Software Engineering Project

(Semester 6)

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E-COMMERCE SITE (COMPARISION SITE) Report

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Table of Contents

Introduction

In today's digital age, online shopping has become a common practice. With thousands of products available across multiple platforms, users often struggle to find the best deals. An e-commerce comparison site solves this problem by providing a centralized platform to compare products across different categories, helping users make better purchasing decisions. HR management is a crucial function in any IT company, and an automated database system enhances efficiency by eliminating manual processes, reducing errors, and ensuring accurate employee profiling. HRDS centralizes all employee-related data, enabling quick retrieval and data-driven decision- making. The system supports advanced filtering mechanisms, making it easy for project managers to identify the most suitable employees for specific project requirements. Additionally, HRDS incorporates features such as CV management, project tracking, leave approvals, and HR notices, further improving the overall management of human resources.

This report provides an in-depth understanding of E-COMMERCE COMPARISION SITE, outlining its objectives, system architecture, and various functional components. It details the different diagrams used in system modeling, including data flow diagrams, activity diagrams, sequence diagrams, and collaboration diagrams. The structured approach ensures clarity in how E-COMMERCE SITE operates, making it an essential tool for HR personnel and project managers alike.

Objective

The main objective of this project is to design and develop an e-commerce comparison site that:

- Compares products from various online stores.
- Helps users find the best prices and deals.
- Provides filtering, sorting, and search features for easy navigation.
- Supports multi-level product categorization.
- Allows users to add items to cart and select payment options. • User-friendly interface, ensuring that all stakeholders—employees, project managers, and HR personnel—can navigate and use the system effectively without extensive training.

By achieving these objectives, your e-commerce comparison site will not only offer a valuable service to users but also position itself for long-term success and scalability. The site could become a go-to platform for online shoppers and a lucrative business venture through various monetization strategies.

Software Requirements Specification (SRS) Final Version

Problem Statement

Create a comprehensive e-commerce comparison tool to help users find the best deals across different online stores.

Key Features:

- Information inquiry based on Data Collection & Aggregation:

  - o Price Comparison
  - o Return & Warranty Policies
  - o Product Specifications & Features
  - o Seller Comparision
  - o Shipping & Delivery Time Comparison

- Information based On User Assistance & DecisionMaking:

  - o Product Reviews & Ratings
  - o Deals, Offers, and Coupons
  - o Price Alerts & Notifications
  - o User Reviews & Recommendations
  - o Brand & Model Comparision

  - User Preferences & Search Customization

  - Wishlist & Favorites Amendment

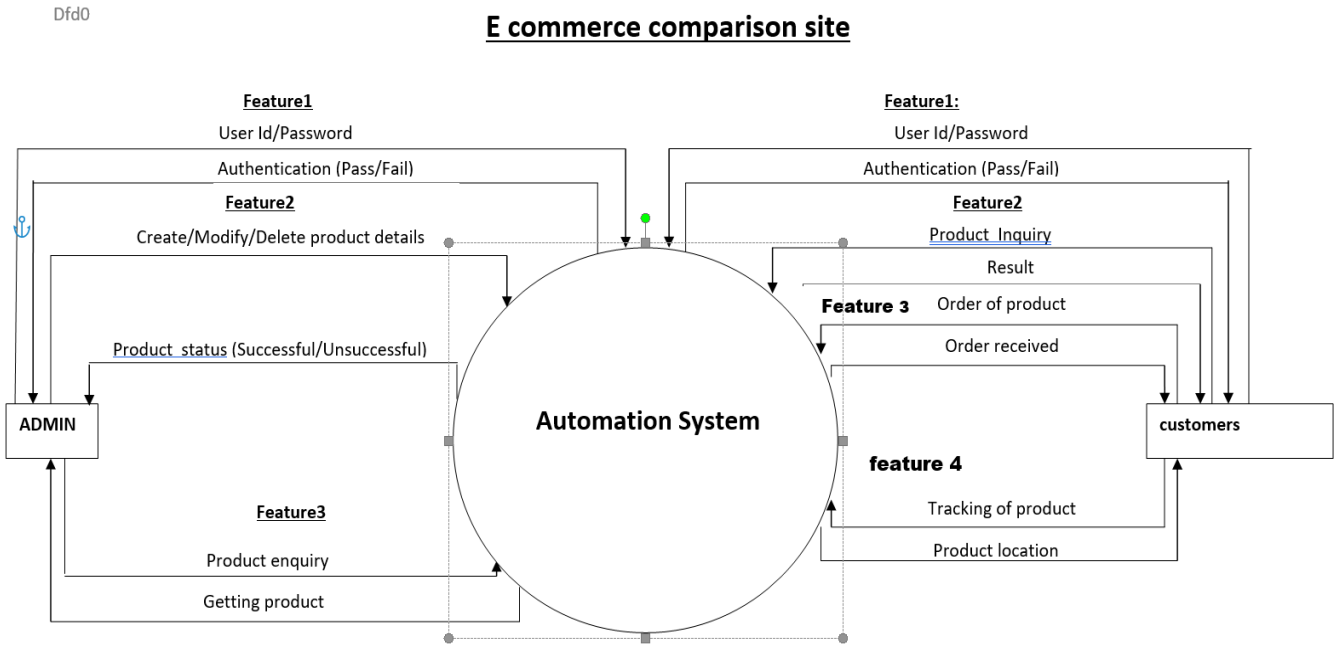
  - Search Criteria Amendment • Delivery Tracking Integration • Payment & Checkout o Multi-Payment Option Comparison

