

# Hackathon Day 5 Documentation

## Introduction

Hackathon Day 5 focused on the finalization and deployment of our Q-commerce website project. The goal was to ensure the website is fully functional, user-friendly, and ready for demonstration. This document outlines the features, technical details, and outcomes achieved during this phase of the hackathon.

## Project Overview

**Project Name:** Q-Commerce Website

**Objective:** To build a fast and efficient e-commerce platform that allows users to browse, select, and purchase products with a seamless user experience.

## Features Implemented

- Dynamic Product Pages:**
  - Each product has its own detailed page with information like name, price, description, and availability.
- Shopping Cart:**
  - Users can add products to the cart, update quantities, and view the total price.
- API Integration:**
  - APIs were implemented to fetch, update, and manage product data.
- Responsive Design:**
  - The website is optimized for various devices (desktop, tablet, mobile).
- Sanity CMS Integration:**
  - Used Sanity for managing product data, including categories, pricing, and availability.

## Technical Details

- Frontend Framework:** Next.js 15 (latest version with app directory structure)
- Styling:** Tailwind CSS for responsive and modern UI design
- Backend Integration:**
  - CMS:** Sanity schema designed for food products with fields like name, category, price, original price, tags, image, description, and availability.
  - APIs:** Custom APIs for handling product data and user interactions.
- Additional Libraries:** AOS for animations, Axios for API requests

## Requirements Fulfilled

- User Requirements:**
  - Dynamic pages for products
  - Interactive shopping cart

- Mobile-friendly design
- **Technical Requirements:**
  - Integration with CMS for managing product data
  - Efficient API calls for real-time data updates
- **Hackathon Guidelines:**
  - Project completed within the allocated time frame
  - Proper documentation and code structure

## Challenges and Solutions

### Challenges:

1. **CMS Schema Design:**
  - Ensuring the schema is flexible yet detailed for all product types.
2. **API Optimization:**
  - Handling large datasets efficiently without slowing down the website.
3. **Responsive Design:**
  - Making the UI look consistent across various screen sizes.

### Solutions:

- Used Sanity's modular schema design to ensure scalability.
- Implemented caching strategies to reduce API response time.
- Utilized Tailwind CSS's responsive utilities for consistent design.

## Future Enhancements

1. **User Authentication:**
  - Adding login/signup functionality to personalize user experience.
2. **Order Tracking:**
  - Allowing users to track their orders in real time.
3. **Payment Gateway Integration:**
  - Enabling secure online payments.
4. **Advanced Search Filters:**
  - Implementing filters for better product discovery.

## Conclusion

Hackathon Day 5 was a significant milestone in completing the Q-commerce website. The project successfully met the outlined requirements and demonstrated the potential for real-world application. The experience provided valuable insights into efficient web development practices and team collaboration.