# Project Assessment

## Project Name: Personal Budget Manager

The Personal Budget Manager application was developed to help individuals track income and expenses, set budget goals, and visualize spending patterns. The project was successfully implemented with a working Tkinter-based GUI featuring multiple windows, data entry forms, and a reporting interface. Most features outlined in the initial proposal were achieved.

## Assessment

1. Successes:  
 - Developed a fully functional multi-window Tkinter GUI.  
 - Implemented all key features: income/expense entry, budget goal setting, and expense visualization.  
 - Integrated input validation to ensure data integrity.  
 - Used matplotlib for generating pie charts to visualize expenses by category.

2. Challenges:  
 - Managing data across multiple windows required careful use of Python variables and functions.  
 - Formatting and scaling the pie chart dynamically for various data sizes.

3. Time Spent:  
 - Approximately 25 hours, including coding, debugging, and testing.

4. Lessons Learned:  
 - Importance of planning UI navigation before coding.  
 - Modular design simplifies testing and debugging.

# Validation Testing

\*\*Test Data:\*\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case | Input | Expected Output | Actual Output | Status |
| Add Income | Type: Income, Amount: 100, Category: Salary, Date: 2024-12-01 | "Income added successfully!" | "Income added successfully!" | Passed |
| Add Expense | Type: Expense, Amount: 50, Category: Food, Date: 2024-12-02 | "Expense added successfully!" | "Expense added successfully!" | Passed |
| Invalid Amount | Type: Income, Amount: ABC, Category: Salary, Date: 2024-12-01 | Error Message | Error Message | Passed |
| Empty Category | Type: Expense, Amount: 50, Category: (empty), Date: 2024-12-02 | Error Message | Error Message | Passed |
| Set Budget Goal | Budget Goal: 500 | "Budget goal set successfully!" | "Budget goal set successfully!" | Passed |

## Testing Process

- Manual testing of all GUI elements.  
- Entered various valid and invalid inputs to ensure input validation works.

## Results

- All functionalities worked as expected.  
- Fixed minor bugs related to input handling for empty fields.

# User Manual

## Overview

The Personal Budget Manager is a desktop application designed to help users track their income and expenses, set budget goals, and visualize spending patterns through charts.

## Installation Instructions

1. Install Python (version 3.10 or higher).  
2. Install required libraries:  
 pip install matplotlib  
3. Download and run the script: python m08\_FinalProject\_Doubiago\_Carson.py

## Features and Usage

1. Main Window:  
 - Access all key features through buttons:  
 - Add Income/Expense: Opens a form to record income or expenses.  
 - Set Budget Goal: Allows you to set a monthly spending limit.  
 - View Reports: Displays a pie chart of expenses by category.  
 - Help and Tips: Provides usage instructions.  
 - Exit: Closes the application.

2. Adding Income/Expense:  
 - Select type (Income/Expense).  
 - Enter amount, category, and date.  
 - Click "Add" to save the record.

3. Setting Budget Goal:  
 - Enter the monthly budget amount.  
 - Click "Set Goal" to save.

4. Viewing Reports:  
 - Displays a pie chart showing expense distribution by category.

5. Help and Tips:  
 - Provides guidance on using the application and tips for budgeting.

## Error Handling

- Input validation ensures all fields are completed correctly.  
- Error messages guide users to fix incorrect inputs.

## Tips for Best Use

- Regularly update your income and expense records.  
- Set realistic budget goals based on your spending habits.  
- Use the report feature to identify areas for saving.