



Object- Oriented Technology

Project

Personal Expense Tracker

| | |
|--------------------|----------------------|
| Major: | Software Engineering |
| Name: | Md Eaftekhirul Islam |
| Student ID: | 202380090136 |
| Teacher | 刘起东 |

Catalog

| | |
|--|---|
| Final Project Report: Personal Expense Tracker (IODEX Edition) | 3 |
| Project Overview | 3 |
| Technologies Used | 3 |
| ❖ Features | 3 |
| ✓ Add Expense | 3 |
| ✓ View All Expenses | 3 |
| ✓ Analyze Expenses | 3 |
| ✓ Reset Button | 3 |
| ✓ GUI Styling | 3 |
| Code Summary | 4 |
| Results & Charts | 4 |
| ✓ Sample Expense Data: | 4 |
| Example Graph Output: | 4 |
| Future Suggestions | 4 |
| Screenshots Section | 5 |

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:

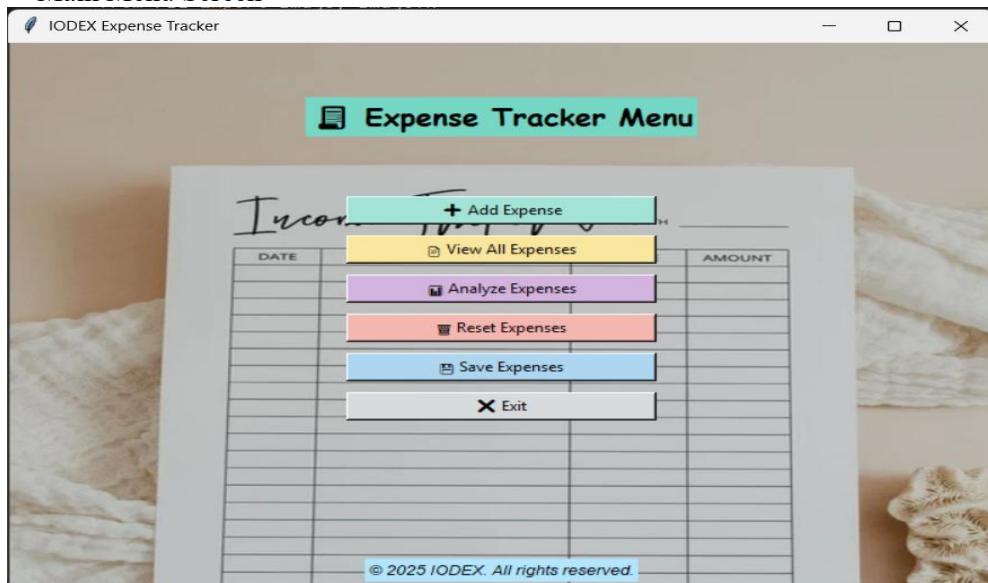
Bar chart: Food = \$20.5, Rent = \$850, etc.

