

Personal Budget Tracker – Team Project Proposal

Project Title: Personal Budget Tracker

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Course: Object-Oriented Programming

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1. Project Overview

The Personal Budget Tracker is a GUI-based application designed to assist users in managing their personal finances efficiently. In daily life, many people face difficulties controlling their expenses, managing their monthly budget, and planning for their long-term savings. That is why we are creating this system, and this system aims to solve these problems by providing a structured and easy-to-use platform.

This application allows users to record their income, categorize expenses, set monthly spending limits, and calculate savings automatically. Additionally, users can create saving goals through a wishlist feature, enabling them to track progress toward purchasing valuable items. With persistent data storage and a clear graphical interface, the system supports effective financial planning and responsible spending behavior.

2. Project Objective

The objectives of the Personal Budget Tracker project are as follows:

- A. To apply Object-Oriented Programming (OOP) concepts such as encapsulation, abstraction, inheritance, and modular design.
- B. To develop a real-world application that addresses common personal financial management problems.
- C. To enable users to record and manage income and expenses in a structured manner.
- D. To provide users with control over monthly spending through customizable budget limits.
- E. To design and implement an intuitive Graphical User Interface (GUI) that enhances user experience.
- F. To implement reliable data persistence so that user information is saved and restored between application sessions.

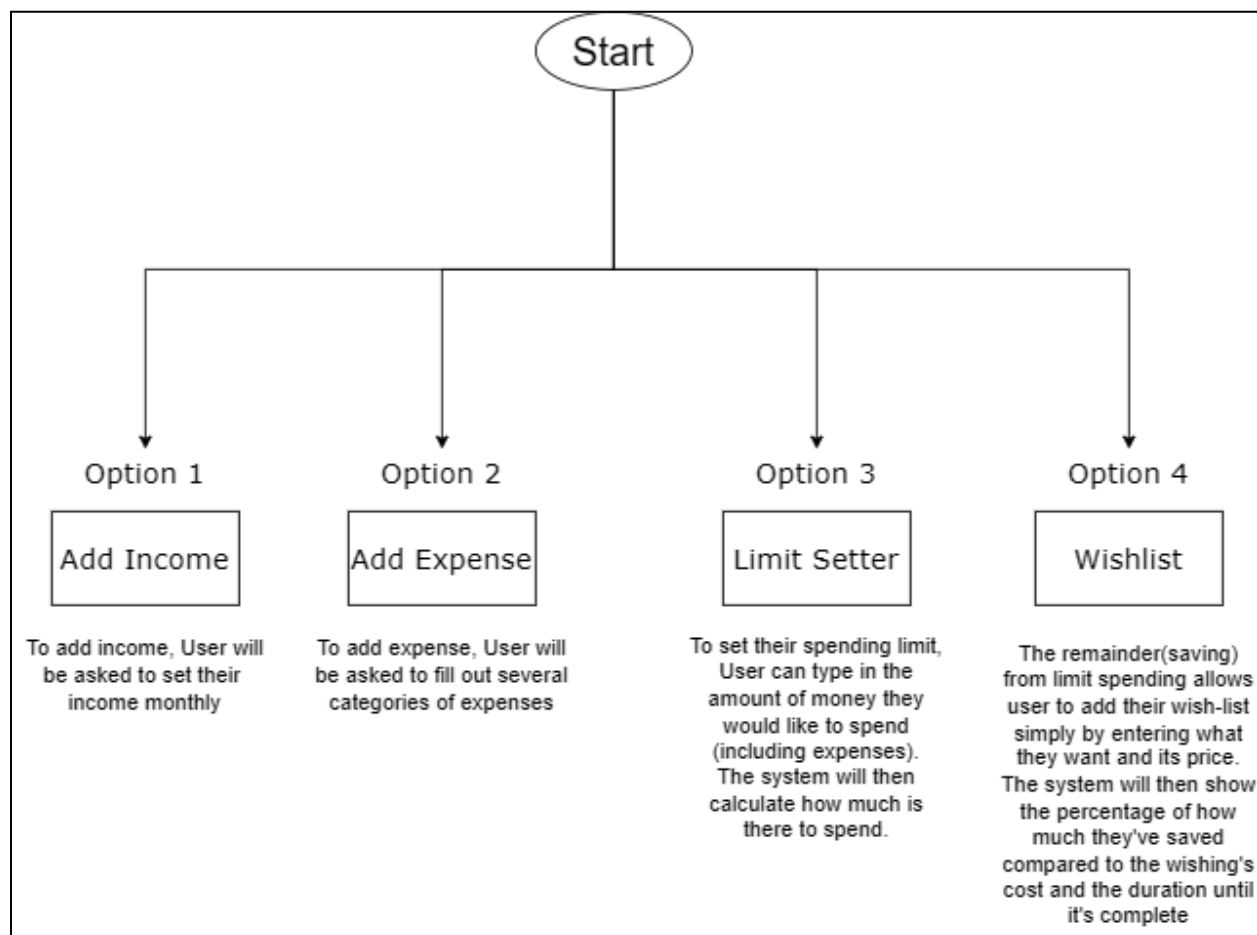
3. Project Scope/Feature

The scope of this project covers the core functionalities required for a personal finance tracking system. The main features include:

- A. Income Management:** Users can add, update, and manage their income records. Income data serves as the foundation for calculating budgets, balances, and savings.
- B. Expense Management:** Users can record expenses and assign them to predefined categories such as Food, Transport, Education, and Entertainment. Categorization helps users understand their spending patterns.
- C. Monthly Budget Limit:** The system allows users to set a monthly spending limit. Users may increase or decrease this limit at any time and add notes to specify spending categories or financial intentions.
- D. Savings Calculation:** Savings are calculated automatically using the formula: **Savings = Income – Budget Limit**. This feature helps users understand how much money they can save each month.