  - Payment Security Rating By integrating these features, HRDS ensures a seamless and efficient HR management process, optimizing resource allocation and reducing administrative overheads.

DATA flow diagram (dfd) levels

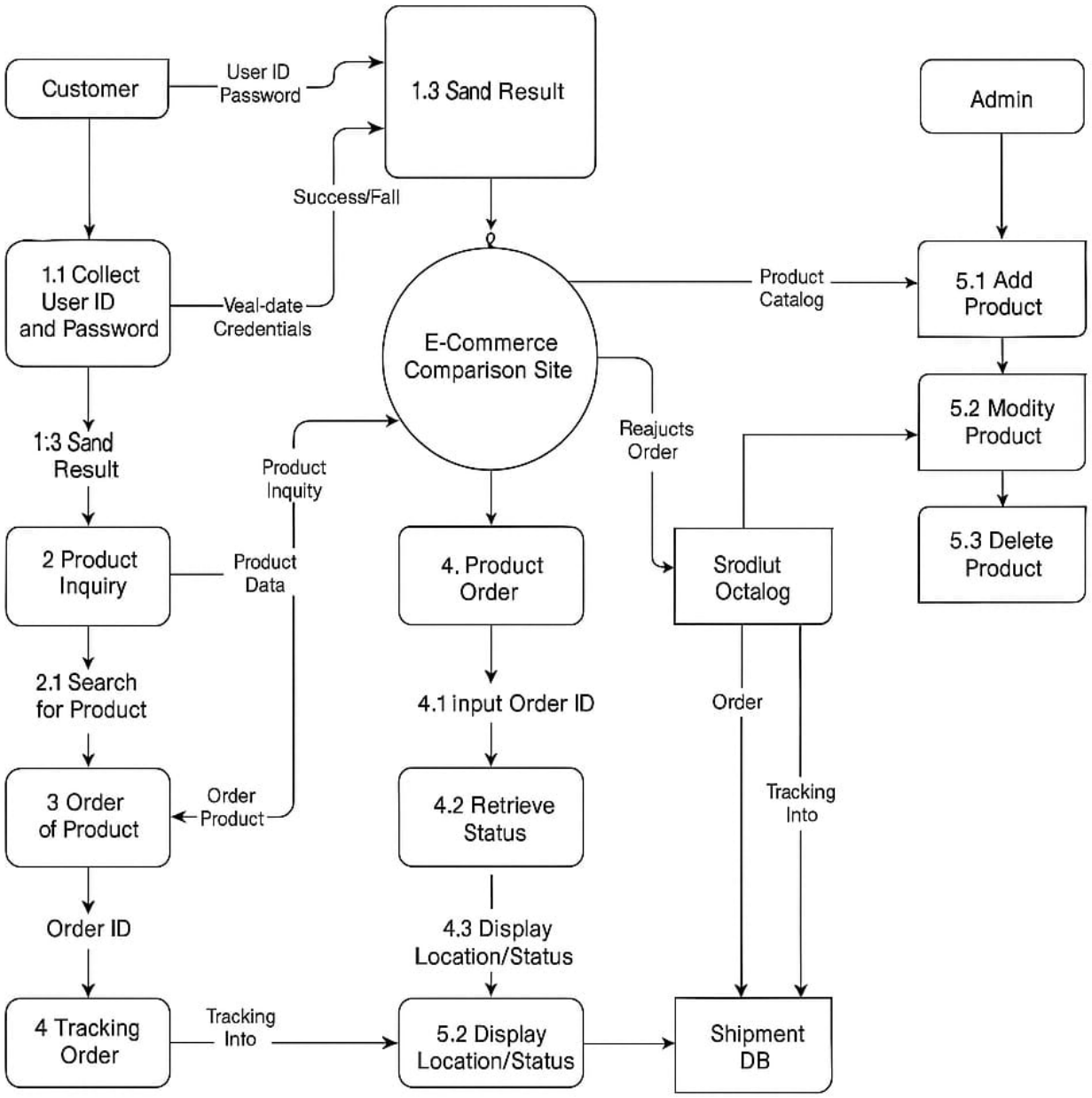
Level 0: Context Diagram

A **DFD (Data Flow Diagram) Level 0** is a high-level view of the system, showing the overall process and how data flows between the external entities and the main system. For your **E-commerce