Author

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I'm a developer interested in data science. Currently working as an associate data scientist at a company in Gurgaon. Finishing this MAD 2 project makes me feel really great and accomplished!

Description

In this project we are supposed to make a grocery app like blinkit/swiggy. We have added functionality of logging in an admin and managers (RBAC). The user can log in and add items from different categories to their carts and checkout. We also send daily reminders and a monthly analysis report to the user.

Technologies used

- **Flask – Backend**
  - Flask Sqlalchemy – ORM for modals used like user, products etc
  - flask_jwt_extended – For generating authentication token
  - Flask CORS – to enable cross origin resource sharing
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- **Vue.js – Frontend**
  - Vue -CLI
  - Vue Router – For routing across components
  - Vuex – State management of global variables
- Redis – Message Broker
- Celery – For running asynchronous batch jobs
- SMTPLIB – For sending emails
- MailHog – Fake SMTP Server
- Requests – for posting webhook requests to Google Chat

DB Schema Design

1. **User Table (user):**
   - **username** (PK, String): Unique identifier.
   - **password** (String): User authentication.
   - **email** (String): User email.
   - **role** (String, default="user"): User role.
   - **approved** (String, default="No"): Approval status.
   - **last_login** (DateTime, nullable): Last login timestamp.
   - **orders** (Relationship with **Order**): User orders.
2. **Category Table (category):**
   - **id** (PK, Integer, Autoincrement): Unique identifier.
   - **category_name** (String): Category name.
   - **products** (Relationship with **Product**): Category products.
   - **approved** (String, default="No"): Approval status.
3. **Product Table (product):**
   - **productID** (PK, Integer, Autoincrement): Unique identifier.
   - **product_name** (String): Product name.

- **product_category** (String, FK to **Category**): Belongs to a category.
- **stock** (Integer): Stock quantity.
- **price** (Float): Product price.
- **expiry_date** (DateTime): Expiry date.
- **timestamp** (DateTime, default=datetime.utcnow): Creation timestamp.

4. **Order Table (order):**
    - **id** (PK, Integer, Autoincrement): Unique identifier.
    - **username** (FK to **User**): User placing the order.
    - **amount** (Float): Total order amount.
    - **products** (String): Serialized order products.
    - **timestamp** (DateTime, default=datetime.utcnow): Order timestamp.

API Design

API has been created for 4 segments majorly:

1. Products : CRUD + buying products
2. Categories : CRUD + requesting and approving
3. User : Login and Signup
4. Manager Requests : that go to admin dashboard, requesting and approving

Architecture and Features

The project has been organised in two segments :

- Frontend → Has Vue app
- Backend→ Has Flask app

Features Implemented:

- RBAC - User and Manager Signup and Login, Admin login
- CRUD for products (by manager) and categories (by admin)
- User cart maintaining and checkout
- Filters provided to search products by name, category, expiry date and price
- Batch jobs, daily reminders on google chat and monthly activity report
- Responsive Design

Video

https://drive.google.com/file/d/1rUoSgpP_5AO09U3G7T9-UiVxTdM1y1kx/view?usp=drive_link