Object- Oriented Technology

Project

Personal Expense Tracker

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Catalog

Final Project Report: Personal Expense Tracker (IODEX Edition)

Project Overview

The Personal Expense Tracker is a Python-based desktop application designed to help users manage their daily spending efficiently. Developed using the Tkinter library, the app provides a user-friendly interface for recording, viewing, analyzing, and resetting expenses. This practical solution is ideal for students, professionals, and households alike, making everyday budgeting easy and visual.

Technologies Used

1. **Python 3.12** – Primary programming language
2. **Tkinter** – GUI development
3. **Pillow (PIL)** – For displaying background image
4. **Pandas** – Data processing and reading
5. **Matplotlib & Seaborn** – Chart plotting

```
Libraries were installed using:
pip install pillow pandas matplotlib seaborn
```

✨ Features

✓✓ Add Expense

- Four categories: Food, Rent, Utilities, Shopping
- Inputs: amount and description
- Entries saved persistently in `expenses.txt`

✓✓ View All Expenses

- Tabular display using `Treeview`
- Columns: Category, Amount, Description
- **Total spent** is displayed at the bottom

✓✓ Analyze Expenses

- Uses bar charts to visualize total expenses by category
- Charts rendered directly inside the GUI

✓✓ Reset Button

- Erases all data after confirmation

✓✓ GUI Styling

- Background image (`photo1.jpg`)
- Emoji-enhanced buttons and colored layout
- Footer: `© 2025 IODEX. All rights reserved.`

Code Summary

File: gui_expense_tracker.py

FILENAME = "expenses.txt" handles local storage

- save_expense(): Validates and stores data
- category_input(): Takes user input
- add_expense_menu(): Category selector
- -view_expenses(): Displays all saved entries in a table
- analyze_expenses(): Creates a bar chart using Seaborn
- reset_expenses(): Clears the file after user confirmation
- main_menu(): Central GUI navigation
- photo1.jpg: Background image resized and rendered

Results & Charts

- Accurate recording of every entry
- Clear bar graph shows category-wise spending
- Table output automatically updates
- Reset feature works smoothly
- Consistent UI and intuitive design

✓ Sample Expense Data:

```
Food,20.5,Lunch
Rent,850,Monthly apartment rent
Utilities,95,Electricity bill
Shopping,150,Clothes
```

Example Graph Output:

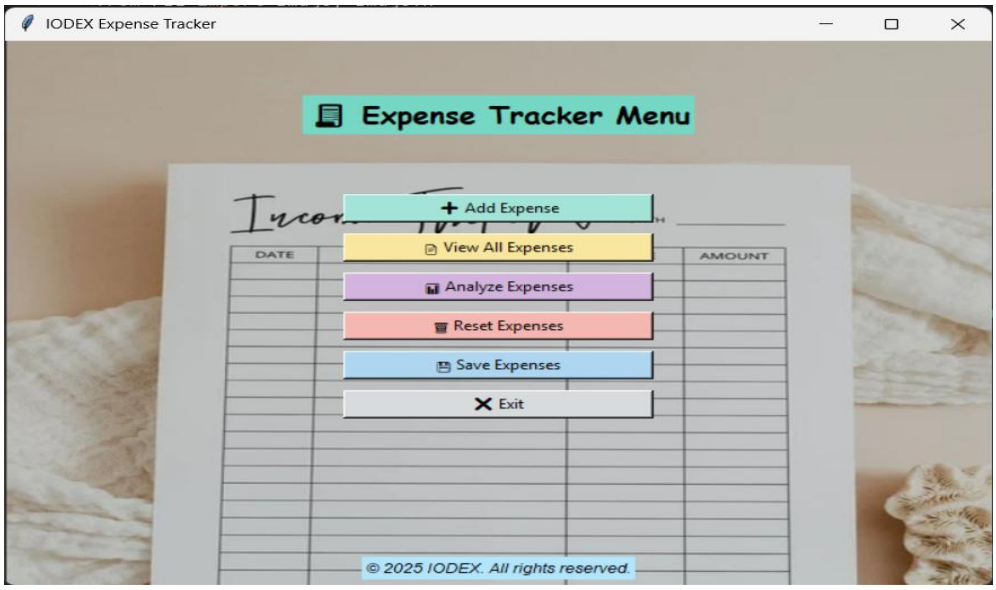
Bar chart: Food = $20.5, Rent = $850, etc.

