Project Proposal: **Personal Finance Reconciliation and Tracking System**

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Project Title

PRecon: A Personal Finance Reconciliation System Problem

Statement

In Uganda today, many young people face significant challenges in managing their personal finances. With the rise of mobile money platforms, multiple bank accounts, digital loans, and informal saving groups, most youths lack a clear picture of their overall financial position.

Many rely on short-term borrowing from friends, SACCOs, or mobile lenders such as Airtel Money, MTN MoKash, or Jumo, without tracking repayment schedules or interest. Others receive irregular income from side hustles, part-time jobs, or small businesses but do not reconcile income against expenses or savings goals. As a result, many end up overcommitted, in debt, or unable to save consistently.

Currently, few affordable digital tools cater to the local context or integrate features relevant to the Ugandan lifestyle — such as school fees tracking, rent payments, and family obligations. There is therefore a need for a simple, user-friendly tool that provides financial visibility and discipline among Ugandan youths..

Project Objective

The goal of this project is to develop a Python-based Personal Finance Reconciliation System that enables users to track income, expenses, loans, and savings efficiently. The system will help users reconcile their finances on a weekly, monthly, or annual basis and generate analytical reports for better decision-making

Scope of Work

The proposed system will:

- Allow users to record their income, expenses, savings, and loans.

- Categorize expenses (e.g., rent, food, transport, family, education).
- Enable upload of bank/account statements in Excel format for automated data extraction and categorization.
- Compute and display key financial indicators such as:
    - Total income vs. total expenses
    - Outstanding loan balance and monthly interest
    - Savings ratio
    - Monthly cash flow trend
- Generate reconciliation reports in Excel format summarizing financial performance.
- Provide a simple command-line or graphical interface (Tkinter) for interaction.Relevance and Real-World Impact

The project addresses a common real-world challenge: financial mismanagement due to lack of visibility. By automating reconciliation and providing meaningful insights, users can make informed decisions, avoid unnecessary debt, and plan better for the future. The tool will be particularly useful for young professionals and families seeking to take control of their finances without relying on complex commercial software.

Tools, Technologies, and Libraries

The system will be implemented using:

- Python (OOP principles): Core logic, modular design for scalability.
- Libraries:
    - pandas – for data analysis and Excel handling.
    - openpyxl – for Excel file creation/export.
    - tkinter – for a simple GUI interface (optional, depending on time).
    - matplotlib – for visualizing income-expense trends (optional).
- Version Control: GitHub repository for version management and submission.

Methodology

1. Requirements Analysis: Identify data inputs, structure, and expected outputs.
2. System Design: Use OOP principles (classes for User, Income, Expense, Loan, Report).

3. Implementation: Develop modules incrementally, testing each component.
4. Integration: Combine modules into a single system with reporting capability.
5. Testing and Validation: Use sample financial data to verify accuracy.
6. Documentation and Submission:
7. User manual on GitHub.

Expected Outcomes

- A functional Python application capable of:
    - Managing and reconciling user financial data.
    - Generating detailed financial reports and summaries.
    - Uploading and processing Excel statements automatically.
- A well-documented GitHub repository containing:
    - Source code implementing OOP principles.
    - Sample datasets and output files.
    - User documentation.

Conclusion

The proposed project **PRecon** offers a practical, educational, and impactful approach to solving real-world financial management problems using Python. It effectively demonstrates object-oriented programming concepts while delivering value to everyday users seeking clarity in their financial lives.