

Group 4: Haojie Zhou, Jiewen Liu, Yumo Shen



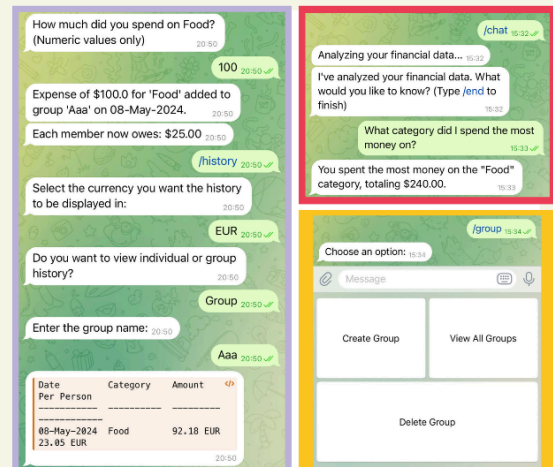
— YOUR SMART EXPENSE HELPER

DollarBot is a user-friendly Telegram bot designed to simplify users' daily expense recording on a local system. It allows users to record new spending, display expenditure for current day/month, show spending history, edit/delete records, set budget, visualize spending and predict future expenses. You can also chat with it!



## FEATURES

- **Expense Record:** Users can add their expenses to a specific day with specific categories.
- **Expense Analysis:** Included a weekly/monthly analysis command to provide users with a comprehensive analysis of their expenses.
- **Category Management:** Empowered users with the ability to manage expense categories. Users can add, edit, or delete categories according to their preferences.
- **CSV Export:** Implemented the CSV command to export expenditure details to a CSV file. Users can execute this command to efficiently save and manage their financial data.
- **Group Expense:** Integrated a group functionality, users can create (and delete) groups, and are able to add expenses as either individual costs or group costs.
- **NLP Functionality:** Integrated ChatGPT API to enable the bot to respond to casual conversation.
- **Multi-Currency support:** Implemented a currency exchange functionality to allow users to view their cost in currencies other than USD.



## FUTURE MILESTONES

**Expense Splitting - further**  
Integrate group functionalities into other functionalities, for example, edit expenses, delete expenses, send emails to each person, etc.

Implementation:  
· Integrate group functionalities to the original function files.

**Multi-Currency Support:**  
Currency DB with Investment Insights:  
Collect currency trends, provide investment advice based on fluctuations, and integrate NLP for user interaction.

Implementation:  
· Implement a database to record real-time currency exchange rates, updated frequently through APIs. Use this data to analyze trends and generate NLP-driven investment advice tailored to user risk preferences.

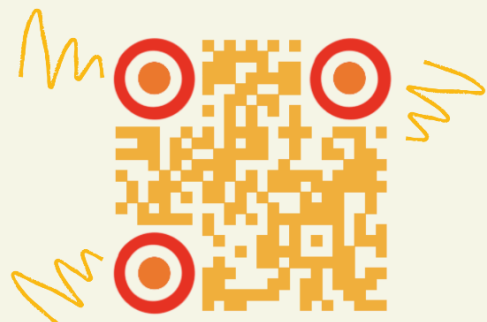
**Natural Language Processing (NLP) Integration**  
Integrate more third-party tools to collaborate with the ChatGPT, constructing it into a life assistant agent that retrieves daily activities and billing information from Google Calendar and credit card systems for automatic statistical analysis.

Implementation:  
· Implement an LLM agent.

## TEST CASES

test\_add  
test\_budget  
test\_budget\_delete  
test\_budget\_update  
test\_budget\_view  
test\_display  
test\_edit  
test\_currency\* (20)

test\_graphd  
test\_sendEmail  
test\_recurring  
test\_estimate  
test\_delete  
test\_helper  
test\_history  
test\_group\* (20)  
test\_chat\* (20)



Link to our repo: <https://github.com/KomachiZ/DollarBot/tree/project2>

## Software Sustainability Evaluation and Self-Assessment

\*\*Total Score (Sum of Column 2):\*\*

Evaluation Criteria (Column 1)	Self-Assessment Score (Column 2)	Supporting Links (Column 3)
Q1 - What your software does	—	—
1.1 Does your website and documentation provide a clear, high-level overview of your software?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
1.2 Does your website and documentation clearly describe the type of user who should use your software?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
1.3 Do you publish case studies to show how your software has been used by yourself and others?	No	
Q2 - Your project's and software's identity	—	—
2.1 Is the name of your project/software unique?	Yes	
2.2 Is your project/software name free from trademark violations?	Yes	
Q3 - Availability of your software	—	—
3.1 Is your software available as a package that can be deployed without building it?	No	
3.2 Is your software available for free?	Yes	<a href="https://github.com/KomachiZ/DollarBot/tree/project2">https://github.com/KomachiZ/DollarBot/tree/project2</a>
3.3 Is your source code publicly available to download, either as a downloadable bundle or via access to a repository?	Yes	<a href="https://github.com/KomachiZ/DollarBot/tree/project2">https://github.com/KomachiZ/DollarBot/tree/project2</a>

