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Description:

The Grocery Store is an online platform for buying various food products in different categories. The categories and products are created and managed by the store admin. Buyers can easily search their categories and respective products.

Technologies Used:

1. Flask – For backend server and application code.
2. SQLite and SQLAlchemy - For data storage.
3. Jinja2 templates - For generating HTML pages
4. CSS -For styling

DB Schema Design:

1. The following are the DB tables with columns and constraints. Each table has a unique identifier (id as primary key).

- **Category**:
  Columns:
    1.Category_id: Category id (Primary Key)
    2.Category_name: Name of category(Non-Nullable,Unique)

- **Products:**
  Columns:
    1. Product_id: Product id(Primary Key,Non-Nullable)
    2. Product_name: Name of product(Non-Nullable)
    3. Product_price: Price of product(Non-Nullable)
    4. Product_quantity: Quantity of product(Non-Nullable)
    5. Product_manufecturing date: Manufacturing date of product(Non-Nullable)
    6. Product_expiry date: Expiry date of Product(Non-Nullable)
    7. Product_category_id: Managed by category_id(Foreign key, Non-Nullable)
- **Cart:**
  Columns:
    1. Cart_items: cart can have multiple products(Non-Nullable)
    2. Cart_count: Count of items in the cart(Non-Nullable)

- **Cartitems:**
  Columns:
  1. Cartitems_cart_id: Cart to which cart item belongs(Foreign key, Non-Nullable)
  2. Cartitems_product_id: Product associated with cart item(Foreign key, Non-Nullable)

Design:

1. CRUD operations for Categories.
2. CRUD operations for Product.
3. Validation of all input fields - text,numbers ,dates etc.
4. Backend validation before storing.

Architecture and Features:

Architecture:

The python code for the project is organized into 2 files –

• App.py: It contains the startup code and the logic for all implementations.

• Models.py: It defines all the tables that need to be created for the project.

There are 2 modules as well:

• templates: It contains the html files for each route using jinja2

• static: It contains style css for every html page

Features implemented:

1. User Signup and Login
2. Admin Login with an admin key
3. Creation ,update and deletion of Categories by admin.
4. Creation ,update and deletion of Products by admin.
5. For deletion of a category or product you have to give confirmation first.
6. Users can add multiple products at one time.
7. Users can search any product and categories by name.
8. Users can update any product directly and their amount is also incremented in cart.
9. Users can directly delete any item from the cart.
10. If any product is finished so you can not add in cart.Show “Out of stock”
11. Final checkout page and total amount is shown before placing order.

Video Link:

[mad1 video.mp4]