- E. Wishlist and Saving Goals:** Users can add wishlist items, such as a car or motorbike, including a target price. The system calculates and displays the completion percentage based on current savings. Example: If the target is \$1000 and current savings are \$100, the progress is **10%**.
- F. Transaction History:** All income and expense activities are recorded and displayed in a transaction list, allowing users to review past financial activities.
- G. Current Balance View:** The system displays the user's current balance after expenses, providing a clear overview of available funds.
- H. Data Persistence:** User data such as income, expenses, budgets, and savings is stored using file handling techniques and automatically loaded when the application restarts.
- I. Graphical User Interface (GUI):** The application provides a simple and interactive GUI that allows users to navigate between different features easily.

4. Project Workflow

Flowchart



5. Team role and responsibilities

All team members will collaboratively contribute to the design, development, testing, and documentation of the Personal Budget Tracker. Specific roles and responsibilities will be discussed and assigned during the development phase based on project requirements and individual competencies to ensure efficient teamwork and successful project completion.

6. Collaborations and Communications

Our team will collaborate through regular discussions and meetings to update progress and solve problems. Tasks will be assigned to each member based on their skills, and team members will review each other's work to ensure consistency and quality. Communication will be maintained through group chats such as Telegram, Microsoft Teams, and other platforms, in-person discussions, and lecturers' feedback will be applied to improve the system.

7. Tools and Technologies

The project will use the following tools and technologies:

- ❖ Programming Language: Java
- ❖ Programming Paradigm: Object-Oriented Programming (OOP)
- ❖ Development Environment: Visual Studio Code (VS Code)
- ❖ GUI Framework: Java Swing or JavaFX
- ❖ Data Storage: File handling for saving user data
- ❖ Version Control: Git, Telegram, and Microsoft Teams (optional)

These tools support the development of a desktop application with a GUI and persistent data storage

8. Conclusion

The Personal Budget Tracker is designed to help users manage their personal finances by tracking income, expenses, savings, and budget limits. With features such as categorized expenses, saving goals with progress percentages, transaction history, and a user-friendly GUI, the system offers practical support for financial planning. This project also allows our team to apply Object-Oriented Programming concepts while developing teamwork and problem-solving skills.