

PERSONAL FINANCE MANAGER

MEMBERS

**ARIFUR
RAHMAN**
20234103222

Developer – Responsible for the full implementation of the UI, and merging backend codes.

**SUMI
AKTER**
20234103255

Database Administrator – Designed the database structure, created queries, and outlined data management strategies

**AKHI
AKTER**
20234103212

UI/UX Designer – Designed the visual interface and user experience, providing the visual guide for development.

**SHEIKH
MD.
FAHAD**
20234103238

QA Specialist – Led the quality assurance process, testing the app, identifying issues, and providing feedback for improvements.

**PARVEZ
HASAN
SHARIF**
20234103228

Report Generation Specialist – Assisted in developing the report generation feature, helping to structure and display financial data for the user.

INTRODUCTION

The Personal Finance Manager is a user-friendly application designed to help individuals track their income, expenses, and savings. It aims to promote financial literacy and better money management by providing users with clear insights into their spending habits and encouraging savings. The app features an intuitive interface that allows users to manage their finances in a simple yet effective way.

MOTIVATION

The idea for this project was initially suggested by our course instructor, who encouraged us to build a basic personal finance tracker. However, our motivation grew stronger after observing how financial challenges can affect students in real life. Many of us, especially those living independently on limited incomes, often struggle to manage our money effectively.

This project was inspired by the real need for a tool that promotes better financial habits. By allowing users to track income, expenses, and savings, the app aims to help people gain a clearer understanding of their financial health. In particular, the savings section was added to encourage users to build financial discipline, separating saved amounts from their daily spending. Our hope is that this app can make personal finance a little less overwhelming, and a lot more manageable.

FEATURES

USER REGISTRATION AND AUTHENTICATION:

SECURE USER LOGIN AND REGISTRATION FUNCTIONALITY WITH EMAIL VERIFICATION AND PASSWORD HASHING.

ACCOUNT MANAGEMENT:

USERS CAN CREATE, EDIT, AND DELETE DIFFERENT TYPES OF ACCOUNTS (BANK, CASH, SAVINGS).

TRANSACTION MANAGEMENT:

TRACK INCOME AND EXPENSES, INCLUDING THE ABILITY TO ADD, EDIT, AND DELETE TRANSACTIONS.

BUDGET MANAGEMENT:

SET UP BUDGETS FOR SPECIFIC CATEGORIES AND TRACK PROGRESS OVER TIME.

SAVING GOALS:

CREATE AND MONITOR SAVING GOALS, INCLUDING PROGRESS TRACKING TOWARDS COMPLETION.

REPORTS GENERATION:

GENERATE REPORTS FOR MONTHLY INCOME, EXPENSE TRACKING, AND CATEGORY ANALYSIS.

TOOLS AND TECHNOLOGIES

PROGRAMMING LANGUAGE:

PYTHON 3 – THE ENTIRE APPLICATION WAS BUILT USING PYTHON, INCLUDING THE UI, BACKEND, AND DATABASE INTERACTIONS.

UI FRAMEWORK:

TKINTER – USED TO BUILD THE GRAPHICAL USER INTERFACE (GUI) OF THE APPLICATION, ENSURING A USER-FRIENDLY EXPERIENCE.

DATABASE:

SQLITE – A LIGHTWEIGHT RELATIONAL DATABASE USED TO STORE USER DATA, ACCOUNT INFORMATION, TRANSACTIONS, CATEGORIES, SAVING GOALS, AND BUDGETS.

DATA VISUALIZATION:

MATPLOTLIB – UTILIZED TO GENERATE CHARTS AND REPORTS TO VISUALIZE FINANCIAL DATA, HELPING USERS TRACK THEIR INCOME, EXPENSES, AND SAVINGS.

