

PENNY WISE

A Full stack ML powered
Expense Tracker

Minor Project - IS6C06

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INTRODUCTION →

The project titled **PennyWise** is an expense tracking web application which helps the user to track and analyze all his/her expenses.

The basic idea is to fetch the expense data from the user manually and to provide meaningful insights { graphical representation } related to the user's expense data.

OBJECTIVES

- To Design and develop a Web Application that enables users to keep track of their expenses and loans.
- To provide an automatic categorization feature {by incorporating machine learning algorithms} that classifies expenses into various categories .
- To provide graphical visualizations which helps the users to gain a better understanding of their spending patterns.

EXISTING SYSTEM



The existing system for expense tracking typically involves manual methods such as pen-and-paper, spreadsheets, or basic note-taking applications.

Limitations:

- Time-consuming
- Hard to keep track of expense history
- Prone to errors
- Lack of advanced features for analysis & automation.

PROPOSED SYSTEM



An online web application which is built to overcome all the previously mentioned limitations with advanced features such as automatic categorization , graphical analysis.

Advantages:

- Not time consuming as expenses are automatically categorized and all kinds of analysis are made automatically.
- Easy to keep track of expense history as it is stored in the database.
- Users can avoid mistakes and errors in calculations as it is handled by the computer itself.

LITERARY REVIEW



- "Expense Tracker" research paper
{Published in 2020 IJAR SCT}
- Web application
- For efficient daily expense management.
- Users can input income for daily expense calculations.
- Predictive data mining.

LITERARY REVIEW



- "eExpense" research paper { Published in 2018 4th International Conference on ICEEICT }
- An automated Android-based expense tracking system.
- Users can scan bills or receipts to extract expense details,
- the application monitors input through SMS tracking.

LITERARY REVIEW



Multi-Class Text Classification with Scikit-Learn by Susan li:

- Model that categorizes the expenses based on the entered text.
- Uses Scikit-Learn and algorithms like logistic regression in predicting the category.
- Similar idea was used to build our model.

HARDWARE REQUIREMENTS

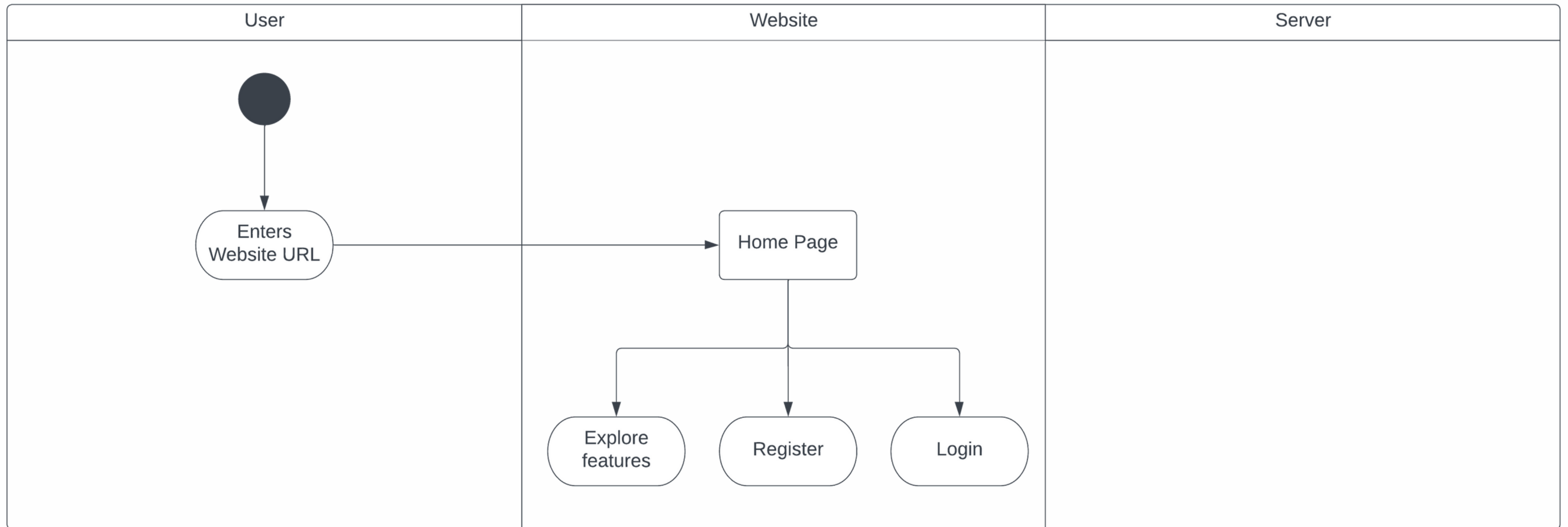
- Processor: 8th gen Intel Core i5 or higher
- Memory: 8GB RAM or above
- Clock speed: 2.7GHz or higher

SOFTWARE REQUIREMENTS

- Jupyter Notebook
- VS Code
- Python 3.10
- NumPy
- Pandas
- Node.js
- Express.js
- EJS
- Bootstrap
- MongoDB