Future Suggestions

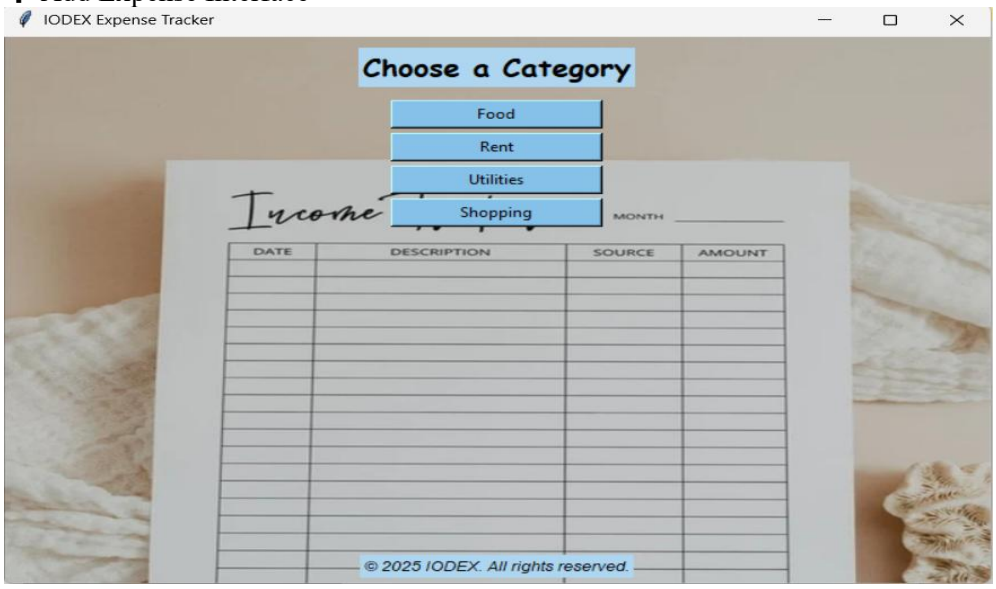
- Add date input and filtering by month/year
- Use SQLite instead of text file for better data control
- Add login system for multi-user support
- Export report to PDF/Excel
- Line chart for daily trend