Comparison Site**, the DFD Level 0 will provide a broad view of the system's core functionality, showing interactions with users and external systems.



Level 1: Detailed Process Breakdown

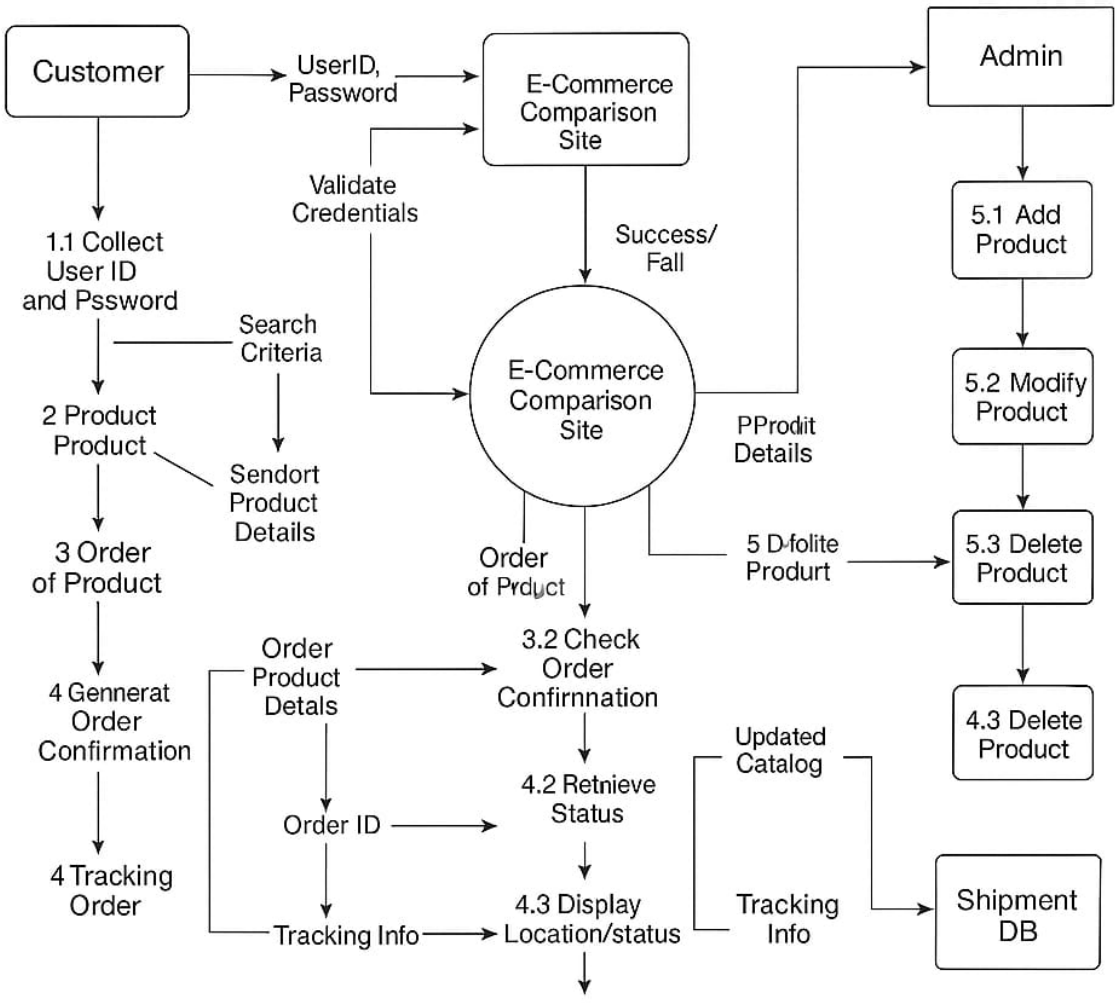
- In **DFD Level 1**, we break down the main processes from Level 0 into more detailed sub-processes. Each major function within the e-commerce comparison site will be decomposed to show how data moves between the system and its external entities.