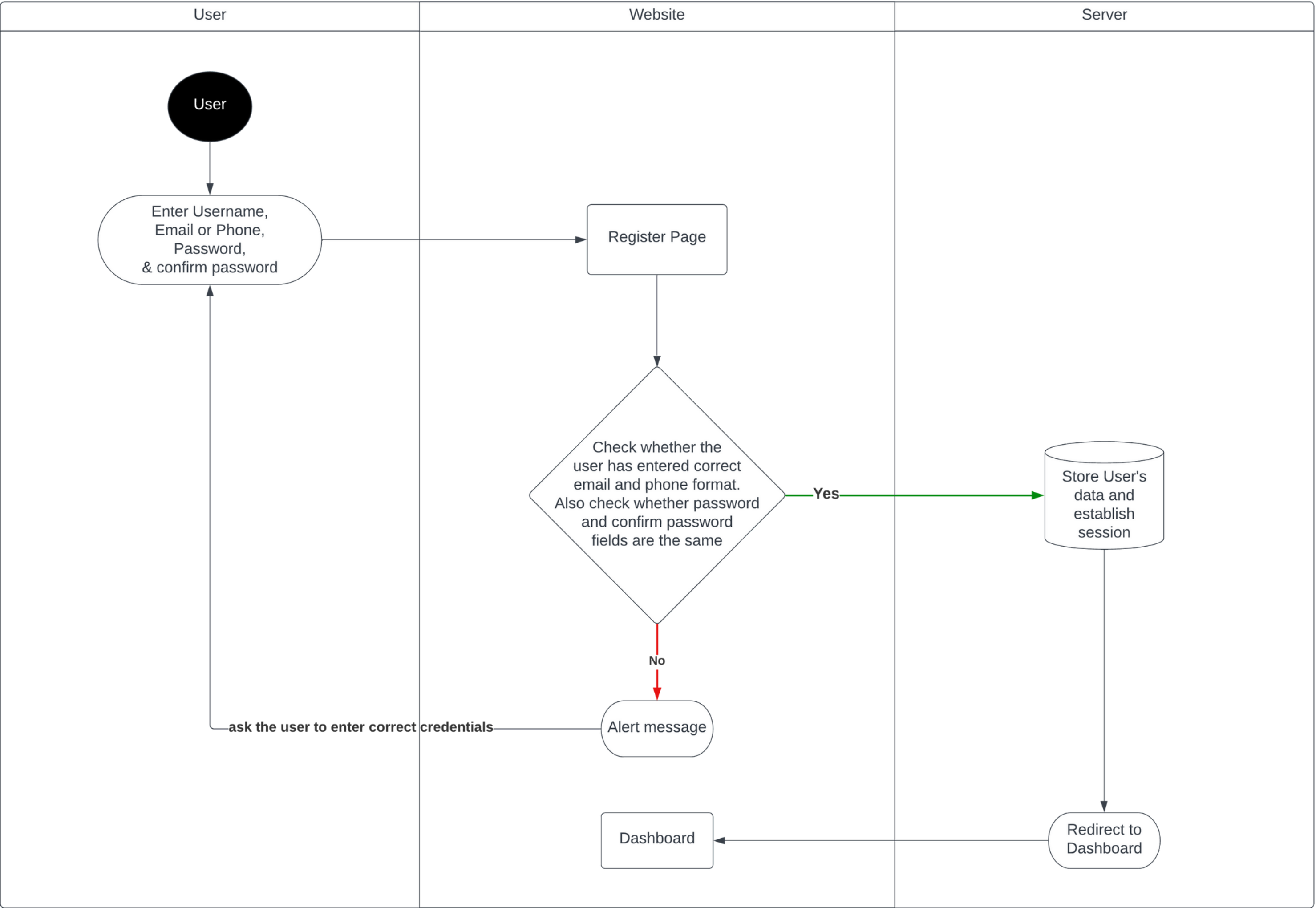
Project Design

1. Home page



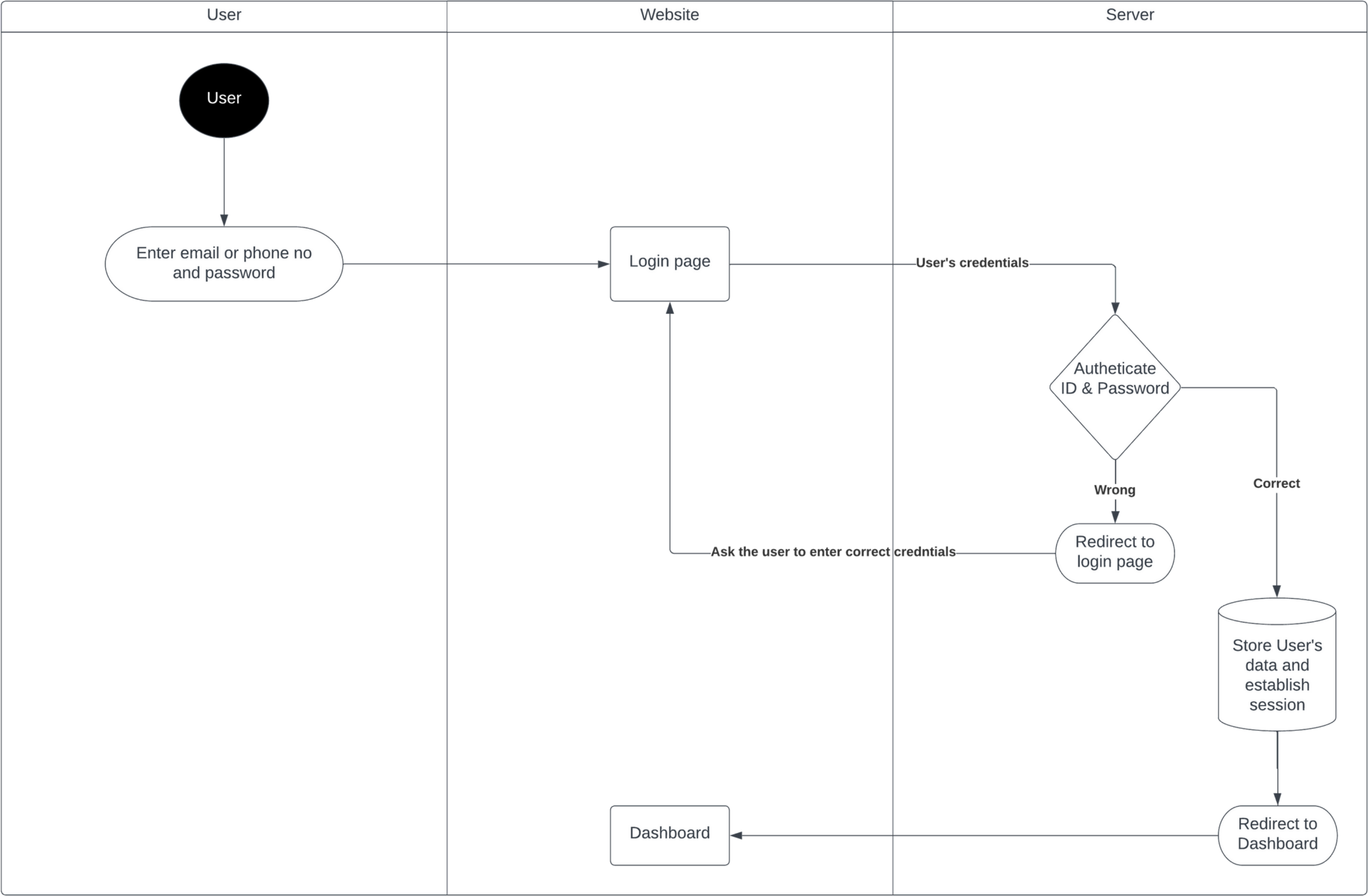
Project Design

2. Register



