DataBase Management Project

ONLINE RETAIL STORE

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Project Scope:
 An application for an online retail store where customers can purchase products of their need from the comfort of their homes. The application provides a complete interface for the users to choose products from all the available products. The user can then check amongst all the available items up for sale. Depending on the availability of any item, the user can decide to add a product to the cart. Once the user is ready for payment, the user can head for payment. It is assumed that the payment is made using the user's wallet, which is inbuilt into the application. It will be assumed that the user will have sufficient money to make the payments and has to authenticate again to confirm his purchase, after which the corresponding amount will be deducted from the wallet.
Due to the large amount of data in the database and the constant changes made, it is possible to experience a few cases of exceptional behaviour where the database and the application are not synced. The data synchronisation issues we are planning to handle include saving the user's data in the database in real-time, flagging the products that are out of stock when required, and updating the user's wallet amount and the products' quantities after the purchase has been made.

Functional Requirements:
The user has to log into the application or create an account if the user does not have one. They can register using the phone number or email address. In this step, we will authenticate the customer and store their details in the database. All the products will be displayed, and if any product is out of stock, the same will be mentioned on the application. The company maintains the data of all the categories of products on sale, and each product can belong to only one category. Each user will have a different cart to add products of their choice. The products that are out of stock will not be added to the user's cart. Each user will be allotted a wallet for this application only, and the user can use the wallet to purchase items in the application. The increment in the wallet

money will be initiated after a basic authentication of the user. The user can make payments only if the wallet has the required amount of money; else, the user will have to increase the wallet money. Once payment is initiated, the user's money will be deducted from the user's account, and the respective product quantity will be removed from the total amount. Frequent customers can upgrade their status to different kinds of membership. Membership will allow availing various discounts and offers on their orders.

Technical Requirements:
This project will require MySQL for creating database of customer details and product details.
For Front-End part we will be using
For Back-End part we will be using Django.

Tech Stack:
Front-End: HTML, CSS, JavaScript, React, Figma
FTP Client: FileZilla
Back-End: Django, MySQL

Access Constraints:
Customer entity : Attributes are name, address, email-id, contact number and shopping cart.
Store Entity: Attributes are categories.
Category Entity: Attributes are products.
Product Entity: Attributes are product name, price, quantity available, and offers.

The admin will the access to all the functionalities of the website
Admin will add products to the store
Customers can purchase products from the store.

There can not exist a product without admin adding it.
Customers can not add a product's quantity more than available to cart.
There can not be a product existing without a category.
There can not exist any empty category.
Customer can purchase a product only if he/she has sufficient amount in wallet.
Customer can not add products to cart and money to wallet if verification is not done.