EXPENSE TRACKER

SAIEM AMIN

MAIN-IDEA:
Many people find it hard to keep track of their spending and stay within their budget. This app will help users manage their finances by logging expenses, setting budget limits, and getting alerts when they are close to overspending. This project aims to design a **database system** for managing personal expenses. The database will store information about users, their expenses, budget limits for different categories, and alerts for overspending

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Features

1. **User Registration and Login**
    - **Feature:** Stores user credentials like username, email, and password to create unique accounts.
    - **Operation*:*** Insert operation to add new users.
2. **Add Expenses by Category**
    - **Feature:** Users can add new expenses with details such as amount, date, and category.
    - **Operation*:*** Insert operation to log expenses into the database.
3. **Edit Expense Records**
    - **Feature*:*** Allows users to modify existing expense records if needed.
    - **Operation*:*** Update operation to change information in existing records.
4. **Delete Expense Records**
    - **Feature:** Allows users to delete expense records they no longer need.
    - **Operation*:*** Delete operation to remove records from the database.
5. **View Expenses by Date Range**
    - **Feature:** Retrieves expenses for a specific date range to track spending overtime.
    - **Operation*:*** Query operation to filter expenses by date.
6. **Set Budget for Categories**
    - **Feature**: can set budget limits for specific categories, like dining or grocery.
    - **Operation*:*** Insert operation to add a budget limit for each category.
7. **Alert for Budget Exceedance**

- **Feature:** Automatically generates an alert if spending in any category exceeds the set budget.
- **Operation**: Query operation to check if spending has exceeded the budget.

8. **Generate Monthly Spending Report**
    - **Feature:** Compiles a summary report of total expenses by category for a specified month.
    - **Operation:** Query operation to retrieve and summarize expenses by month **(Reporting Task).**
9. **Searching Expenses by a Specific keyword or category**
    - **Feature***:* Allows users to search for specific expenses by entering keywords (e.g., "groceries" or "utilities").
    - **Operation:** Query operation to locate expenses by category or keyword**.**
10. **Analyze Spending Trends**
    - **Feature:** Provides an analysis of spending trends over time by showing increases or decreases in monthly spending per category.
    - **Operation:** Query operation to aggregate and analyze data over multiple months.

3. Data Description

The database will consist of four main tables:

- **User Information:**
    - Attributes: User_ID, Username, Email, Password
    - Each user can have multiple expenses and budgets.
- **Expense Information:**
    - Attributes: Expense_ID, Amount, Date, Description, Category, User_ID
    - Each expense belongs to a unique user_id.
- **Budget Information:**
    - Attributes: Budget_ID, Category, Amount, User_ID
    - Each budget is linked to a user and a specific category.
- **Alert Information:**
    - Attributes: Alert_ID, Date, Alert_Message, Category, User_ID

- An alert will be generated when a user_id exceeds a budget.

4. Requirement Analysis

- **Backend:** Python
- **Database:** SQLite or MySQL.
- Internet access
- Enough storage.