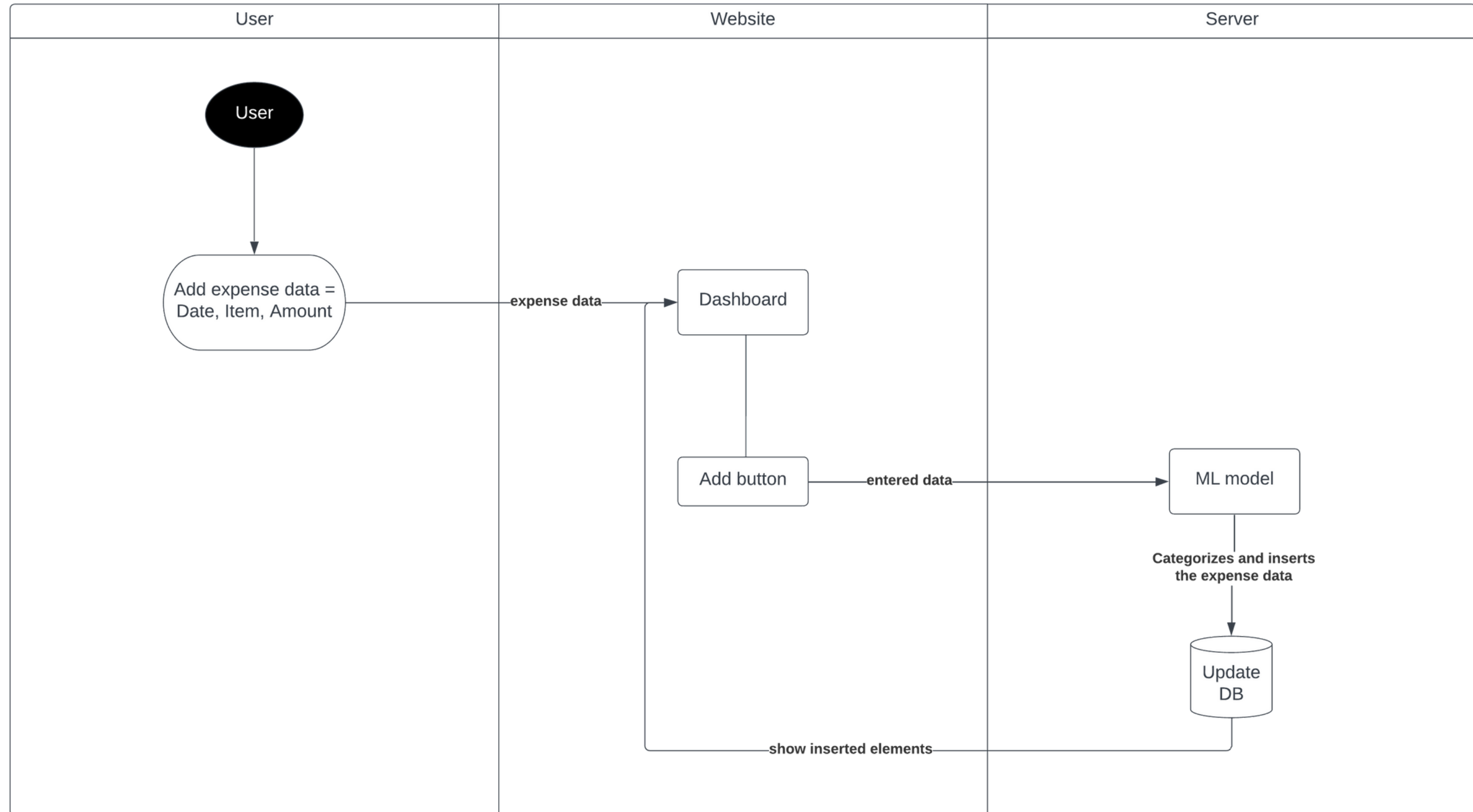
Project Design

3. Login



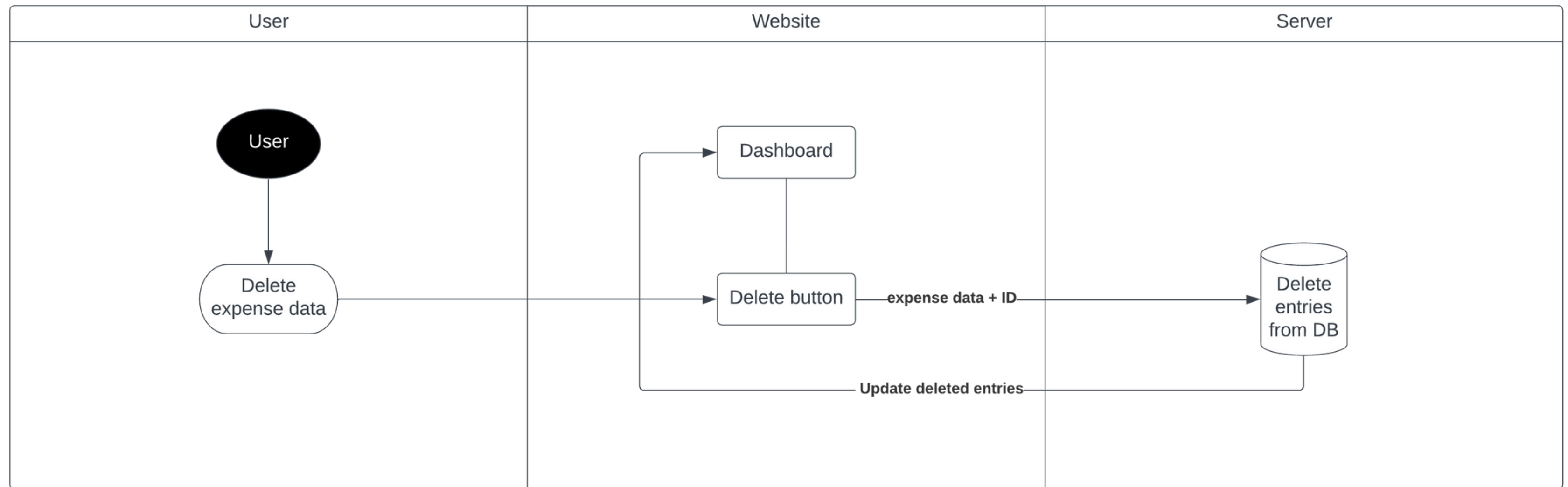
Project Design

4. Add Expense Data



