Online Grocery Order System

Low Level Design

The Online Grocery Order System is an e-commerce platform that allows customers to browse, select, and purchase groceries online. It includes features such as user registration, product browsing, cart management, order placement, and payment processing. Users are the individuals who use the online grocery ordering system to purchase groceries. An admin is the system administrators responsible for managing the product catalog, user accounts, and orders.
Key features include: User Registration and Authentication, Product Browsing and Search, Cart Management, Order Placement, Payment Processing, Order History, Notification System and Admin Dashboard for Product Management.
Customer can browse products, add items to the cart, place orders, and manage their account whereas an admin manages the product catalog, user accounts, and orders. Accesses the admin dashboard.
It can be classified into functional and non-functional requirements. Functional requirements include user registration and authentication where users can create accounts, log in and log out and also reset password to recover account; browsing products where users can browse products by category, search for products and get

product details include name, description, price, and availability; adding products to cart and display their details and quantities; managing cart to view and edit contents as well as remove them; placing orders from the cart and check-out by providing delivery address and delivery time(if prioritized) and send confirmation; payment gateway integration and support for multiple payment methods; order history and receive notification updates for orders.
Non-functional requirements include performance management for managing multiple user requests efficiently and faster loading times; security by authentication and data encryption; user-friendly UI and responsive web design to make it scalable.

Implement basic user registration with Email and username and password based authentication; create a limited product catalog with essential groceries, each item having a name, description, price, and availability; store product data in a straightforward database, possibly as JSON objects; design the order placement process, including selecting items from the cart and capture the delivery address, but payment processing is not included in this phase; create a simple order data structure to store orders with basic details (e.g., order ID, items, delivery address, and timestamp) and generate a confirmation message for users with an estimated delivery time; clean and easy-to-navigate UI.