3.4 Is your software hosted in an established, third-party repository like GitHub, BitBucket, LaunchPad, or SourceForge?	Yes	<a href="https://github.com/KomachiZ/DollarBot/tree/project2">https://github.com/KomachiZ/DollarBot/tree/project2</a>
Q4 - Your software's documentation	—	—
4.1 Is your documentation clearly available on your website or within your software?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
4.2 Does your documentation include a 'quick start' guide, with basic usage examples?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
4.3 If you provide more extensive documentation, does it offer step-by-step deployment and usage instructions?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
4.4 Do you provide a comprehensive guide to all your software's commands, functions, and options?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
4.5 Do you provide troubleshooting information for problems and error messages?	No	
4.6 If your software can be used as a library/package/service by others, do you provide comprehensive API documentation?	N/A	
4.7 Is your documentation under revision control with your source code?	Yes	
4.8 Do you publish your release history, including version numbers and key features, on your website or documentation?	Yes	
Q5 - How you support your software	—	—

5.1 Does your software describe how a user can get help with using your software?	Yes	
5.2 Does your website and documentation describe the support you provide to users and developers?	Yes	
5.3 Does your project have an e-mail address or forum for user support?	Yes	
5.4 Are e-mails to your support address received by more than one person?	No	
5.5 Does your project have a ticketing system to manage bug reports and feature requests?	Yes	
5.6 Is your ticketing system publicly visible so users can view bug reports and feature requests?	Yes	
**Q6 - Your software's maintainability**	—	—
6.1: Is your software's architecture and design modular?	Yes	
6.2: Does your software use an accepted coding standard or convention?	Yes	
**Q7 - Open standards and your software**	—	—
7.1: Does your software allow data to be imported and exported using open data formats?	Yes	
7.2: Does your software allow communications using open communications protocols?	Yes	

**Q8 - Your software's portability**	—	—
8.1: Is your software cross-platform compatible?	Yes	
**Q9 - Your software and accessibility**	—	—
9.1: Does your software adhere to appropriate accessibility conventions or standards?	Yes	
9.2: Does your documentation adhere to appropriate accessibility conventions or standards?	Yes	
**Q10 - How you manage your source code**	—	—
10.1: Is your source code stored in a repository under revision control?	Yes	
10.2: Is each source code release a snapshot of the repository?	Yes	
10.3: Are releases tagged in the repository?	Yes	
10.4: Is there a branch of the repository that is always stable?	Yes	
10.5: Do you back-up your repository?	Yes	
**Q11 - Building and installing your software**	—	—
11.1: Do you provide publicly-available instructions for building your software from the source code?	Yes	
11.2: Can you build, or package, your software using an automated tool?	No	

11.3: Do you provide publicly-available instructions for deploying your software?	Yes	
11.4: Does your documentation list all third-party dependencies?	Yes	
11.5: Does your documentation list the version number for all third-party dependencies?	Yes	
11.6: Does your software list the web address, and licences for all third-party dependencies?	Yes	
11.7: Can you download dependencies using a dependency management tool or package manager?	Yes	
11.8: Do you have tests that show whether the build or deployment has been successful?	Yes	
**Q12 - How you test your software**	—	—
12.1: Do you have an automated test suite for your software?	Yes	
12.2: Do you have a framework to periodically run your tests on the latest version of the source code?	Yes	
12.3: Do you use continuous integration, automatically running tests whenever changes are made to your source code?	Yes	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml">https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml</a>
12.4: Are your test results publicly visible?	Yes	
12.5: Are all manually-run tests documented?	Yes	
**Q13 - How you engage with your community**	—	—

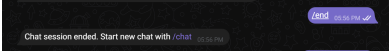
13.1: Does your project have resources that are regularly updated with information about your software?	No	
13.2: Does your website state how many projects and users are associated with your project?	No	
13.3: Do you provide success stories on your website?	No	
13.4: Do you list your important partners and collaborators on your website?	Yes	
13.5: Do you list your project's publications on your website?	N/A	
13.6: Do you list third-party publications that refer to your software on your website?	N/A	
13.7: Can users subscribe to notifications to changes to your source code repository?	Yes	
13.8: If your software is developed as an open source project, do you have a governance model?	Yes	
**Q14 - How you manage contributions**	—	—
14.1: Do you accept contributions from people who are not part of your project?	Yes	
14.2: Do you have a contributions policy?	Yes	
14.3: Is your contributions' policy publicly available?	Yes	