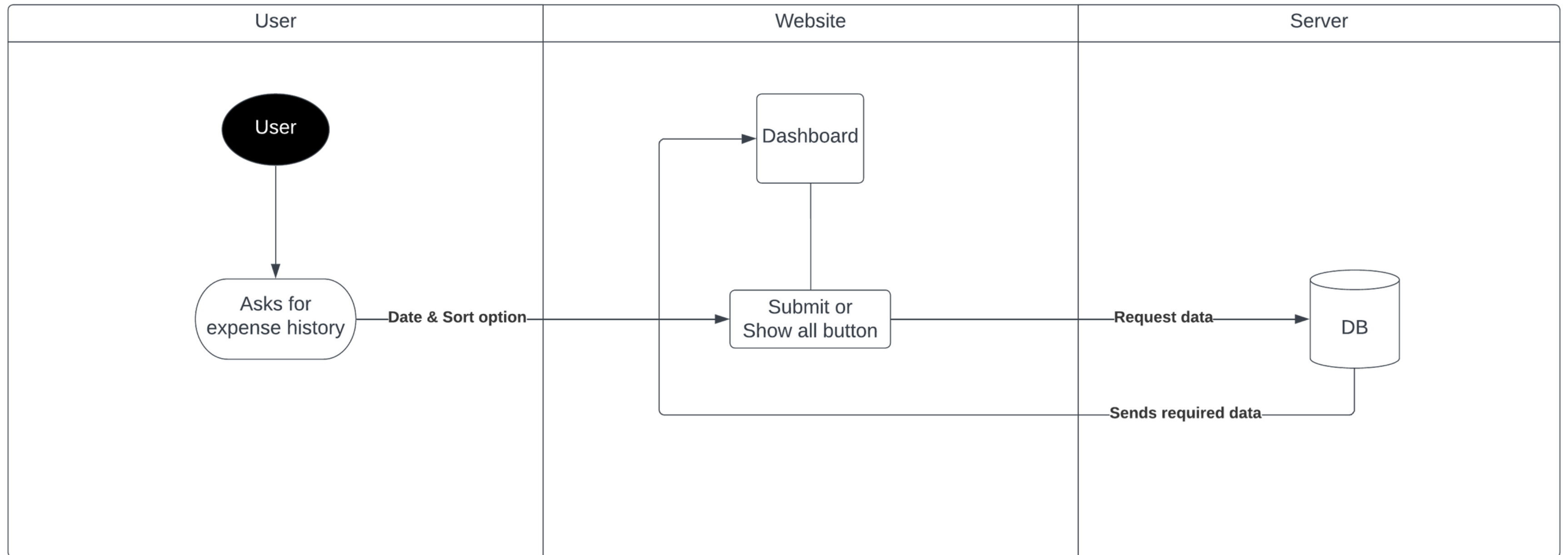
Project Design

5. Delete Expense Data



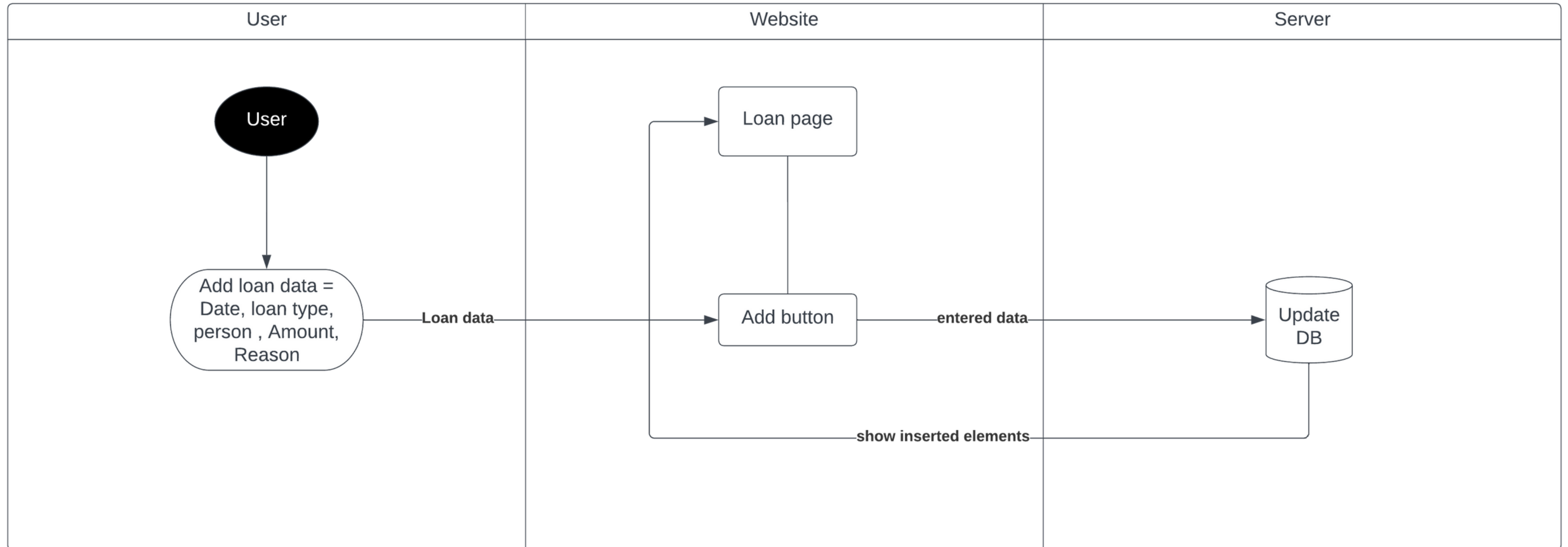
Project Design

6. Show expense history



