

## Best Practices for Single-Page Applications (SPAs)

* Use lazy loading to improve performance by loading content dynamically.
* Ensure fast routing to create a seamless browsing experience.
* Integrate SEO optimization techniques even though AngularJS is typically client-side.

## E-Commerce Technologies

* AngularJS: For a responsive, dynamic single-page experience.
* Node.js: To manage the backend services for any necessary server-side interactions.
* Stripe API: A commonly used payment processing service for checkout systems.

**[Add any specific research findings related to the technologies or APIs you plan to use]**

# Initial Project Setup

## Development Environment

* IDE: Visual Studio Code.
* Package Manager: npm (Node Package Manager).
* Framework: AngularJS.
* Version Control: Git and GitHub repository for project management.

**[Confirmation of environment setup goes here]**

# Product Showcase Design

## Layout

* The homepage will feature a simple and clean layout, with prominent product categories displayed at the top.
* Products will be displayed in a grid format with image galleries and quick view options.

## Categories

* Smart Lighting: Products for automating home lighting.
* Security Systems: Smart home security cameras and monitoring systems.
* Climate Control: Smart thermostats and heating solutions.
* Home Automation: Devices for automating various home functions.

**[Website wireframes or visual mock-ups would go here]**

# UI Mock-ups

* Product Page Mock-ups: A single page with product images, descriptions, pricing, and "Add to Cart" buttons.
* Navigation Mock-ups: A streamlined, responsive navigation bar allowing users to quickly access categories and their cart.

**[UI wireframes/mock-up images go here]**

# Product Display Page

* A fully functional product display page that loads each product dynamically using AngularJS’s routing.
* Interactive features: Image zoom, product filtering by category, and quick view pop-ups for more detailed product insights.

**[Screenshots of functional product display page here]**

# Shopping Cart and Checkout System

## Shopping Cart

* Features: Users can add products to their cart, modify quantities, and remove items.
* Cart Display: A mini cart views accessible from any page, along with a dedicated cart page for final review.

## Checkout Process

* Checkout Flow: Simple form that collects user shipping information, processes payments through Stripe, and displays a confirmation page.
* Payment Integration: Integration of Stripe for secure transactions.

**[Screenshots of the shopping cart and checkout process]**

# Testing Report

## Test Cases

* Navigation: Ensure all links and routes are working properly.
* Product Display: Confirm products load dynamically based on user input (e.g., category selection).
* Shopping Cart: Verify cart functionality, including adding/removing products.
* Checkout: Test the payment process for various inputs (valid card details, expired cards, etc.).

## Bug Reporting

* Issue 1: [Description of the bug]
* Resolution: [Explanation of the fix]

**[Testing results and screenshots of test cases go here]**

# Bug Report

## Bugs Identified

* Bug 1: Incorrect product loading in certain categories.
* Bug 2: Checkout button unresponsive on mobile view.

## Resolutions

* Bug 1 Fix: Resolved by updating the routing configuration for category pages.
* Bug 2 Fix: Adjusted the CSS styling for the mobile view of the checkout button.

**[Bug list with screenshots goes here]**

# Compiled Project Documentation

## Design Decisions

* Minimalistic Design: Focus on simplicity and ease of navigation to enhance the shopping experience.
* Interactive Elements: Interactive images zoom, and product filters were prioritized to allow customers to explore products in greater detail.

## Code Annotations

* The code is thoroughly documented, including explanations for all functions and key components like routing, product rendering, and payment processing.

## Testing Outcomes

* All test cases passed successfully after bug fixes.

**[Final project documentation would be inserted here]**

# Presentation Slides

* Slide 1: Project Introduction
  + Overview of the e-commerce platform and its objectives.
* Slide 2: Design and Features
  + Screenshots of the product display pages, shopping cart, and checkout system.
* Slide 3: Technologies Used
  + AngularJS, Stripe API, Node.js, and npm.
* Slide 4: Testing and Bug Resolution
  + A summary of the testing process and issues resolved.
* Slide 5: Conclusion
  + How the project aligns with client objectives and the project's final outcome.

**[Insert presentation screenshots or slides here]**

# Client Handover Guide

## Product Management

* Instructions for updating the product catalogue (e.g., adding or removing products, updating prices, and uploading images).

## Checkout Process

* Overview of how the checkout system works and how to handle transactions through Stripe.

## Maintenance

* Guidelines for keeping the system updated, including the AngularJS version and npm package updates.

**[User manual screenshots or text goes here]**