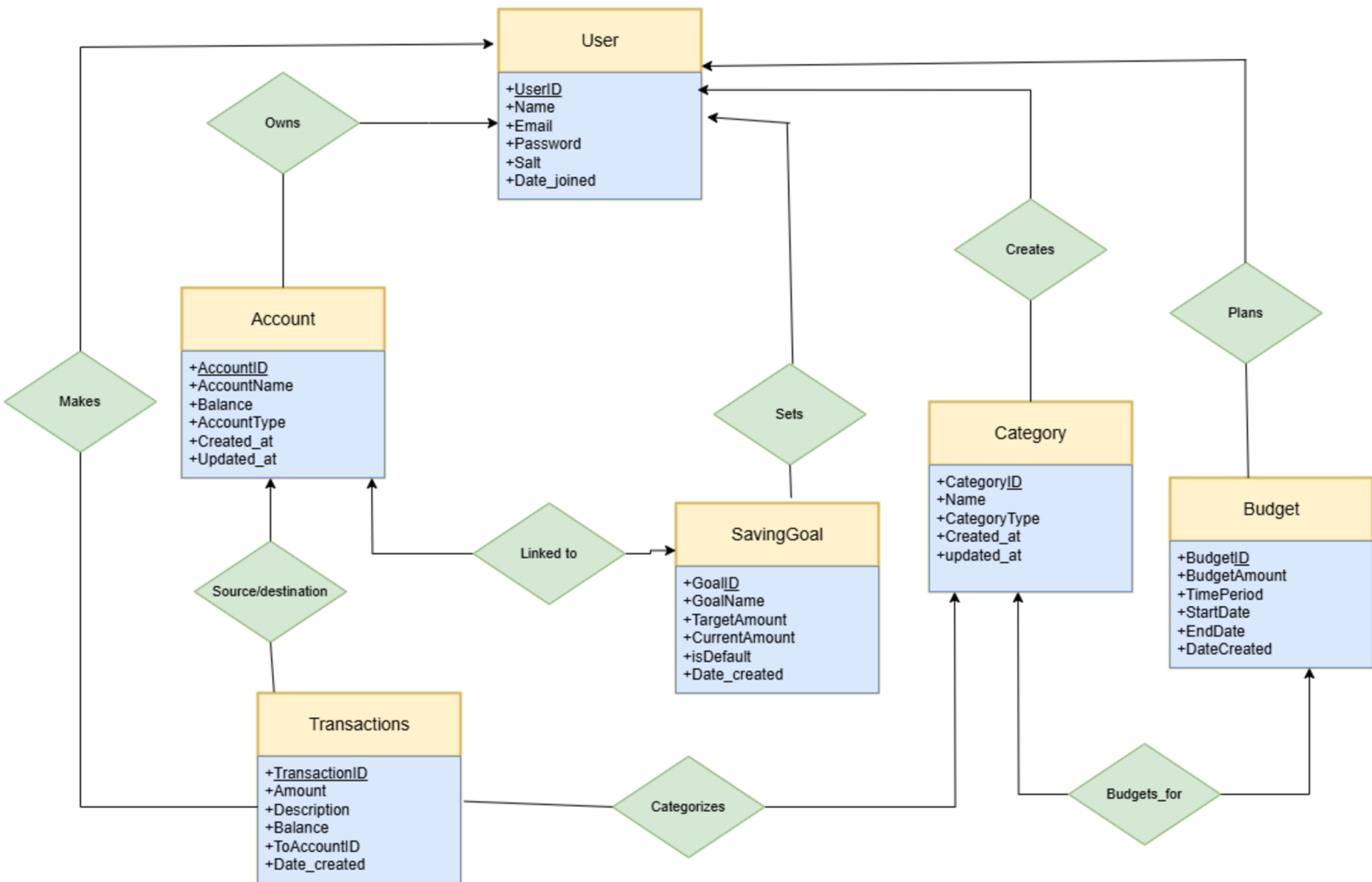
SECURITY:

HASHLIB AND SECRETS – EMPLOYED TO SECURELY HASH USER PASSWORDS AND ADD SALTS FOR ENCRYPTION, ENSURING DATA PROTECTION.

IDE:

VSCODE – WAS USED AS THE INTEGRATED DEVELOPMENT ENVIRONMENT (IDE) FOR CODING, TESTING, AND DEBUGGING THE APPLICATION.

ER DIAGRAM



DATABASE SCREENSHOTS

Name	Type
Tables (7)	
Account	
Budget	
Category	
SavingGoal	
Transactions	
User	
sqlite_sequence	

UserID	Name	Email	Password	Salt	Date_Joined
Filter	Filter	Filter	Filter	Filter	Filter
1	Sumi Smart	sumi.smart@email.com	60c339456270...	fc71346e...	2025-06-13...
2	Mike Spender	mike.spender@email.com	1c52c5d38f91...	14d842fb...	2025-06-13...