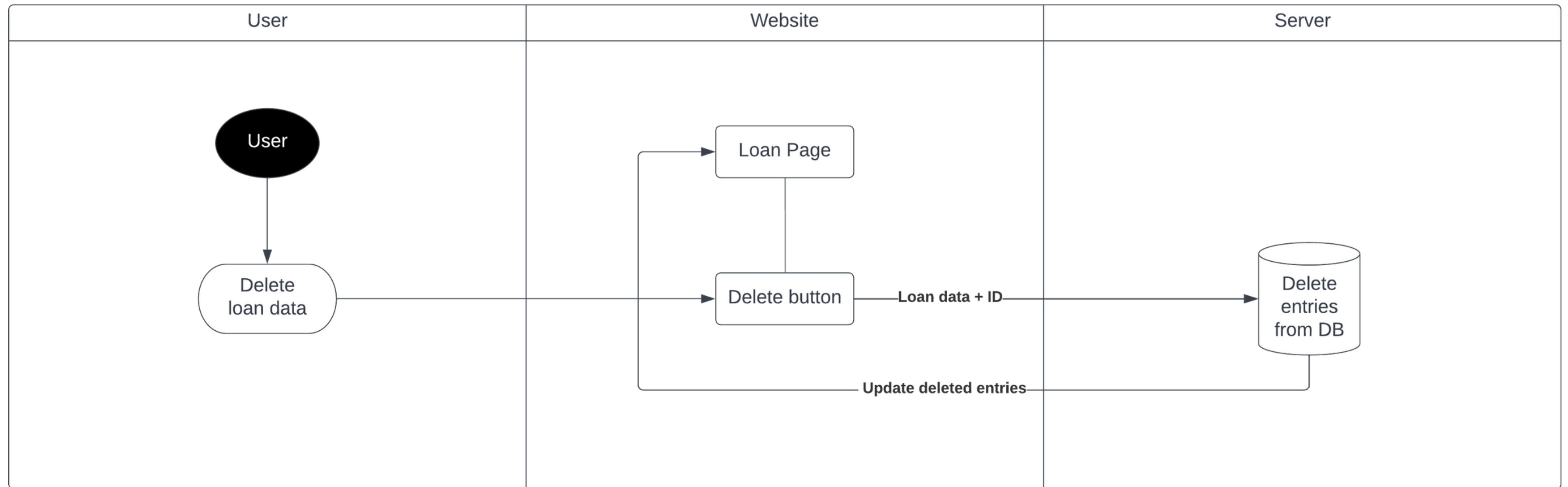
Project Design

7. Add loan data



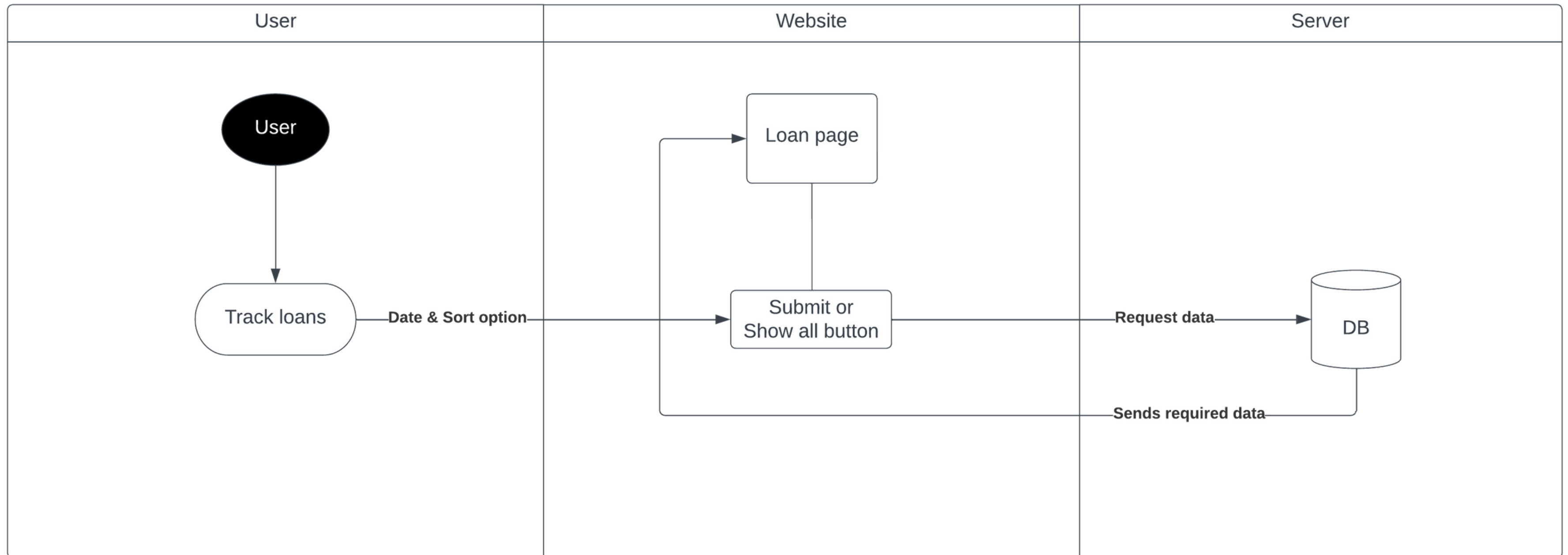
Project Design

8. Delete loan data



Project Design

9. Track loans



System Implementation

1.Register page



Register to Continue

Name

evolve@gmail.com

Email or Phone

Password

.....