E-Commerce Comparison Site

DFD Level 2: Expanded View

In **DFD Level 2**, we break down the processes from **Level 1** into even more detailed sub-processes. This level provides a more granular view of how the system functions internally, showing the data flows between the components and sub-processes that make up each major process.



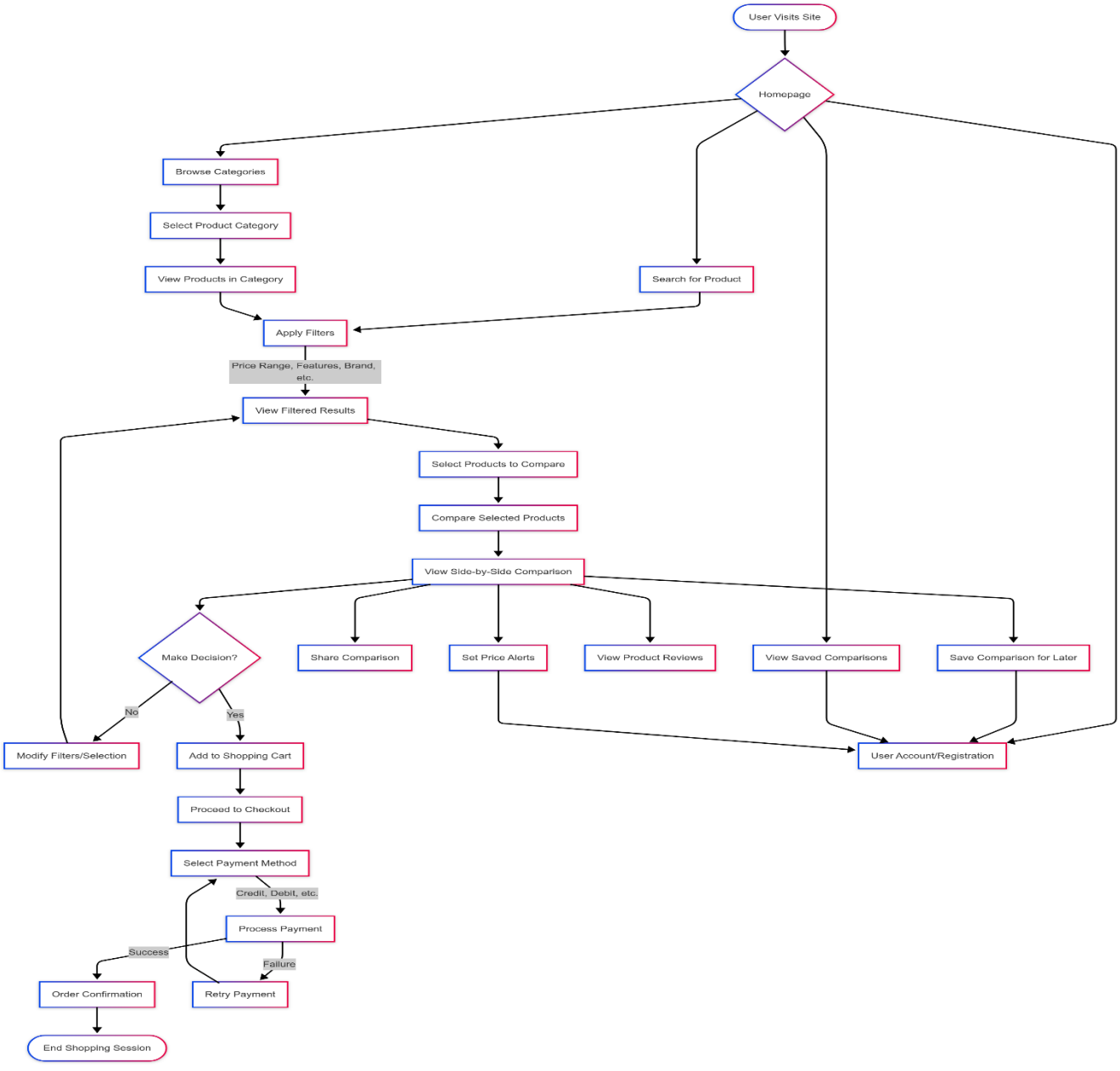
DFD Level 2

activity diagram

Workflow Representation

The activity diagram captures the various actions performed in HRDS.