Future Suggestions

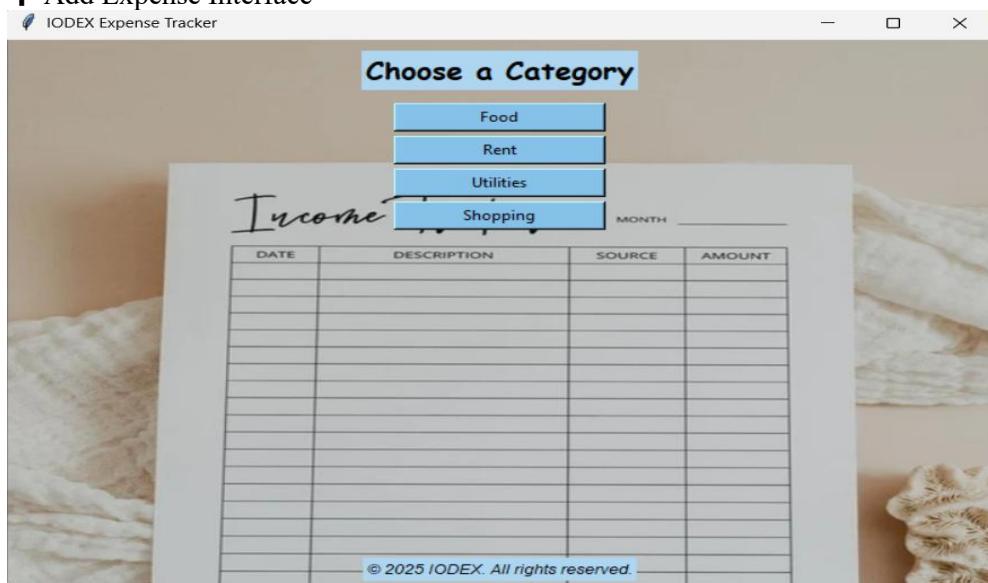
- Add date input and filtering by month/year
- Use SQLite instead of text file for better data control
- Add login system for multi-user support
- Export report to PDF/Excel
- Line chart for daily trend

