LOW-LEVEL DESIGN FOR AMAZON APPLICATION

Low-level design:

**LLD or Low-Level Design**, is a phase in the software development process where detailed system components and their interactions are specified.

* It describes detailed description of each, and every module means it includes actual logic for every system component and it goes deep into each modules specification.
* It is also known as micro level/detailed design.
* It is created by designers and developers.
* It involves converting the high-level design into a more detailed blueprint, addressing specific algorithms, data structures, and interfaces.
* LLD serves as a guide for developers during coding, ensuring the accurate and efficient implementation of the system’s functionality.

Features for Amazon application:

1.Login

* + - User registration, login, and authentication.
    - Profile management including address, payment methods, and preferences.

login might be considered trivial, especially in smaller systems or projects. Because a simple web application with basic user registration, login, and profile management functionality might not require intricate design considerations.

Login might be considered as novel when the system has unique or complex requirements that go beyond standard practices. For example, in systems that require multi-factor authentication, fine-grained access control with multiple user roles and permissions.

2. **Shopping Cart and Checkout:**

* + Shopping cart functionality for users to add, remove, and modify items.
  + Seamless and secure checkout process with multiple payment options.

**Shopping cart and checkout might be trivial, especially in large systems or projects. Because we can add, remove, and modify items and we have multiple payment options so it might consider as large system or project.**

**Shopping cart and checkout might be novel,** in more complex or customized e-commerce systems, designing and implementing a shopping cart and checkout process can be quite challenging and novel.

**3. Product Search and Listings:**

* + - Advanced search functionality with filters and sorting options.
    - Auto-suggestions and search history.

Project seacrch and Listings **might be trivial, especially in large systems or projects. Because,** If the search feature is relatively simple and only involves searching through a small dataset with basic keyword matching, the design might be considered trivial. If the system has a straightforward navigation structure with a small number of pages or screens and minimal hierarchy, the design might be considered trivial.so it has to be mature platform and low uncertainty.

Project Search and Listings might be considered as novel, in more complex systems or when dealing with large datasets and sophisticated search requirements, implementing search and navigation functionalities can be quite challenging and novel.

4. Order Management and Tracking:

* + Provide users with a streamlined checkout process to place orders easily.
  + Collect necessary information such as shipping address, contact details, and payment method during checkout.

Order management and tracking might be novel, especially in large scale projects. If the business has unique or complex requirements related to order and delivery management, such as custom pricing structures, subscription-based services, or intricate delivery scheduling, the design becomes more novel.

Order management and tracking might be trivial, because **It** includes basic functionalities such as adding items to a shopping cart, placing an order, entering shipping information, and selecting delivery options. It operates on a small scale with a manageable number of orders and delivery logistics, the design of order and delivery systems may not require extensive complexity. So, it considered as trivial.

5.Customer Reviews and Ratings:

* + - User reviews and ratings for products.
    - Moderation of reviews to prevent spam and maintain authenticity.

Customer Reviews and ratings might be trivial, If the reviews and ratings system is relatively straightforward, with simple features such as allowing users to submit text-based reviews and rate items on a numerical scale, the design might be considered trivial.

Customer Reviews and ratings might be novel, If the reviews and ratings system need to support advanced features such as rich media reviews (e.g., photos or videos), tagging and categorization of reviews, sentiment analysis, or personalized recommendations based on user preferences, the design becomes more novel.

Conclusion

In conclusion, Amazon stands as a paradigm of modern commerce and innovation, characterized by its relentless pursuit of customer satisfaction, operational excellence, and adaptability. With its vast array of services spanning e-commerce, cloud computing, digital streaming, and more, Amazon has fundamentally transformed how people shop, work, and interact in the digital age.