High Level Design For Flipkart

1. System Overview:

This document outlines the high-level design for an e-commerce application similar to Flipkart. The application will enable users to browse, search, and purchase products from various sellers. Here are the 5 key features considered:

- **Product Browsing and Search:** Users can browse products by category, brand, price range, or other filters. They can also search for specific products using keywords.
- **Product Details:** Users can view detailed information about a product, including images, descriptions, specifications, seller details, and reviews.
- **Shopping Cart and Checkout:** Users can add products to their cart, modify quantities, and proceed to checkout. The checkout process should include secure payment options and address management.
- **Order Tracking:** Users can track the status of their orders and view delivery information.
- **User Accounts and Profiles:** Users can create accounts to manage their profiles, track past orders, and save preferences.

2. System Architecture:

The application will consist of the following components:

- **Client-side:** This includes the mobile app or web interface that users interact with. It will be responsible for displaying product information, handling user interactions, and communicating with the server-side.
- **Server-side:** This component handles the core functionalities of the application, such as product data management, order processing, user authentication, and payment processing. It will interact with various databases and external services.
- **Database:** The application will utilize a relational database to store product information, user data, order details, and other relevant information.
- **External Services:** The application may integrate with external services for payment processing, logistics management, and user authentication (e.g., email, social media).

3. User Stories:

- As a user, I want to browse through different product categories to find what I'm looking for.
- As a user, I want to search for specific products using keywords.
- As a user, I want to view detailed information about a product before I purchase it.

4. System Interfaces:

- **API:** The server-side will expose an API to allow the client-side application to retrieve and manipulate data.
- **User Interface (UI):** The client-side application will provide a user-friendly interface for browsing, searching, and purchasing products.

5. Data Flow:

- **Product information:** Sellers provide product details through a seller portal or API. The information is stored in the database.
- **User Registration and Login:** Users can create accounts with basic information. Login credentials are used for authentication.
- **Product Browsing and Search:** Users interact with the client-side application to browse or search for products. The client-side communicates with the server-side API to retrieve product information.
- **Adding to Cart and Checkout:** Users add products to their cart on the client-side. Checkout process involves secure payment processing via integrated services and address management through the user account. Order details are stored in the database.
- **Order Tracking:** Users can access their account to view order history and track the delivery status. The server-side retrieves order details and displays them in the user interface.