

# Personal Finance Tracker Application

By Makoto, Tetsuya, and Jonathan.

November 3, 2025

# Objectives

■ Emphasize with Python programming, pandas for data handling, and matplotlib for visualization, along with GitHub for collaboration and version control.



# Architecture

app.py

```
ar@finance-tracker-app:~/finance-tracker-app$ python app.py

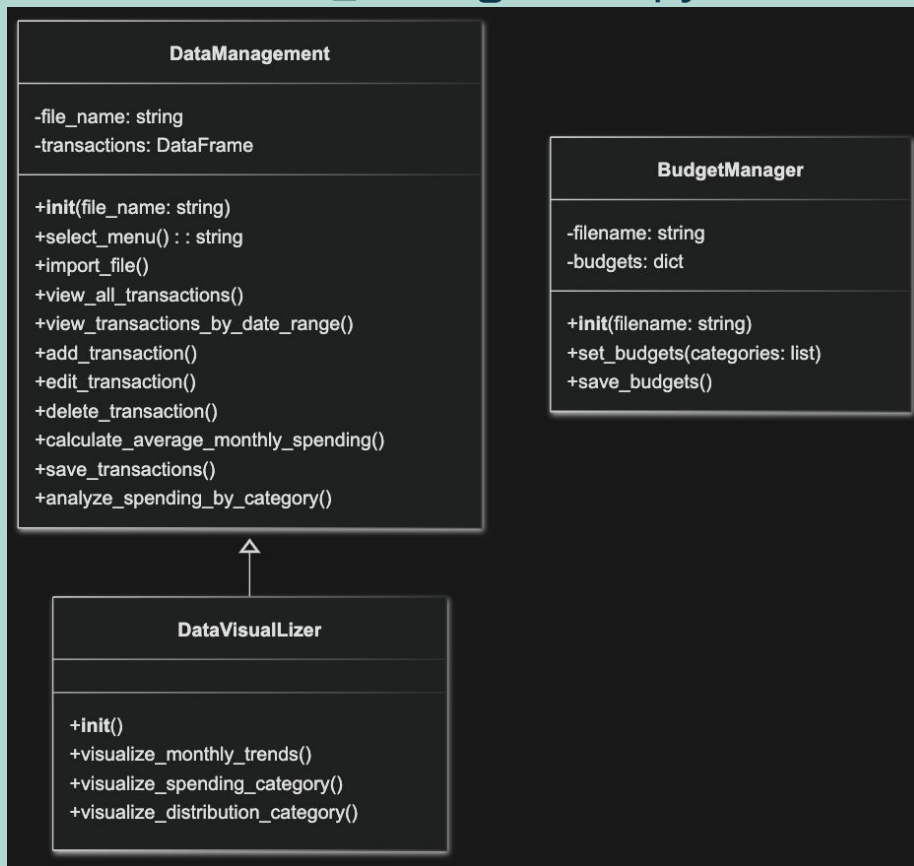
from data_management import DataManagement, DataVisualizer, BudgetManager

data_manager = DataManagement()
budget_manager = BudgetManager()

while True:
    choice = data_manager.select_menu()
    if choice == '0':
        data_manager.import_file()
    elif choice == '1':
        data_manager.view_all_transactions()
    elif choice == '2':
        data_manager.view_transactions_by_date_range()
    elif choice == '3':
        data_manager.add_transaction()
    elif choice == '4':
        data_manager.edit_transaction()
    elif choice == '5':
        data_manager.delete_transaction()
    elif choice == '6':
        data_manager.analyze_spending_by_category()
    elif choice == '7':
        data_manager.calculate_average_monthly_spending()
    elif choice == '10':
        categories = data_manager.transactions['Category'].unique()
        budget_manager.set_budgets(categories)
    elif choice == '12':
        # Initialize class to reload added transactions while executing application.
        data_visualizer = DataVisualizer()
        data_visualizer.visualize_monthly_trends()
        data_visualizer.visualize_spending_category()
        data_visualizer.visualize_distribution_category()
    elif choice == '13':
        data_manager.save_transactions()
    elif choice == '14':
        print("Exiting the application.")
        break
    else:
        print("Invalid option. Please try again.")
```