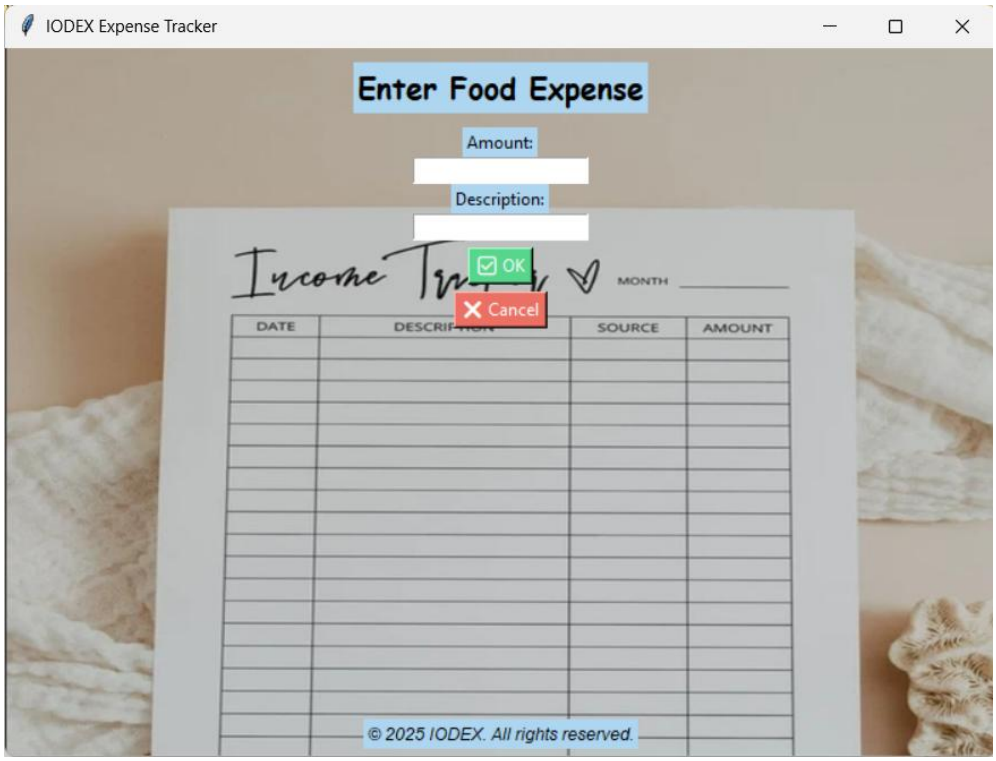
Screenshots Section

Main Menu Screen

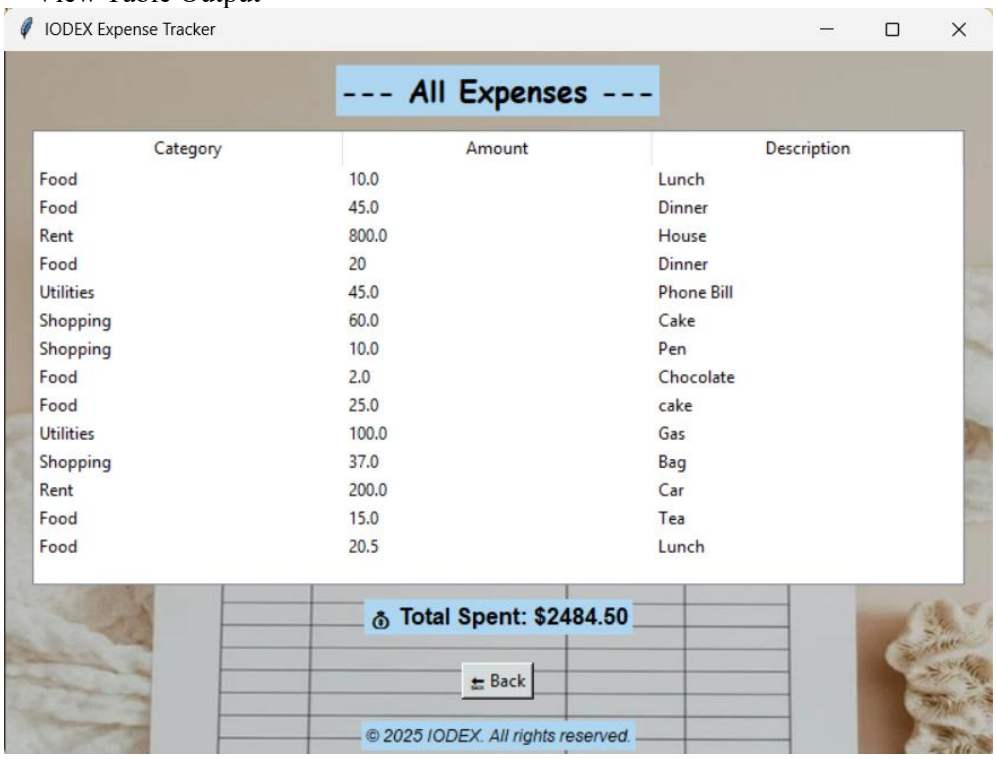


➕ Add Expense Interface

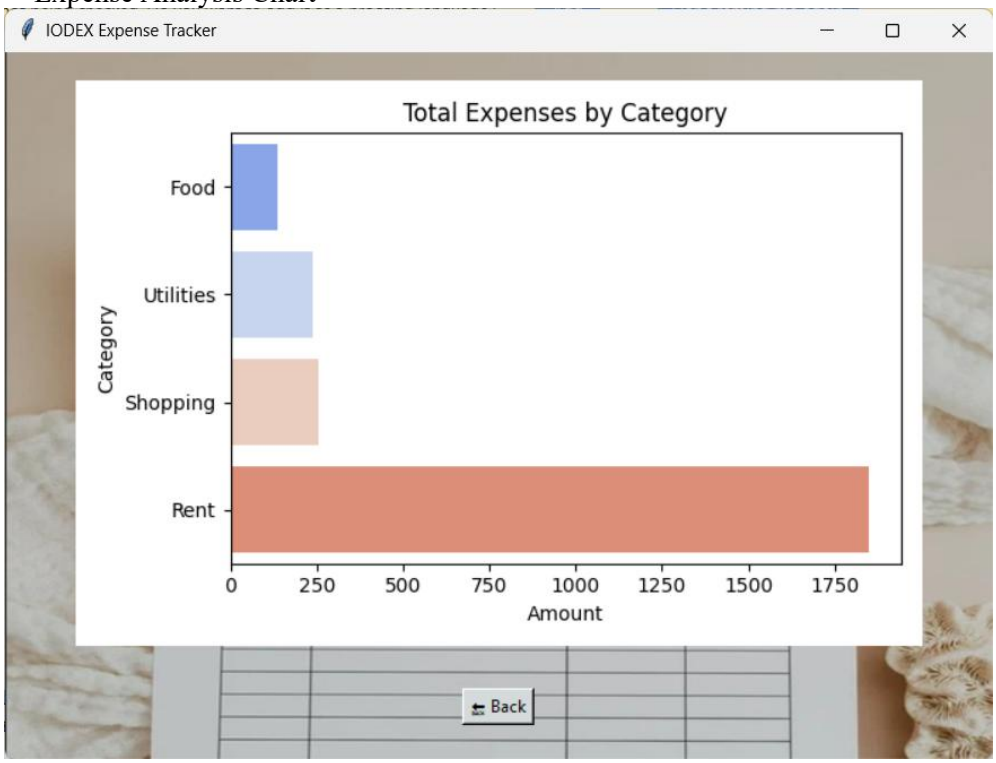




View Table Output



Expense Analysis Chart



Full GUI with Background Image