Confirm Password

Register

Already have an account? [Login here.](#)

System Implementation

2. Login page



Login to Continue

Username

Password


[Forgot Password?](#)

Login

Create Account

System Implementation

3. Dashboard page - to add or delete expenses

 PennyWise

HomeInsightsTrack LoansAbout

@ vadi

Hello vadi

Welcome to your Dashboard

Add or Delete your expenses here

Date:

22-04-2023

Item:

Add item

Amount:

Amount in Rs

22/04/2023

dosa

Rs 50

22/04/2023

dolo 650

Rs 40

22/04/2023

petrol

Rs 200

23/04/2023

current bill

Rs 1000

23/04/2023

water bill

Rs 200

System Implementation

4. Dashboard page - to show expense history

Your expense history

Date:

◀

22-04-2023

📅

▶

Sort By:

Any

Apply filter

ITEM	AMOUNT IN RS	DATE	CATEGORY
idli	20	2023/4/22	NA
Coffee	10	2023/4/22	NA
Groceries	5000	2023/4/22	NA

System Implementation

5. Loan page - to add or delete loans

Add/Delete Loans

Date:

dd-mm-yyyy

Loan Type

Lent

From

Vanamala

Amount:

Amount in Rs

Reason

Reason

26/05/2023

borrowed from Vanamala

100

28/05/2023

borrowed from Kiran

200

03/06/2023

lent to Vanamala

50

08/06/2023

lent to Kiran

100

Summary

You	owe	Rs. 50	to Vanamala
You	owe	Rs. 100	to Kiran

System Implementation

6. Loan page - to track loans

Track Your loans

Date:

◀

26-05-2023

📅

▶

Sort By:

Any

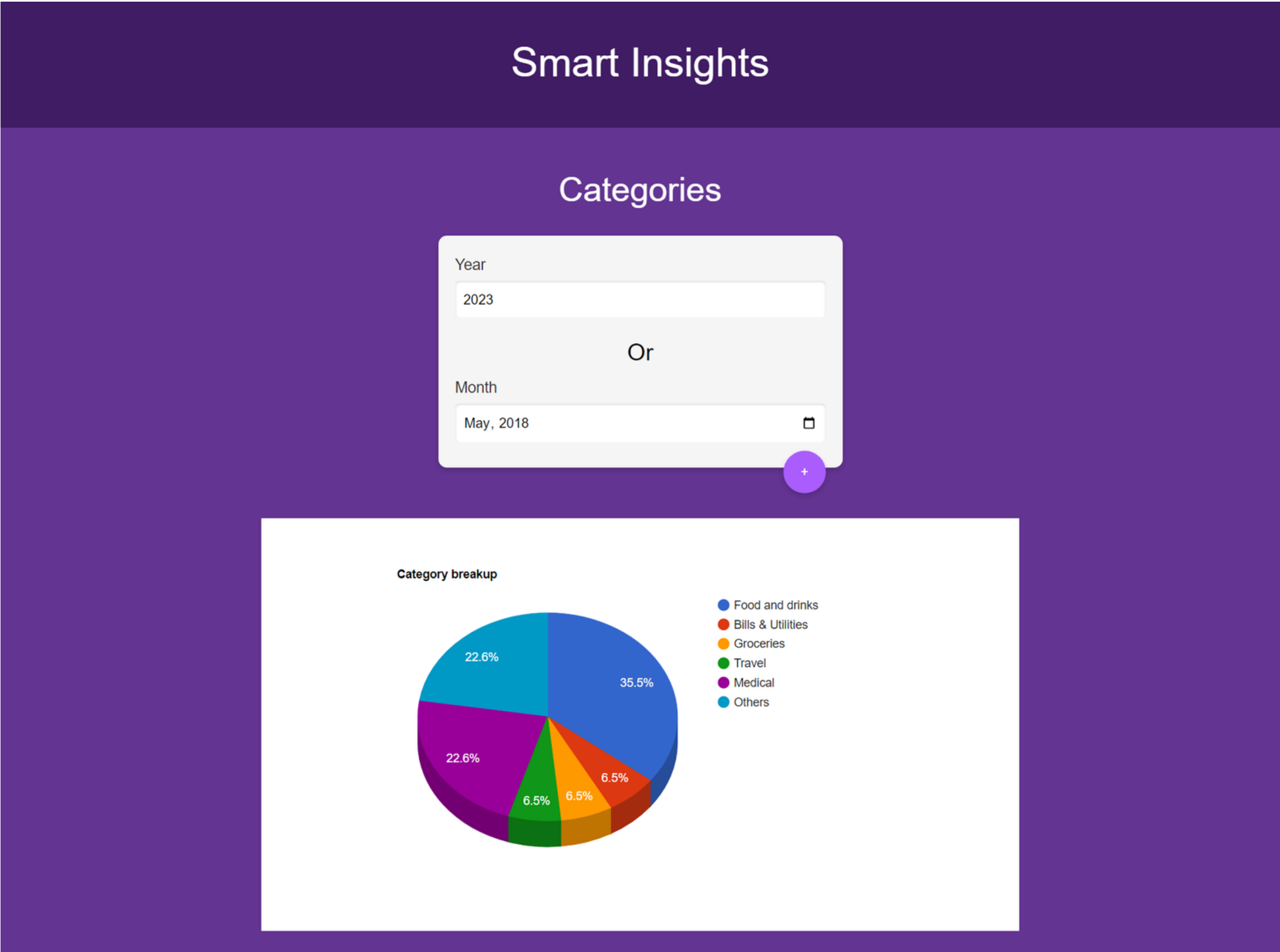
▼

Apply filter

DATE	TYPE	FROM	REASON	AMOUNT
26/05/2023	borrowed	Vanamala	Movie ticket	100
26/05/2023	lent	Kiran	tea	100

