GROCERY STORE

A report for the MAD1 Project

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Abstract

The grocery store app is designed to provide a user-friendly platform for customers to browse and purchase products, and manage their shopping carts. Additionally, the app offers administrative functionalities, allowing the admin to manage categories, and products, and monitor sales and inventory. The system aims to enhance the shopping experience and streamline the store's operations.

Models

The app employs several models to organize and manage data effectively. The key models include:

User: Represents a user of the app, which includes both regular customers and administrators. The User model is essential for authentication and managing user-specific data.

Category: Represents product categories, which are created and managed by the admin. Categories provide a structured way to organize products, making it easier for users to find what they need.

Product: Represents individual products available in the store. Each product has attributes such as name, price per unit, quantity, unit (e.g., kg, liter), and expiration date. The Product model is linked to the Category model to maintain categorization.

CartItem: Tracks the items added to a user's cart. It associates the user, the product, and the quantity of the product in the cart.

PurchaseHistory: Records the purchase history of users, including the purchased product, the quantity purchased, and the purchase date. This model helps users track their past purchases.

Overall System Design:

The system design focuses on providing a seamless user experience, efficient product management, and effective sales monitoring. Here are the key components of the system:

User Authentication: The system allows users to register, log in, and log out. Authenticated users have access to personalized features such as viewing their cart and purchase history.

Product Display: The app displays products categorized by the admin. Users can browse products, view product details, and search for specific items.

Shopping Cart: Users can add products to their shopping cart, adjust quantities, and remove items. The cart allows users to review their selections before making a purchase.

Purchase and Inventory Management: When a user makes a purchase, the system updates the product quantity, records the purchase history, and adjusts the inventory. The admin can manage categories and products, ensuring the accuracy of available items.

Sales Monitoring: The app provides sales summary information, including weekly sales, total sales per category, and graphical representations. The admin can monitor sales trends and make informed decisions.

Expiration Tracking: The app includes an "expiration_date" field for products, allowing users to see the expiration date of products. Additionally, the system can alert users when products are close to or past their expiration dates.

Admin Control: Administrators have access to additional functionalities, including category creation, product management, and monitoring sales and inventory. Admins can ensure the store's smooth operation.

Conclusion:

The grocery store app is designed to create a user-friendly shopping experience while empowering the admin with tools to manage products, categories, and sales. The system's use of models allows for structured data management, while the overall design emphasizes functionality, efficiency, and data accuracy. By incorporating user authentication, inventory management, and sales monitoring, the app aims to be a comprehensive solution for both customers and administrators in the grocery store context.