

Personal Finance Tracker Application

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Objectives

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



Architecture

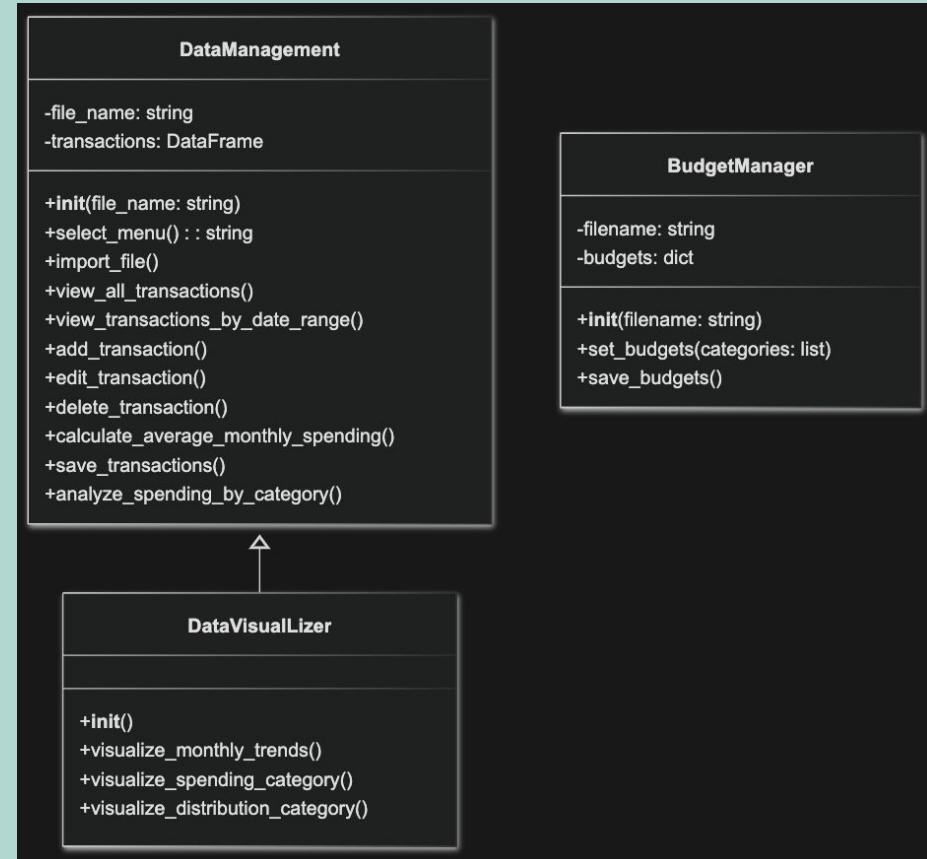
app.py

```
!-finance-tracker-app > ./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**

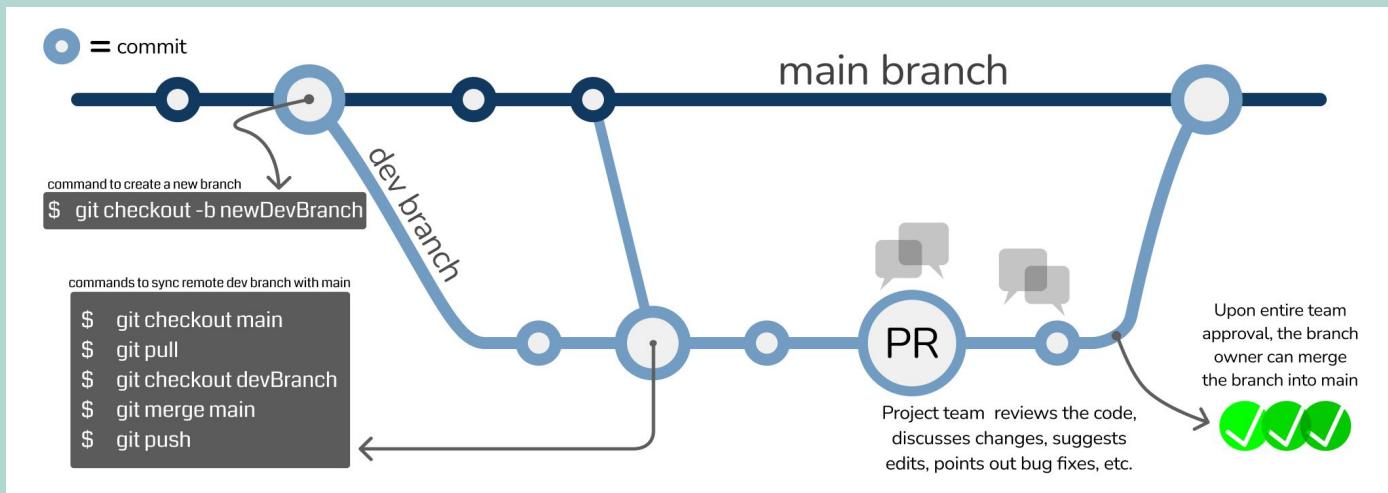
Budget Management

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:

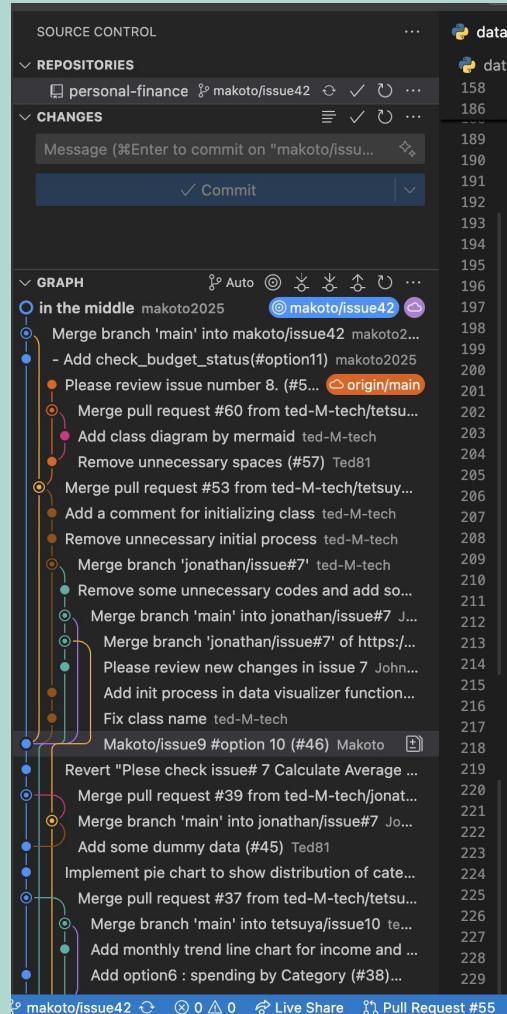
[developername]/issue[#]

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)
```



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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.

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

In progress 2 / 3 Estimate: 0

This is actively being worked on.

- [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
- [personal-finance-tracker-app #49] Show Top Spending Category
- [personal-finance-tracker-app #10] A line chart for monthly spending trends
- [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
- [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 !!!

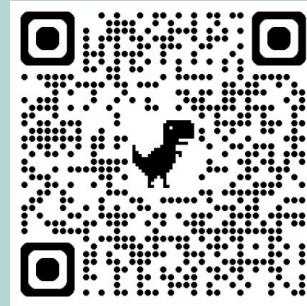


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