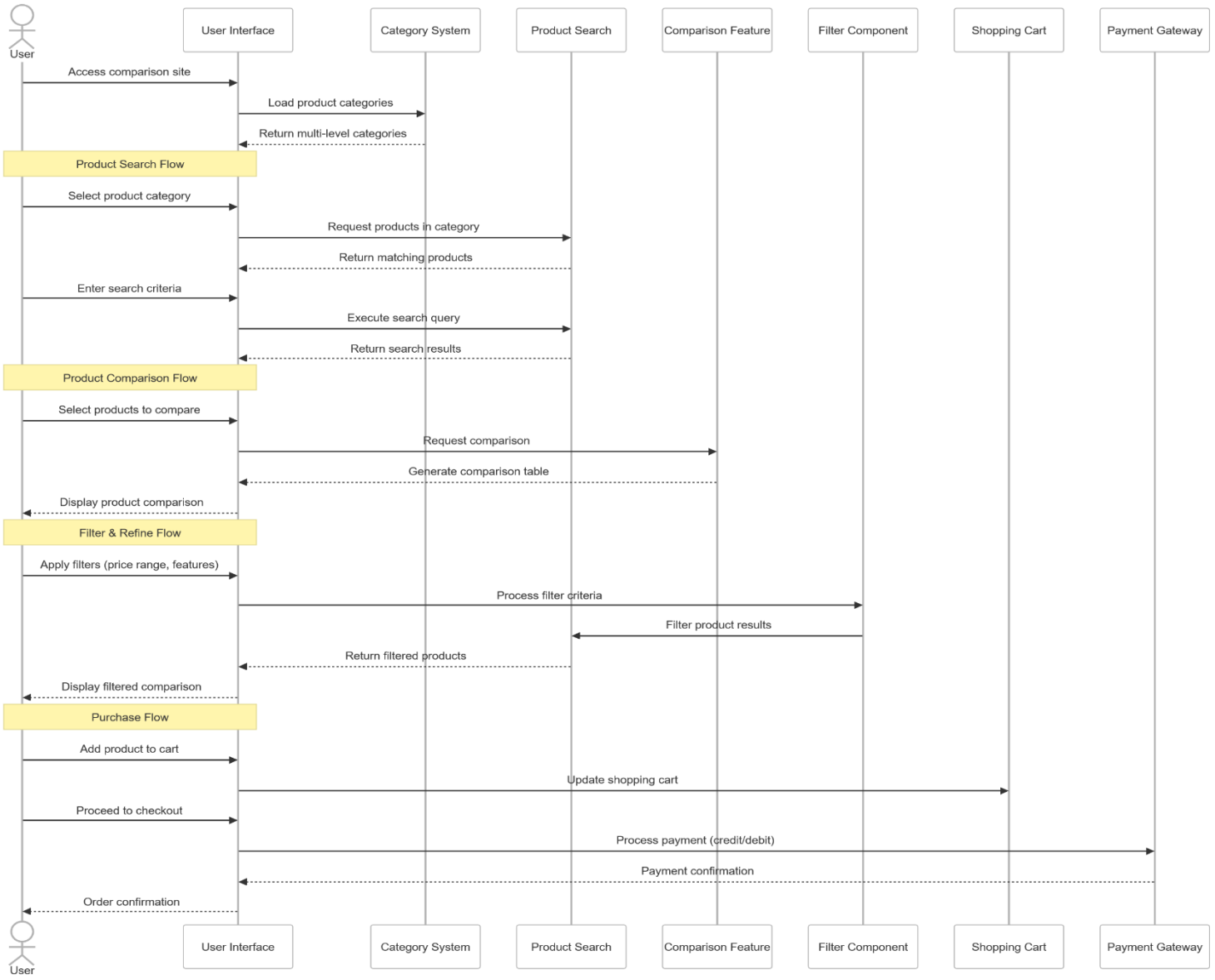
- The flow of the activities starts with the user searching for products and ends with them being redirected to an e-commerce platform.
- **Price alerts** are key to the user experience, as the system continuously tracks price changes and notifies the user when prices drop.
- The **affiliate link generation** process ensures that the site can earn commissions when a user makes a purchase.



sequence diagram

Process Flow in Ecommerce

1. A **Sequence Diagram** illustrates how objects interact with each other in a time-sequenced manner. It focuses on the messages passed between objects (components) in a specific use case scenario, showing the order of interactions.
2. For the **E-commerce Comparison Site**, let's create a sequence diagram for the use case where the **User searches for products**, applies filters, and compares the results.



