Group Number: SE-S1-WD-25

Name of research paper 1: A Fully Functional Shopping Mall Application - SHOPPING EYE

Limitations of research paper 1:

- Absence of Recommendation Systems: The research does not incorporate any product or shop recommendation systems, which could enhance user engagement and personalize the shopping experience.
- Promotion Mechanism: The paper suggests using only loyalty cards and gift cards for promotions. This limited approach may not fully leverage the potential for diverse promotional strategies that could attract more customers.
- Lack of Feedback Collection: There is no method implemented for collecting user feedback within the application. This absence limits the ability to understand user satisfaction and areas for improvement.
- Reliance on Standard Web Services: The system relies solely on standard web services for data retrieval, which can introduce latency, especially during high traffic periods or network issues. This reliance may affect the overall performance and user experience of the application.

Improvements or extensions suggested to research paper 1:

- Incorporating Product and Shop Recommendation Systems
- Internal Coin-Based Promotion System
- Implementing a Feedback Collection Mechanism
- Adopting Real-Time Data Streaming Methods
- Implementing Asynchronous Data Retrieval

Proposed project topic: SHOPPING EYE

How the identified improvements or extensions will be addressed by the project:

- Incorporating Product and Shop Recommendation Systems: Implement a recommendation engine that analyzes user preferences, purchase history, and browsing behavior to provide personalized product and shop recommendations. This can enhance user engagement and help users discover relevant items they may be interested in.
- Internal Coin-Based Promotion System: Develop an internal coin system that rewards users based on their order history and shopping activities. Users can accumulate coins through purchases, referrals, or completing certain tasks within the application. These coins can then be used for promotions, discounts, or redeeming rewards, providing an incentive for users to engage with the application regularly.
- Implementing a Feedback Collection Mechanism: Introduce a user feedback system within the application to gather insights and suggestions from customers. This can include in-app surveys, rating systems, or open-ended feedback forms. Collecting and analyzing user feedback can help identify areas for improvement and guide future development efforts to enhance the overall user experience.
- Adopting Real-Time Data Streaming Methods: Utilize real-time data streaming technologies, such as WebSockets, to enable instant updates on inventory, promotions, and other relevant information. By establishing a persistent connection between the client and server, real-time data streaming can reduce the need for frequent polling and provide users with immediate updates, enhancing the overall responsiveness of the application.
- Implementing Asynchronous Data Retrieval: Develop asynchronous communication methods for data retrieval to improve the application's performance and user experience. By executing data requests in the background without blocking the main thread, users can continue interacting with the application while waiting for data to load. This can help mitigate the impact of latency and provide a more seamless experience, especially during high traffic periods or network issues.

Unique feature(s) of the project:

> Personalized Discounts and Internal Coin System :
>
> Manage personalized discounts and offers for users based on their browsing and purchase history, and introduce an internal coin system that rewards users with coins based on their order history. These coins can be used in future purchases as coupons.

Functions of member 1 - RANDENI R.P.K.A. IT22120816 :

Personalized Discounts and Internal Coin System

Description: Manage personalized discounts and offers for users based on their browsing and purchase history.

CRUD Operations:

- Create:

  o   Admins can create new personalized discount codes and offers.
  o   The system can reward users with coins based on their purchases.

- Read:

  o   Users can view available personalized discounts and offers.
  o   Users can check their coin balance and transaction history.

- Update:

  o   Admins can update the conditions and details of existing offers.
  o   Admins can adjust the coin reward rules based on different criteria (e.g., special promotions).

- Delete:

  o   Admins can delete expired or invalid offers.
  o   Admins can remove coins from users' accounts in case of fraudulent activities or errors.

Functions of member 2 - DE SILVA P.D.P.S   IT22079886 :

Shopping Cart Management

Description: Manage items in the shopping cart.

CRUD Operations:

- Create: Users can add items to their shopping cart.
- Read: Users can view the items in their shopping cart.
- Update: Users can update the quantity of items in their cart.
- Delete: Users can remove items from their cart.

Functions of member 3 - Kahawala K.S.D   IT22222022 :

User Account Management

Description: Manage user accounts, including creating, reading, updating, and deleting user profiles.

CRUD Operations:

- Create: Users can sign up and create a new account.
- Read: Users can view their profile information.
- Update: Users can update their profile details, such as name, email, and password.
- Delete: Users can delete their account.

Functions of member 4 - DHARMAPRIYA R.A.P   IT22133236:

Product Management

Description: Manage the products available in the store.

CRUD Operations:

- Create: Admins can add new products to the inventory.
- Read: Users can view product details, including description, price, and reviews.
- Update: Admins can update product information, such as price, description, and stock levels.
- Delete: Admins can remove products from the inventory.