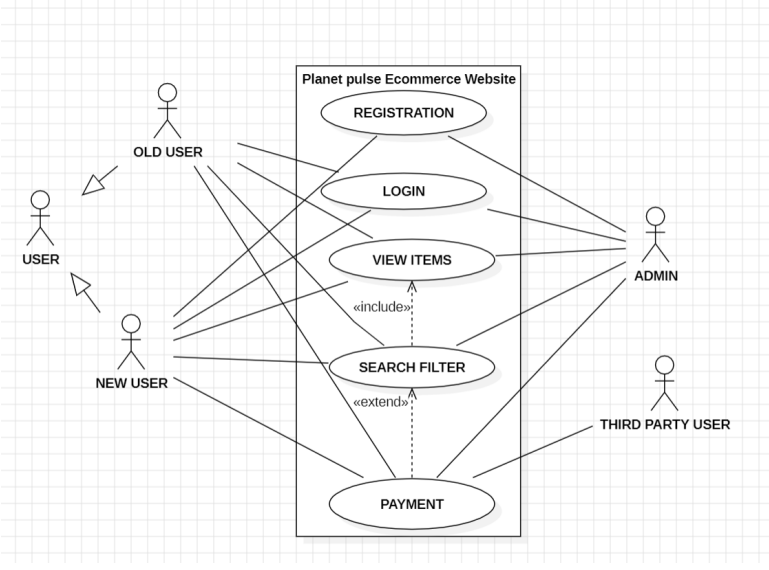
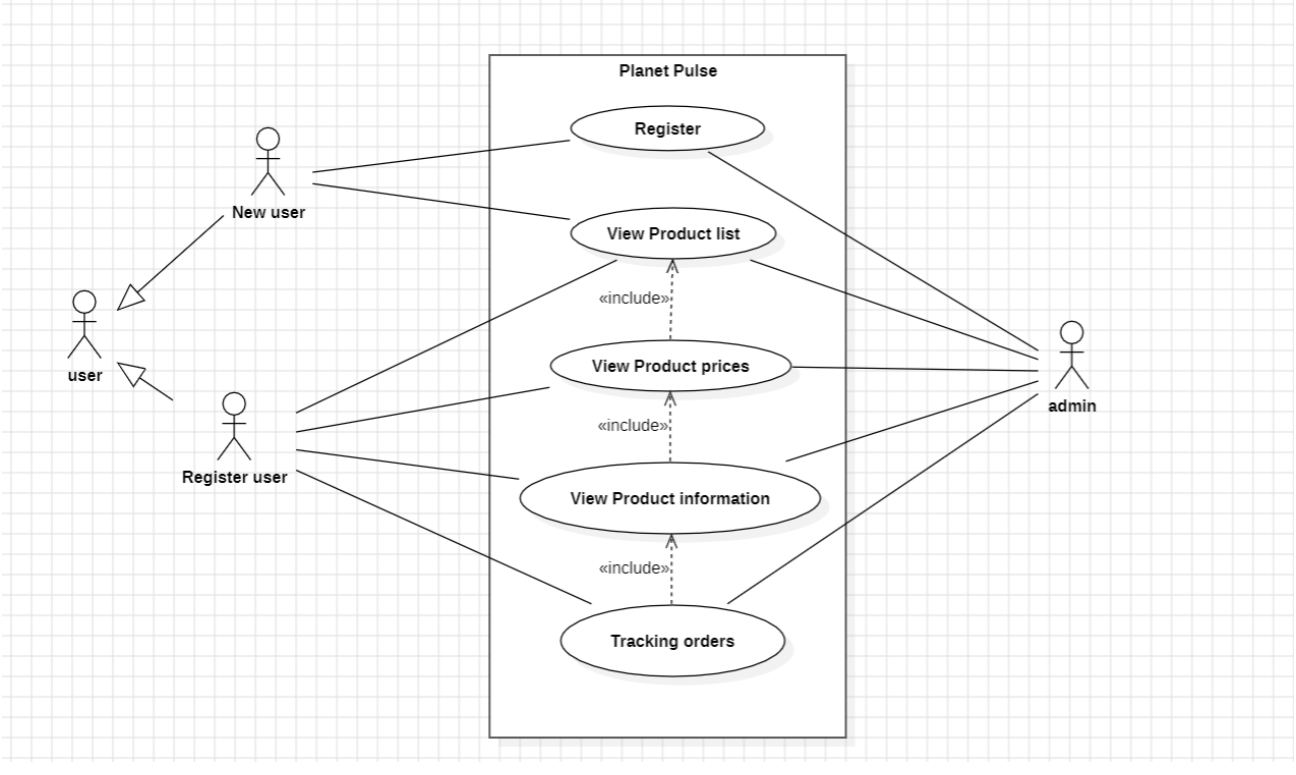
ASSIGNMENT DETAILS: DESIGN DOCUMENTS