Collaboration Diagram

Process Flow in E-commerce

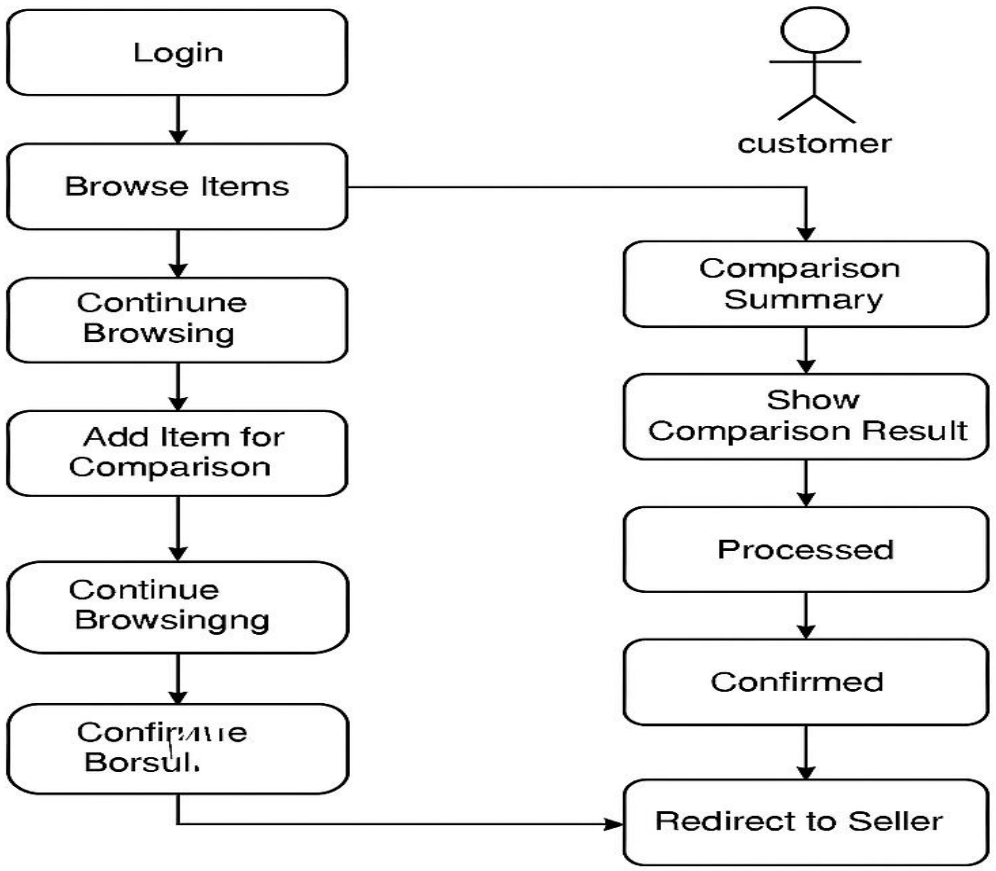
A **Collaboration Diagram** (also known as a **Communication Diagram**) in UML shows how objects or components in the system interact with each other to accomplish a specific task or use case. These diagrams focus on the relationships between objects and the message exchanges that occur in a particular interaction.

For your **E-commerce Comparison Site**, let's focus on a key use case: **User Searching for Products** and comparing them. We will define the objects involved and the message flow between them.