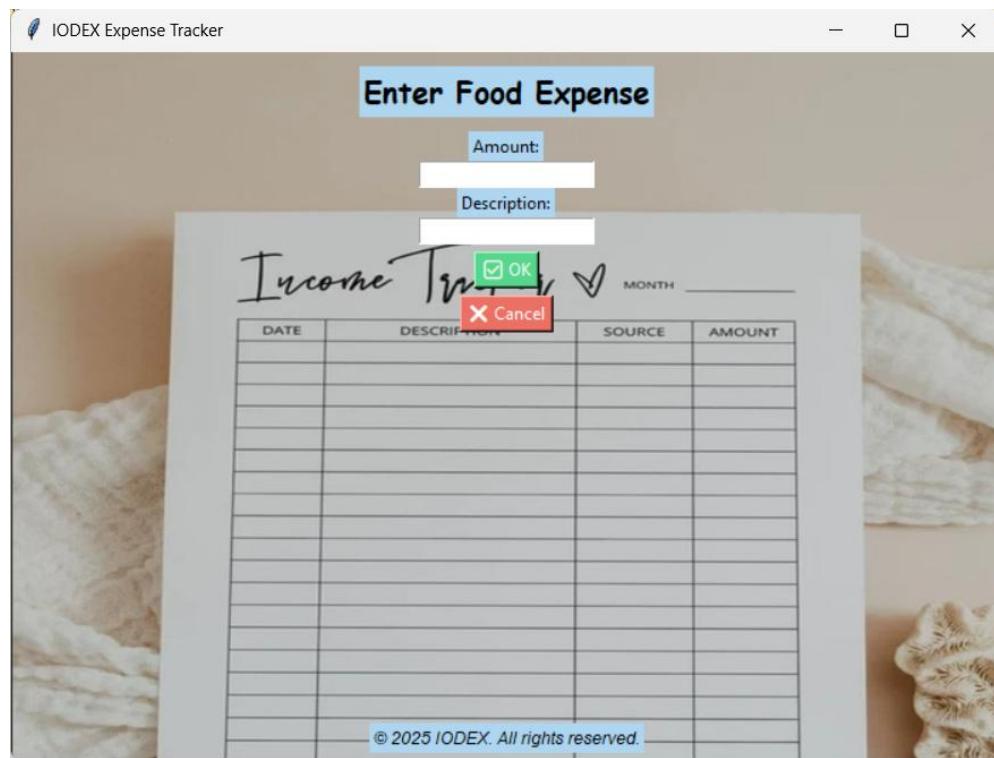
Screenshots Section

Main Menu Screen



+ Add Expense Interface





View Table Output

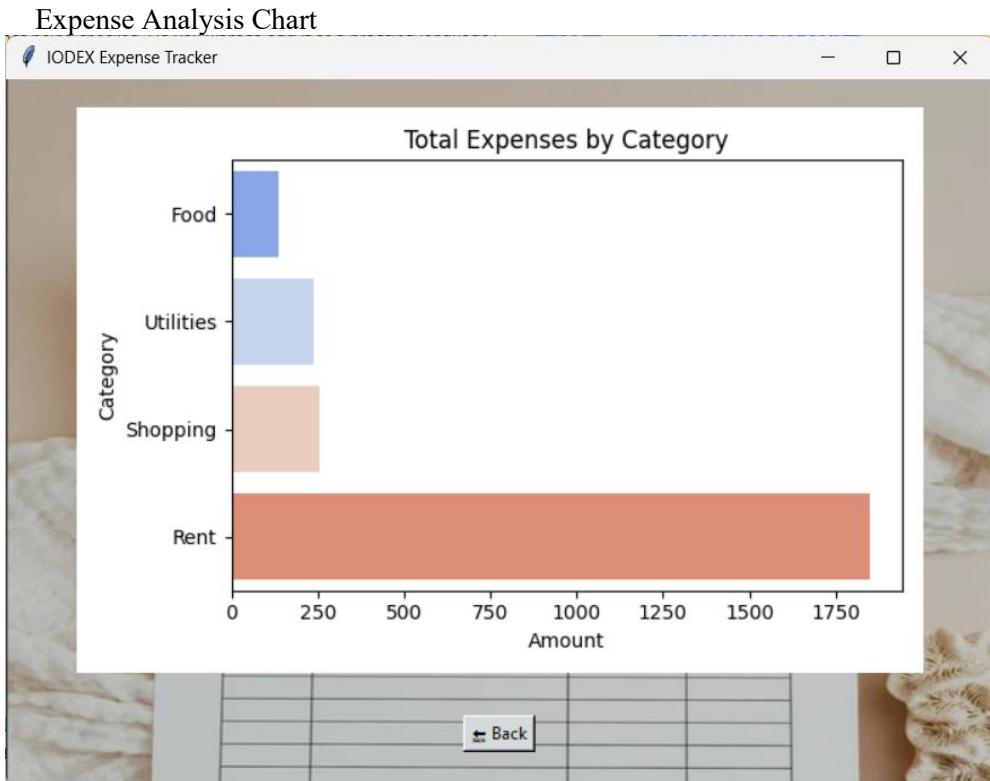
The screenshot shows a window titled "All Expenses". The table displays various expense entries with columns: Category, Amount, and Description. The total amount spent is shown as \$2484.50. A "Back" button is at the bottom left, and a copyright notice is at the bottom right.

| Category | Amount | Description |
|-----------|--------|-------------|
| Food | 10.0 | Lunch |
| Food | 45.0 | Dinner |
| Rent | 800.0 | House |
| Food | 20 | Dinner |
| Utilities | 45.0 | Phone Bill |
| Shopping | 60.0 | Cake |
| Shopping | 10.0 | Pen |
| Food | 2.0 | Chocolate |
| Food | 25.0 | cake |
| Utilities | 100.0 | Gas |
| Shopping | 37.0 | Bag |
| Rent | 200.0 | Car |
| Food | 15.0 | Tea |
| Food | 20.5 | Lunch |

⌚ Total Spent: \$2484.50

⬅ Back

© 2025 IODEX. All rights reserved.



Full GUI with Background Image

The image shows a Microsoft Edge browser window. The title bar reads "IODEX Expense Tracker". The main content area contains a large, handwritten-style title "Income Tracker" with a small checkmark icon to its right. Below the title is a table with four columns: "DATE", "DESCRIPTION", "SOURCE", and "AMOUNT". There are ten rows available for input. The background of the page is a photograph of a beach with sand, shells, and a blue sky. The browser has standard window controls (minimize, maximize, close) at the top right.