1. USE CASE DIAGRAM FOR VARIOUS FUNCTIONALITIES

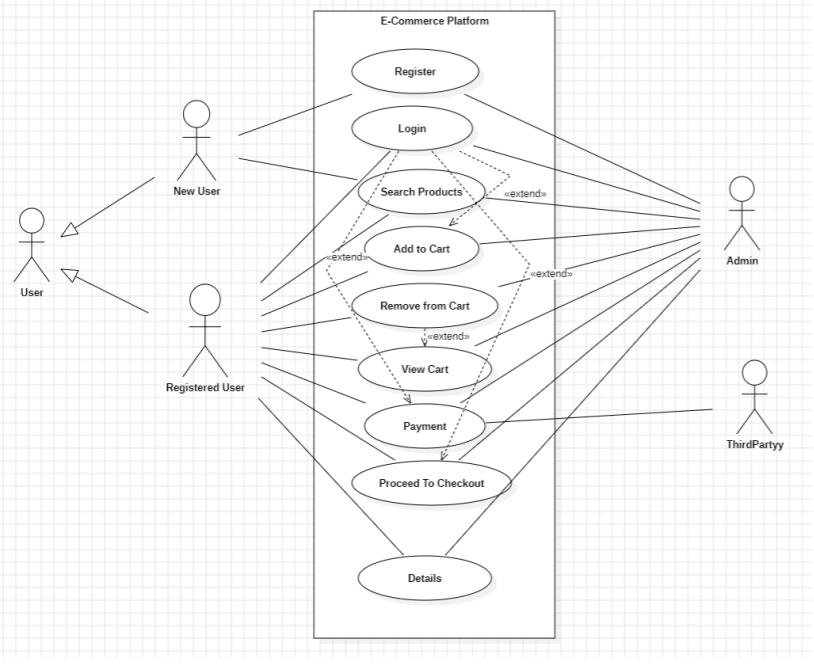
S.L. MEDHA



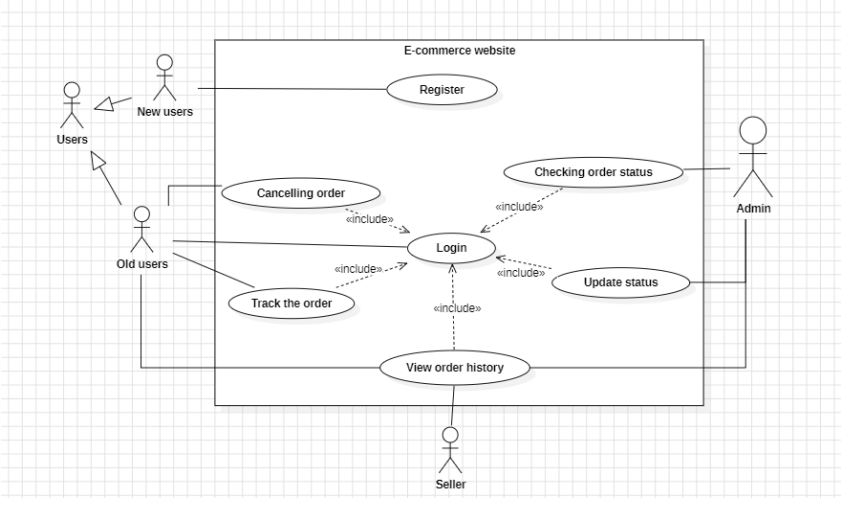
SHARANYA



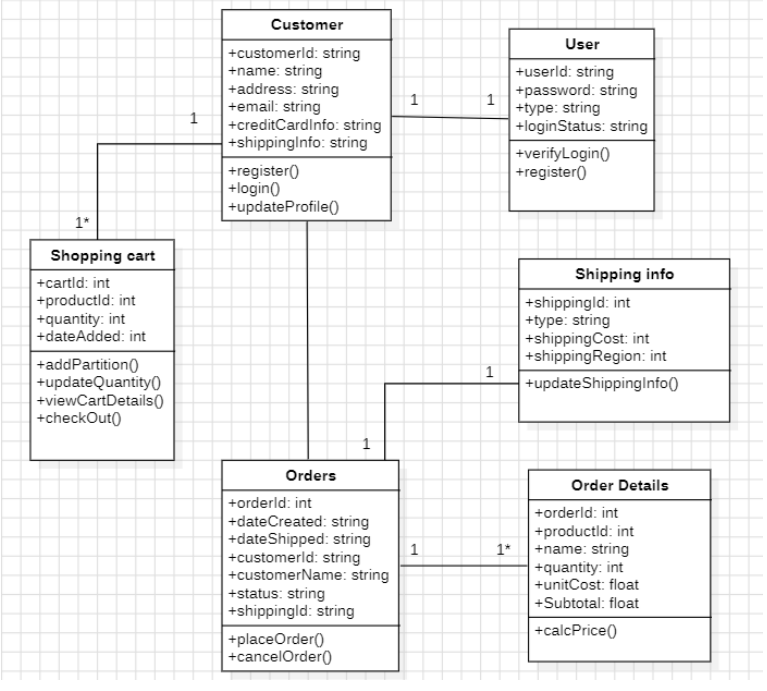
S RASHMI



SHEETAL B

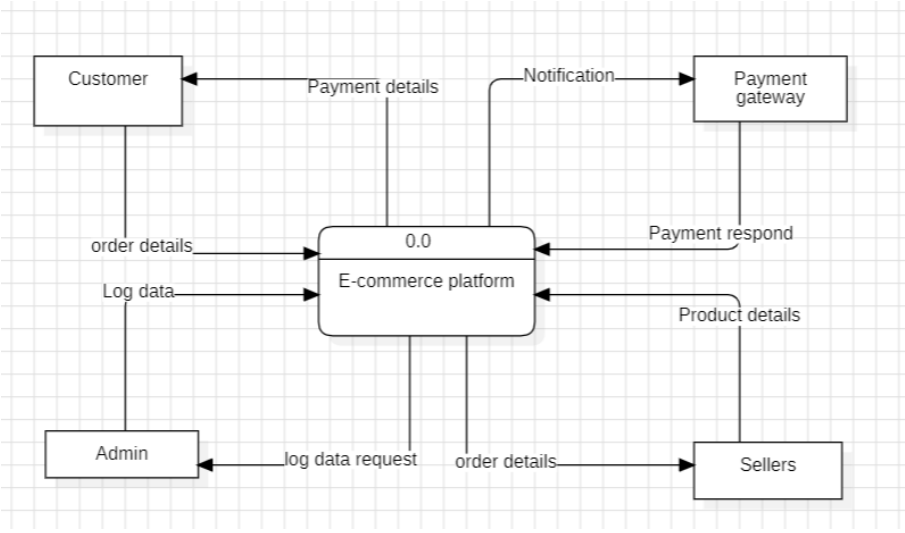


2. CLASS DIAGRAM

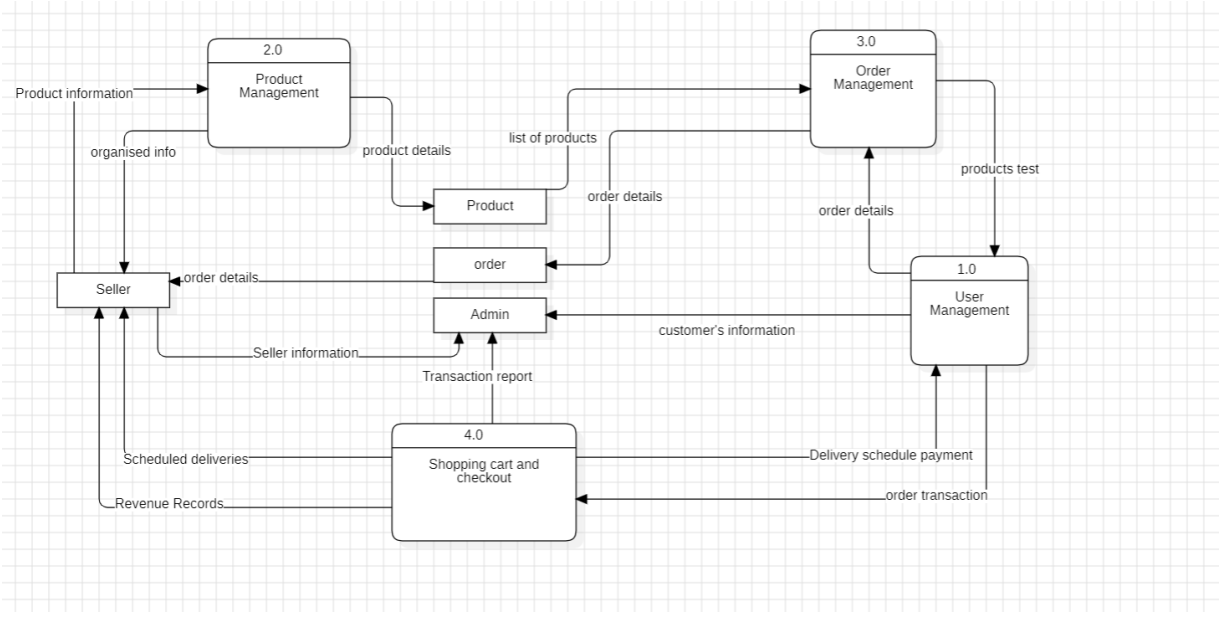


3.DATA FLOW DIAGRAM (DFD)

Level 0: This is the top level of the DFD, which provides a bird’s eye view of the system. It should include external entities and how they interact with the main system.



Level 1: This expands the main system from Level 0 and shows its main functions. It should contain processes, data stores, and data flow among them.



4. Architectural Style Integration

The **Model-View-Controller (MVC)** architectural pattern is a widely embraced framework for building software applications. When implemented in the context of an e-commerce platform like "Planet Pulse", it provides an organized and effective methodology for overseeing diverse aspects of the website, thus promoting improved maintainability, scalability, and flexibility.

1. Model (M):

The Model represents the core of the application's business logic and data management. Here, the Model encompasses:

- **Product information**: It stores comprehensive details about the products available for purchase, including descriptions, prices, stock levels, and attributes.
- **User information**: It manages customer profiles, order histories, and the contents of shopping carts.
- **Payment processing**: It securely and efficiently handles financial transactions.
- **Inventory management**: It keeps a real-time track of product availability.

2. View (V):

The View is responsible for the presentation layer, which is the aspect of the website that users interact with. Here, the View includes:

- **User interface components:** It designs visually appealing and user-friendly web pages that showcase products, shopping carts, and the checkout process.
- **Product listings:** It presents product information, images, and options in an attractive and engaging manner.
- **Shopping cart displays:** It allows users to review and modify the items in their cart.
- **Order confirmation:** It displays order summaries and payment status updates.

3. Controller (C):

The Controller acts as the intermediary between the Model and the View, managing user input, processing requests, and ensuring seamless data flow. Here:

- **User interactions**: It oversees user actions like adding products to the cart, updating quantities, and progressing through the checkout process.
- **Routing**: It determines which view should be presented based on user actions and the current state of the application.
- **Business logic**: It orchestrates various actions such as calculating the total price, monitoring inventory levels, and managing order processing.
- **Error handling**: It gracefully manages errors, providing feedback to users in a user-friendly manner.

4.1 WHY MVC?

Modularity and Scalability: MVC's modular structure enables the easy addition of new features, such as promotions, reviews, or user accounts, without disrupting existing functionality as "Planet Pulse" expands.

Maintenance: The separation of Model, View, and Controller simplifies debugging and maintenance, reducing the risk of introducing new issues when making changes.

User Experience: The View component ensures that the website is visually appealing, responsive, and user-friendly, contributing to enhanced user engagement and sales on "Planet Pulse."

Testing: The separation of concerns within MVC simplifies individual component testing, ensuring the reliability of "Planet Pulse."