14.4: Do contributors keep the copyright/IP of their contributions?	Yes	
<b>**Q15 - Your software's copyright and licensing**</b>	—	—
15.1: Does your website and documentation clearly state the copyright owners of your software?	Yes	
15.2: Does each of your source code files include a copyright statement?	Yes	
15.3: Does your website and documentation clearly state the licence of your software?	Yes	
15.4: Is your software released under an open source licence?	Yes	
15.5: Is your software released under an OSI-approved open-source licence?	Yes	
15.6: Does each of your source code files include a licence header?	Yes	
15.7: Do you have a recommended citation for your software?	No	
<b>**Q16 - Your plans for the future**</b>	—	—
16.1: Does your website or documentation include a project roadmap?	Yes	<a href="https://github.com/KomachiZ/DollarBot/tree/project2">https://github.com/KomachiZ/DollarBot/tree/project2</a>
16.2: Does your website or documentation describe how your project is funded?	No	



16.3: Do you make timely announcements of the deprecation of components, APIs, etc.?	No	
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Workload is spread over the whole team (one team member is often Xtimes more productive than the others...	3	<a href="https://github.com/KomachiZ/DollarBot/activity">https://github.com/KomachiZ/DollarBot/activity</a>
but nevertheless, here is a track record that everyone is contributing a lot)	3	<a href="https://github.com/KomachiZ/DollarBot/activity">https://github.com/KomachiZ/DollarBot/activity</a>
Number of commits	3	<a href="https://github.com/KomachiZ/DollarBot/activity">https://github.com/KomachiZ/DollarBot/activity</a>
Number of commits: by different people	3	<a href="https://github.com/KomachiZ/DollarBot/activity">https://github.com/KomachiZ/DollarBot/activity</a>
Issues reports: there are many	3	<a href="https://github.com/KomachiZ/DollarBot/issues">https://github.com/KomachiZ/DollarBot/issues</a>
Issues are being closed	3	<a href="https://github.com/KomachiZ/DollarBot/issues">https://github.com/KomachiZ/DollarBot/issues</a>
Docs: doco generated, format not ugly	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Docs: what: point descriptions of each class/function (in isolation)	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Docs: how: for common use cases X,Y,Z mini-tutorials showing worked examples on how to do X,Y,Z	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Docs: why: docs tell a story, motivate the whole thing, deliver a punchline that makes you want to rush out	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>

and use the thing		
Docs: short video, animated, hosted on your repo. That convinces people why they want to work on your code.	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Use of version control tools	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/setup.sh">https://github.com/KomachiZ/DollarBot/blob/project2/setup.sh</a>
Test cases exist	3	<a href="https://github.com/KomachiZ/DollarBot/tree/project2/test">https://github.com/KomachiZ/DollarBot/tree/project2/test</a>
Test cases are routinely executed	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml">https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml</a>
Issues are discussed before they are closed	3	<a href="https://github.com/KomachiZ/DollarBot/issues">https://github.com/KomachiZ/DollarBot/issues</a>
Chat channel: exists	3	
Test cases: a large proportion of the issues related to handling failing cases.	2	
Evidence that the whole team is using the same tools: everyone can get to all tools and files	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/setup.sh">https://github.com/KomachiZ/DollarBot/blob/project2/setup.sh</a>
Evidence that the whole team is using the same tools (e.g. config files in the repo, updated by lots of different people)	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml">https://github.com/KomachiZ/DollarBot/blob/project2/.github/workflows/python-app.yml</a>
Evidence that the whole team is using the same tools (e.g. tutor can ask anyone to share screen, they demonstrate the system running on their computer)	3	
Evidence that the members of	3	

the team are working across multiple places in the code base		
Short release cycles	3	
The file .gitignore lists what files should not be saved to the repo. See [examples](https://github.com/github/gitignore)	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/.gitignore">https://github.com/KomachiZ/DollarBot/blob/project2/.gitignore</a>
The file INSTALL.md lists how to install the code	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/INSTALL.md">https://github.com/KomachiZ/DollarBot/blob/project2/INSTALL.md</a>
The file LICENSE.md lists rules of usage for this repo	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/LICENSE">https://github.com/KomachiZ/DollarBot/blob/project2/LICENSE</a>
The file CODE-OF-CONDUCT.md lists rules of behavior for this repo; e.g. see example	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/CODE_OF_CONDUCT.md">https://github.com/KomachiZ/DollarBot/blob/project2/CODE_OF_CONDUCT.md</a>
The file CONTRIBUTING.md lists coding standards and lots of tips on how to extend the system without screwing things up; e.g. see example	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/CONTRIBUTING.md">https://github.com/KomachiZ/DollarBot/blob/project2/CONTRIBUTING.md</a>
The file README.md contains all the following	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Video	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
DOI badge: exists. To get a Digital Object Identifier, register the project at Zenodo.	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Badges showing your style checkers	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>

Badges showing your code formatters.	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Badges showing your syntax checkers.	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Badges showing your code coverage tools	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>
Badges showing any other Other automated analysis tools	3	<a href="https://github.com/KomachiZ/DollarBot/blob/project2/README.md">https://github.com/KomachiZ/DollarBot/blob/project2/README.md</a>