Course 1 - IITK AIML Foundations: Programming Refresher

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# Project - Shopping Cart Application

## Shopping Cart Application

The Shopping Cart Application is developed as a course end project of Course 1 (IITK AIML Foundations: Programming Refresher).

### Brief snap-shot of the shopping application features:

1. Multiple users can sign up and log in to the system simultaneously
2. Admin is the default user and is pre-seeded in the system
3. There are some categories and products pre-seeded into the system. The Admin can add more categories and products into the system.
4. Admin user can only update the inventory for the Shopping App
5. Admin has the right to delete any existing user, other than the Admin him/herself
6. User can add items to their cart
7. And finally the user can place the order based on their cart items with the mentioned payment methods
8. The admin can view all the orders placed by all the users

### Functional Overview of the different sections in the application:

1) **User Management**
   a) The user management section allows the users to sign up and login into the system.
   b) Any user can sign up to the system with an unique username. Duplicate username which is already existing in the system is not allowed during sign up.
   c) Password format and strength check is also done during sign up to ensure a strong user password for enhanced security:
      Allowed password must contain the following features:
      - Minimum and maximum length of the password must be 6 and 20 characters respectively

- The password must contain at least one uppercase, one lowercase, one number and one special character. Special character allowed are !, @, #, $, %, &, _, .

d) Multiple users can login to the system to perform their respective operations. The Admin being an user also needs to login first to perform Admin specific functionalities like inventory management, deleting any user

e) The user once done with their use can log out of the system. A logged out user needs to re-login again to use the Shopping Application.

## 2) Inventory Management (Admin access only)

a) Admin needs to login first to perform all inventory management tasks

b) Admin can add new category, update category name and delete an existing category

c) Once a category is created, the admin can add products to the category

d) Admin can also modify any product info from the category like product name, product type and unit price of the product etc. If the Admin chooses to update any one attribute of the product info, the Admin needs to enter the value only for the specific attribute and leave others blank. The blank input will be treated as no input and will remain unchanged in the product, just updating the

e) The Admin can also delete a product and even the whole category
In case Admin deletes any product that is already added to a user cart then when the user proceeds to place the order, the system will inform the user regarding the deleted product and will ask the user to remove the product from his/her cart as it no longer exists in the system. The user will be able to place the order only after removing the deleted product from the cart.

## 3) User Management (Admin access only)

a) The Admin can delete an existing user from the system. If the user is logged in and has active cart data, then the user will also be removed from the logged in users list and his cart information will also be removed. However, the previous order records of the deleted users will remain in the system as any active order will still need to be delivered to the user as he/she has already paid for it and the order data will also help in future audits.

b) Admin can also view the order history of all the users in the system.

**4) Shopping Functionalities (General user access)**
    **a) Shopping Cart**
        i)    User needs to login first to perform cart functionalities
        ii)    Users can choose from all the available products in the different categories and add the quantity for any product to be added to the cart.
        iii)    User can update his/her cart by adding more products or removing products from the cart
        iv)    User can also clear the whole can and start again to add products
        v)    Multiple logged in users can perform their respective cart functionalities and their cart items will be added to their respective carts.

    **b) User Order**
        i)    User needs to login first to place order
        ii)    Users can place an order after adding products to his/her cart. If the user does not have any product added to his/her cart the system will interrupt and will ask the user to add products to cart first.
        iii)    Once the user opts to place order he/she will be presented with all the items in his/her cart and will be displayed a cumulative total off all the products in the cart which he need to pay
        iv)    There are four payment methods the system allows namely Credit_Card, Debit_Card, Cash, UPI. The user needs to choose any one of the pre-defined payment methods to proceed placing the order.
        v)    Once the user places the order, the user can view the order summary.