



College Code : 9509

College Name : Holy Cross Engineering College

Department : Computer Science Engineering

Student NM id : D4DD4C41A6AD45AB5924AF0BFF852E02

Roll No : 950923104038

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Project Name : IBM-FE-Product Catalog with Filters

Completed the project named as

Phase_1_ TECHNOLOGY PROJECT

NAME :

Sumbitted By,

Prem Kumar N

9443403014

Introduction

In the current digital marketplace, the ability of a customer to find the right product quickly and effortlessly is no longer a luxury—it is a fundamental expectation. As e-commerce platforms grow, so do their inventories, leading to a significant challenge known as the "paradox of choice." When presented with an overwhelming number of options, potential buyers often experience decision fatigue, frustration, and ultimately, a higher likelihood of abandoning their search and purchase. For [Company Name], this translates directly into missed sales opportunities, reduced customer engagement, and a diminished competitive edge.

The core problem we address with this project is the friction in the product discovery process. Our current catalog system, while functional, lacks the sophisticated navigation tools necessary for users to efficiently sift through hundreds, or even thousands, of products. Customers are forced into a linear, time-consuming browsing experience, unable to specify their unique needs and preferences. This inefficiency not only impacts the user experience but also hinders our ability to effectively showcase the breadth and depth of our product offerings.

Project Vision and Scope

The vision for this project is to **transform our online catalog from a static repository into a dynamic, interactive, and user-centric discovery platform.** Our mission is to develop an intuitive, high-performance product catalog equipped with robust filtering and

sorting capabilities. This will empower our customers to take control of their shopping experience, allowing them to pinpoint the exact products that meet their criteria with just a few clicks.

This document outlines **Phase 1: Problem Understanding & Requirements**. It serves as the foundational blueprint for the entire project lifecycle, ensuring that all stakeholders—from business leaders to the development team—share a unified understanding of the project's goals, user needs, and a clearly defined scope for the Minimum Viable Product (MVP). The subsequent sections of this initial phase detail the core user stories that drive our development, the specific features that constitute the MVP, the technical architecture via an API endpoint list, and the precise acceptance criteria that will define our success. By establishing these elements upfront, we aim to mitigate risks, streamline the development process, and ensure the final product delivers tangible value to both our customers and our business.

Goals and Objectives

To guide our efforts and measure our success, we have defined the following strategic goals and objectives for the initial launch:

1. **Enhance the User Experience (UX):** Our primary goal is to drastically reduce the time and effort required for a user to find a desired product.
 - **Objective:** Decrease the average number of clicks from a category page to a product page by 30% within the first three months post-launch.

- **Objective:** Achieve a 15% increase in user session duration on product listing pages, indicating higher engagement.

2. **Increase Conversion Rates:** By making it easier for users to find what they want, we aim to directly impact sales.

- **Objective:** Increase the add-to-cart rate from the product listing page by 10% in the first quarter after launch.
- **Objective:** Lift the overall site conversion rate by 5% within six months.

3. **Establish a Scalable Technical Foundation:** The solution must not only meet today's needs but also be built to accommodate future growth in inventory and features.

- **Objective:** Ensure the API response time for filtering and sorting queries remains under 500ms, even with a 50% increase in product SKUs.
- **Objective:** Develop the system with a modular architecture that allows for the easy addition of new filter attributes (e.g., size, material) in future phases without a complete overhaul.

By focusing on these clear, measurable outcomes, we ensure that our development efforts are directly aligned with strategic business imperatives.

Conclusion and Next Steps

The completion of this **Phase 1: Problem Understanding & Requirements** document marks a critical milestone. We have successfully translated a significant business challenge—inefficient product discovery—into a clear and actionable plan. Through detailed user stories, a prioritized list of MVP features, and precise acceptance criteria, we have laid a solid foundation for building a product catalog that will empower our users and drive business growth. The features defined for the MVP—including a dynamic product listing page, multi-attribute filtering, intuitive sorting, and a detailed product view—represent the core functionalities essential for delivering immediate value upon launch.

The strategic importance of this project cannot be overstated. A superior browsing experience is a powerful differentiator in the competitive e-commerce landscape. By providing our customers with the tools they need to navigate our offerings with ease, we are not only improving the likelihood of a single transaction but also fostering long-term brand loyalty and customer satisfaction. Furthermore, the data generated from user interactions with these new filters will provide invaluable insights into consumer behavior and preferences, informing future merchandising and marketing strategies.