CategoryID	UserID	Name	CategoryType
Filter	Filter	Filter	Filter
1	1	Salary	Income
2	1	Freelance	Income
3	1	Investment Returns	Income
4	1	Side Business	Income
5	1	Food & Dining	Expense
6	1	Transportation	Expense
7	1	Shopping	Expense
8	1	Entertainment	Expense
9	1	Bills & Utilities	Expense
10	1	Healthcare	Expense
11	1	Education	Expense
12	1	Travel	Expense
13	1	Gifts & Donations	Expense
14	1	Personal Care	Expense

AccountID	UserID	Name	Balance	AccountType
Filter	Filter	Filter	Filter	Filter
1	1	Main Checking	50142.7283861876	Bank
2	1	Savings Account	24600.0	Savings
3	1	Emergency Fund	8000.0	Savings
4	1	Emergency Fund Fund	8000.0	Savings
5	1	Vacation Fund Fund	1200.0	Savings
6	1	House Down Payment Fund	12000.0	Savings
7	2	Main Checking	55032.029643987	Bank
8	2	Savings Account	599.15720188905	Savings
9	2	Credit Card	-2800.0	Bank
10	2	Emergency Fund Fund	340.0	Savings

Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
648	2	7	24	29.56...	Coffee Shop	Expense	NU...	2025-06-13...
647	2	7	24	41.28...	Restaurant	Expense	NU...	2025-06-12...
646	2	7	26	223.4...	Online ...	Expense	NU...	2025-06-11...
645	2	7	24	31.76...	Delivery	Expense	NU...	2025-06-11...
644	2	7	28	196.9...	Utilities + ...	Expense	NU...	2025-06-10...
643	2	7	24	36.17...	Fast Food	Expense	NU...	2025-06-10...
642	2	7	26	30.55...	Impulse Buy	Expense	NU...	2025-06-09...
641	2	7	24	16.23...	Restaurant	Expense	NU...	2025-06-09...
640	2	7	27	146.1...	Concerts	Expense	NU...	2025-06-08...
639	2	7	24	38.46...	Restaurant	Expense	NU...	2025-06-07...
638	2	7	20	3200.0	Salary Payment	Income	NU...	2025-06-07...
187	1	1	5	95.77...	Weekly ...	Expense	NU...	2025-06-07...
637	2	7	27	137.5...	Concerts	Expense	NU...	2025-06-06...

SCREENSHOTS OF PROJECT

Finance Manager

Email

Password

Login

Register

Transfer Balance

Amount

From

To

Description

SUBMIT

Account

Category

Description

SUBMIT

Welcome, Mike Spender!

Logout

Dashboard

Accounts

Categories

Saving Goals

Budgets

Reports

52232.03 BDT

Income

9600.00 BDT

Add Income

Expense

1450.52 BDT

Add Expense

Cashflow

8149.48 BDT

Transfer Balance

Emergency Fund

340.00 BDT

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Add Saving Goal

Coffee Shop

Main Checking • Food & Dining

-29.56 BDT

13/06/2025

Restaurant

Main Checking • Food & Dining

-41.28 BDT

12/06/2025

Delivery

Main Checking • Food & Dining

-31.77 BDT

11/06/2025

Online Shopping

Main Checking • Shopping

-223.48 BDT

11/06/2025

Category

Budget

Remaining

Spent

Shopping

150.00

0.00

593.08

Entertainment

100.00

0.00

384.29

Food & Dining

200.00

0.00

276.19

Previous

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Next

Add Budget

Reports

Report Settings

Report Type:
Monthly Summary

Date Range:
Last 30 Days

- Include Accounts:
- ☒ Savings Accounts
 - ☒ Regular Accounts

Generate Report

Report generated successfully

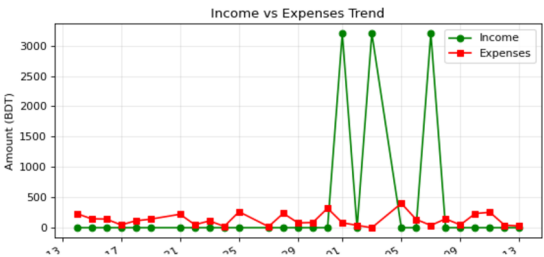
Report Preview

Monthly Summary

Period: 2025-05-14 to 2025-06-13

Total Income 9600.00 BDT	Total Expenses 3684.02 BDT	Net Cashflow 5915.98 BDT
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Income vs Expenses Trend



My Categories

Auto & Gas (Expense)
Bills & Utilities (Expense)
Education (Expense)
Entertainment (Expense)
Food & Dining (Expense)
Gifts & Donations (Expense)
Healthcare (Expense)
Home & Garden (Expense)
Insurance (Expense)

Category Name:

Type:

Add Category

Delete Selected