Scenario: User Searching for Products and Comparing Them

Actors:

- **User** (initiates the search and interacts with the system)
- **E-commerce Comparison System** (the main system responsible for managing the search, comparison, and data handling)
- **Product Database** (stores information about products available in the system)
- **External E-commerce Platforms** (e.g., Amazon, eBay) provide data through APIs or web scraping)

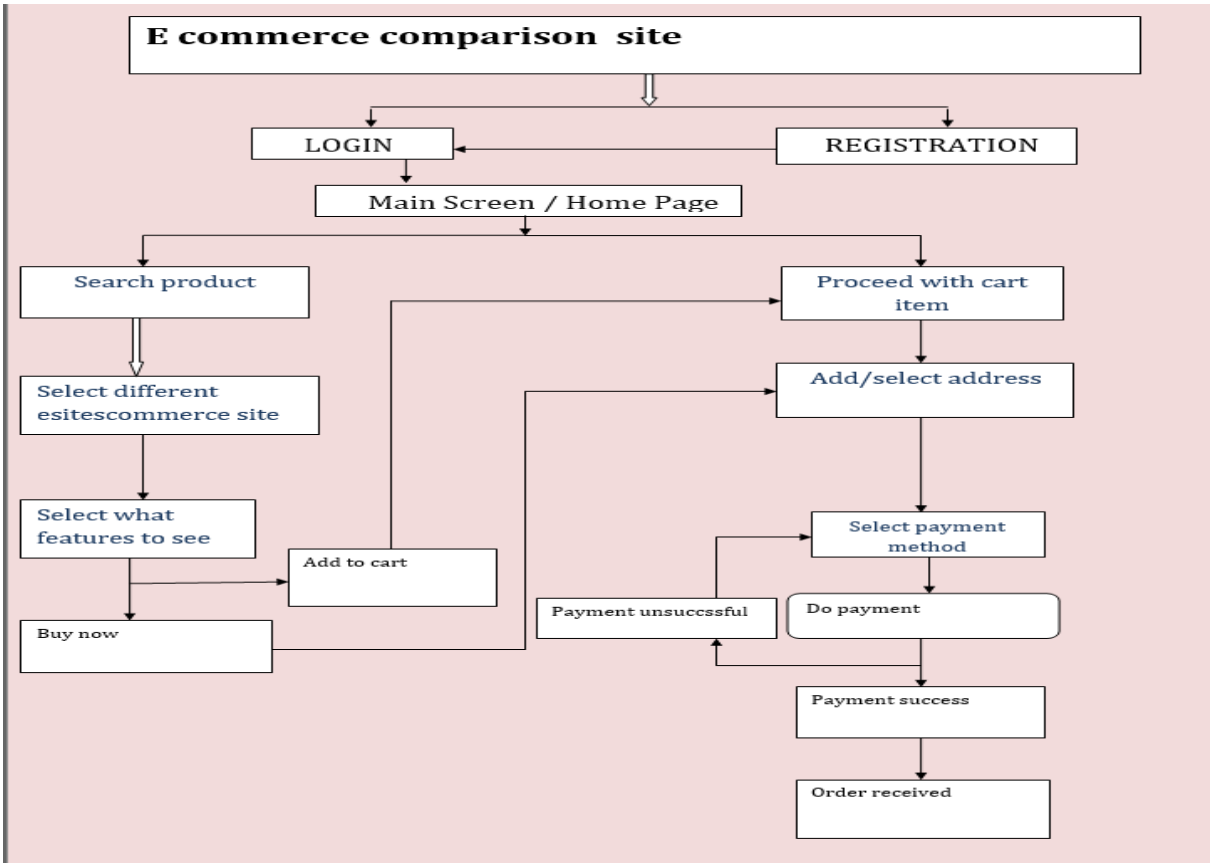


E-Commerce Comparasion Witsha¢e

Structural Chart:

A **Structural Chart** (or **Component Diagram**) represents the static structure of a system by showing its components and their relationships. It highlights how different modules or components of the system interact, making it easier to understand the architecture of the system.