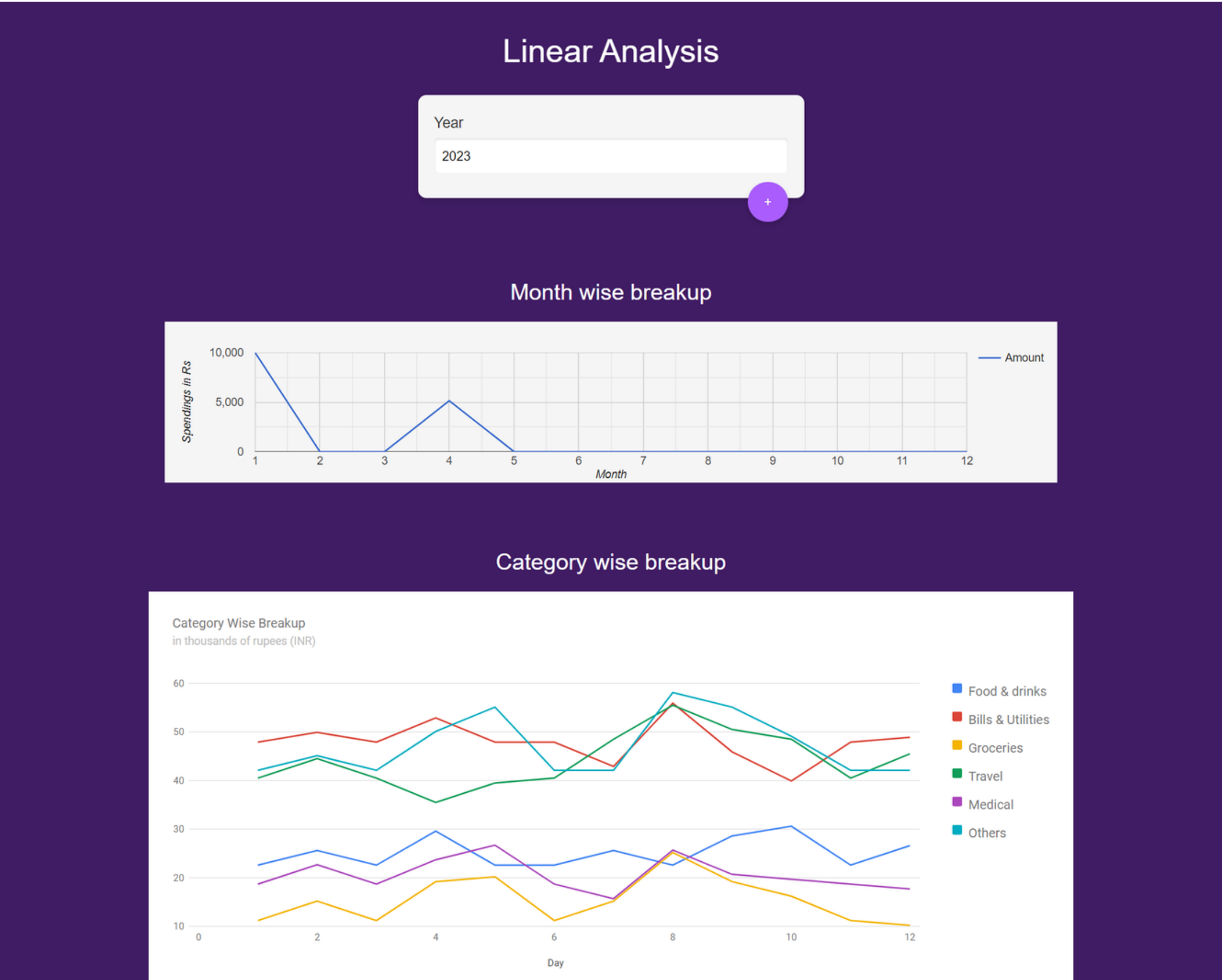
System Implementation

7. Insights page - to represent category wise expense data



System Implementation

8. Insights page - to represent month wise expense data



Conclusion

- In conclusion, we believe PennyWise can provide immense value to users looking to manage their expenses effectively.
- We also believe that PennyWise has the potential to become a popular choice among all kind of users who are looking for an effective and hassle-free way to manage their expenses.
- We are confident that the application will be well-received by our target audience.

Future Enhancements

- In the future, we plan to add more advanced features to PennyWise, such as predictive analytics that can help users predict their expenses and create budgets accordingly.
- Integration of user's mobile messages containing money transactions to automatically add expenses to the PennyWise app.
- Lastly, we plan to make the application more accessible to users by developing mobile versions of PennyWise for both Android and iOS platforms, allowing users to track their expenses on-the-go.

References

- Johnson, A. (2022). "The Benefits of Expense Tracking Applications for Individuals and Businesses." *Journal of Financial Technology*, 15(2), 45-62.
- Smith, B. (2021). "Automation and Artificial Intelligence in Expense Tracking: A Comparative Study." *Proceedings of the International Conference on Financial Management Systems*, 78-85.

For ML model:-

- Scikit learn user guide https://scikit-learn.org/stable/user_guide.html
- Numpy documentation <https://numpy.org/doc>
- Pandas documentation <https://pandas.pydata.org/docs>

Thank
You