data\_management.py



# Live Demo

## Data Management

1. Csv import
2. **View all transactions**
3. View transactions by date ranges
4. **Add/Edit/Delete transactions**
5. **Spending by category**
6. **Average monthly spending**
7. Top spending category
8. ~~Set monthly income~~
9. Save transaction to csv
10. Exit

## Data Visualization

1. **Visualize spending trend**

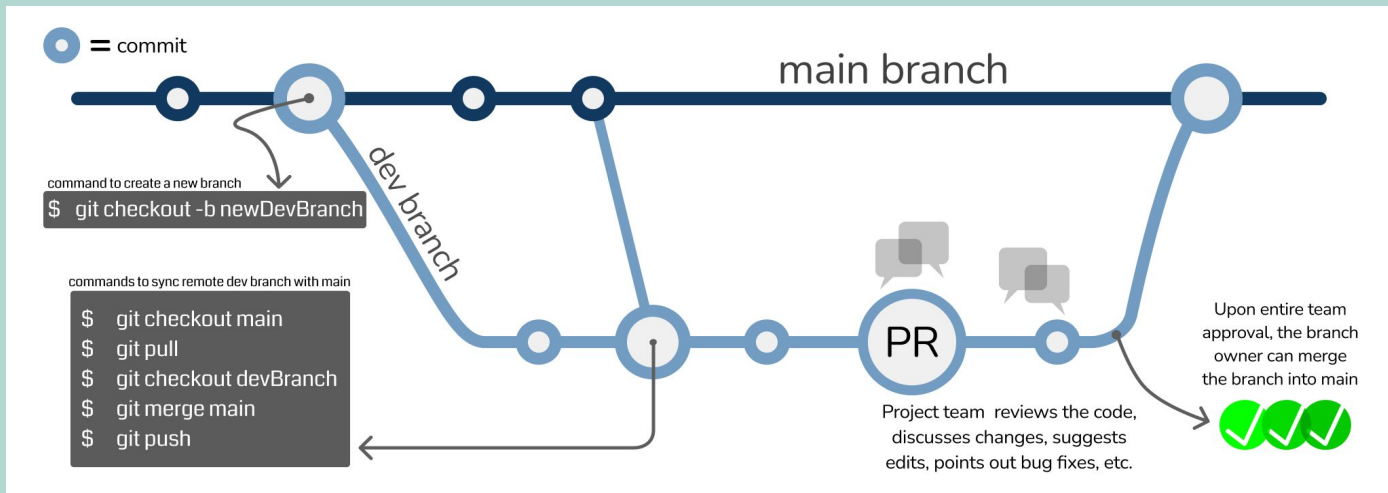
## Budget Management

1. **Set category budget**
2. **Check budget status**

- Bold: Show live demo
- Strike through: Not implemented

# GitHub Collaboration

- List up issues
- Branches for each issues.
- Pull requests for code review.
- Merging work into main branch.



## Branch Naming Convention

When creating a new branch, please follow this naming convention:

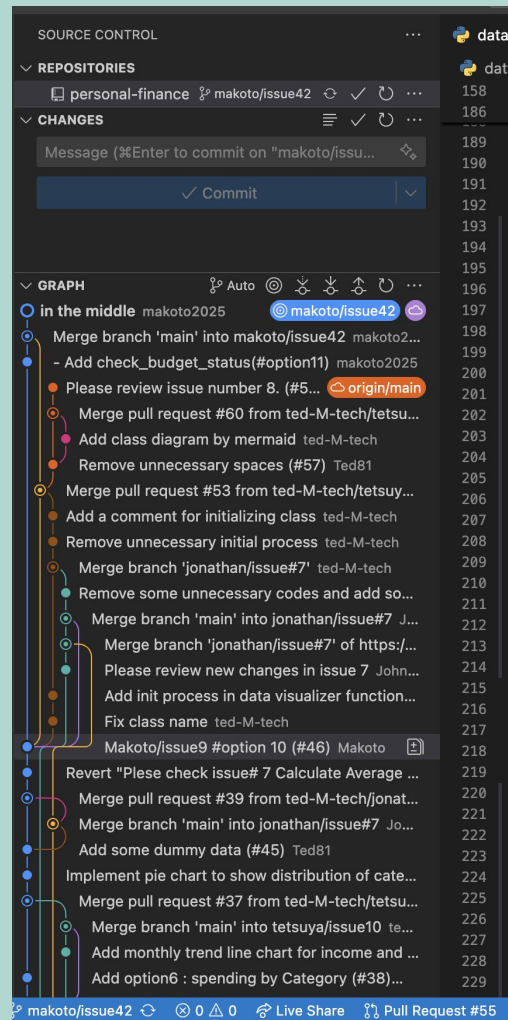
[developername]/issue[#]

For example: john/issue123

This makes it easy to identify who is working on the branch and which issue it relates to.

## Branching Strategy

```
main (trunk)
|
+-- [developername]/issue[1] (feature branch)
|   |
|   | (commit)
|   |
|   | (commit)
|   |
|   | /
+-- (merge)
|
+-- [developername]/issue[2] (feature branch)
|   |
|   | (commit)
|   |
|   | /
+-- (merge)
|
(HEAD)
```



## DS201 Final Project - Personal Finance Tracker App

Add status update

Insights

Workflows 5

Backlog

Priority board

Team items

Roadmap

In review

My items

+ New view

Filter by keyword or by field

Discard

Save

## Backlog 4 / 5 Estimate: 0

This item hasn't been started

personal-finance-tracker-app #15  
[Bonus] Add Income Management Feature

personal-finance-tracker-app #17  
[Bonus] Add "Suggestions for Better Budgeting" Feature

personal-finance-tracker-app #18  
[Bonus] Develop Extended Data Visualizations

personal-finance-tracker-app #61  
Change budget class to inheritance.

## Ready 0 Estimate: 0

This item can be started.

## In progress 2 / 3 Estimate: 0

This is actively being worked on

personal-finance-tracker-app #16  
[Bonus] Implement Budget Setting and Alerts

personal-finance-tracker-app #58  
Make a presentation

## In review 2 / 5 Estimate: 0

This item is in review

personal-finance-tracker-app #8  
Calculate and show the average monthly spending functionality

personal-finance-tracker-app #42  
[Bonus] 11.Check Budget Status

## Done 25 Estimate: 0

This has been completed

personal-finance-tracker-app #6  
Delete a transaction functionality  
P1 S

personal-finance-tracker-app #49  
Show Top Spending Category

personal-finance-tracker-app #10  
A line chart for monthly spending trends  
M

personal-finance-tracker-app #3  
View transactions within a specific date range functionality

personal-finance-tracker-app #19  
Add tasks to collaborate

personal-finance-tracker-app #36  
[Bug] Fix view all transactions function to show all transactions  
S

personal-finance-tracker-app #14  
Make menu feature

personal-finance-tracker-app #1  
CSV File Import Functionality

# Project Reflections

- During the development of the *Personal Finance Tracker App*, we faced several challenges, especially in managing data and integrating different functions.
- Working collaboratively on GitHub
- We improved our skills in Python, pandas, and matplotlib, visualize spending patterns, and debug code efficiently.
- This project also helped us understand the importance of communication, teamwork, and clear documentation in software development.



# Thank you for your attention !!!



## Our Linkedin

Tetsuya



Maco



Johnny