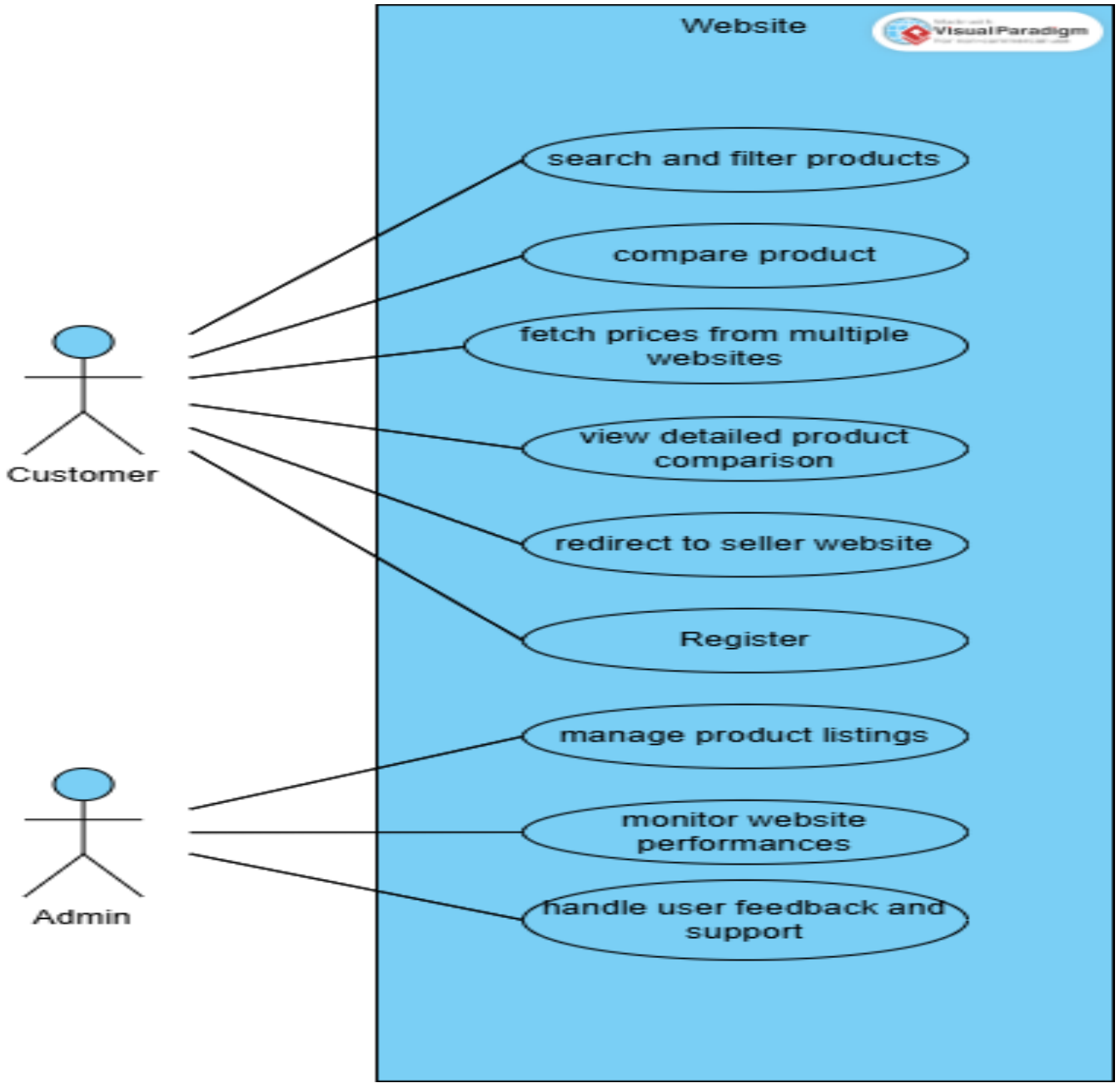
For the **E-commerce Comparison Site**, the structural diagram would show the key system components, their responsibilities, and how they communicate with each other. Let's outline the main components of your system:



Use Case DIagram

E COMMERCE COMPARISION SITE Use Case Analysis

A **Use Case Diagram** illustrates the interactions between users (or other systems) and the system itself, showing the system's functionality from an end-user perspective. For **E-commerce Comparison Site**, we will define the key **actors** (users or systems interacting with the site) and the **use cases** (actions or processes performed).



Conclusion

In conclusion, by designing and developing an e-commerce comparison site, this project aims to empower users with the tools to make informed and cost-effective purchasing decisions. By integrating product comparison features, real-time price tracking, reviews, and filtering options, the site will provide a seamless and efficient shopping experience. Additionally, leveraging affiliate marketing and ad revenue will create opportunities for sustainable monetization.

Through strategic features and an intuitive design, the site will not only attract users but also foster a loyal customer base. The potential to drive organic traffic via SEO, content marketing, and social sharing will ensure its reach and visibility in a highly competitive digital landscape.

Ultimately, this e-commerce comparison site will not only meet the needs of savvy shoppers but will also create a profitable platform, capable of evolving and scaling across different markets and product categories. By achieving the objectives outlined in this project, the site has the potential to become a leading destination for online shoppers looking for the best deals and product insights.

References

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