



## An Expense Tracker

### Minor Project - IS6C06

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# INTRODUCTION →

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The project titled **PennyWise** is an expense tracking web application which helps the user to track and analyze personal expenses & loans.

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

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- 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 help the users to gain a better understanding of their spending patterns.

# EXISTING SYSTEM →

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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 →

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An online web application which is built to overcome all the previously mentioned limitations with 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.

# LITERATURE SURVEY→

[1.] "**eExpense**" : Research paper by Shahed Anzarus Sabab & Sadman Saumik Islam published in ICEEICT dated 31st January 2019 :

- An automated Android-based expense tracking system.
- Users can scan bills or receipts to extract expense details,
- the application monitors input through SMS tracking.

# LITERATURE SURVEY →

[2.] "**Expense Tracker**" : Research paper by Prof Miriam Thomas & Lekshmi P published in IJAR SCT dated 4th September 2020:

- Web application
- For efficient daily expense management.
- Users can enter income for daily expense calculations.
- Predictive data mining.



# LITERATURE SURVEY→

[3.] "**Supervised multi-class text classification**" : Research paper by Susan Li published in TDS dated 19th February 2018 :

- 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

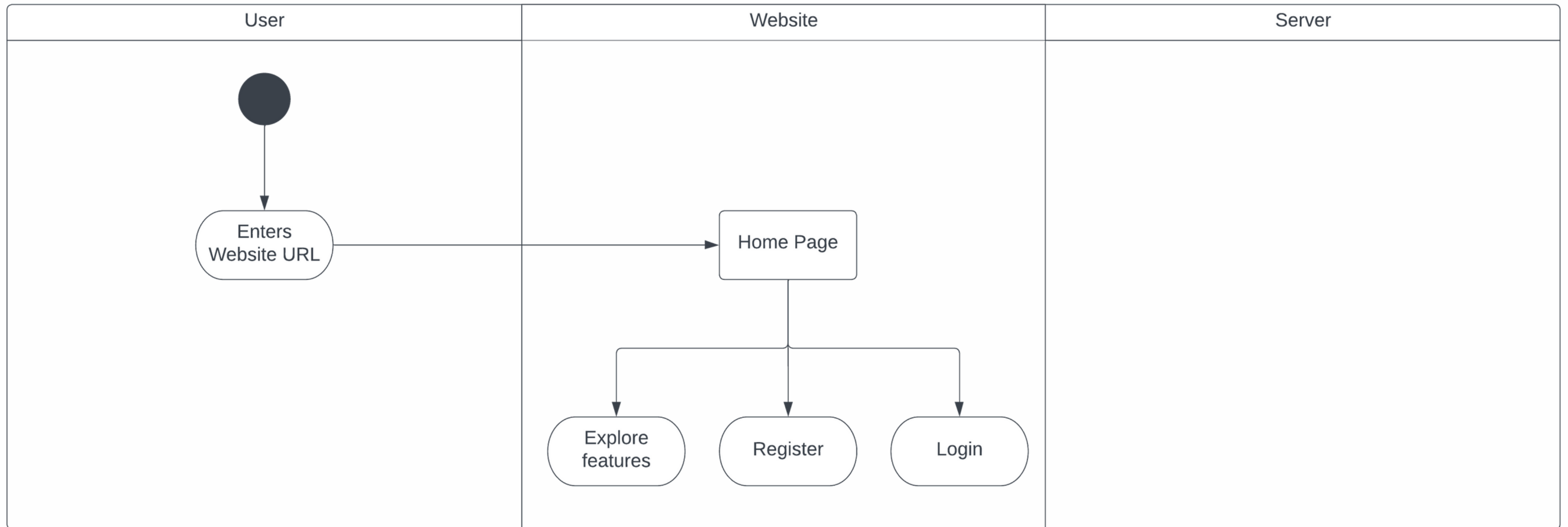
- Processor: 8th gen Intel Core i5 or higher
- Memory: 8GB RAM or above
- Clock speed: 2.7GHz or higher

# SOFTWARE REQUIREMENTS

- Jupyter Notebook - For ML model
- VS Code - As a Code editor
- Python 3.10 - For ML model
- NumPy - For ML model
- Pandas - For ML model
- Node.js - For Backend development
- Express.js - For Backend development
- EJS - As a Frontend templating engine
- Bootstrap - For Frontend designs
- MongoDB - For Database operations

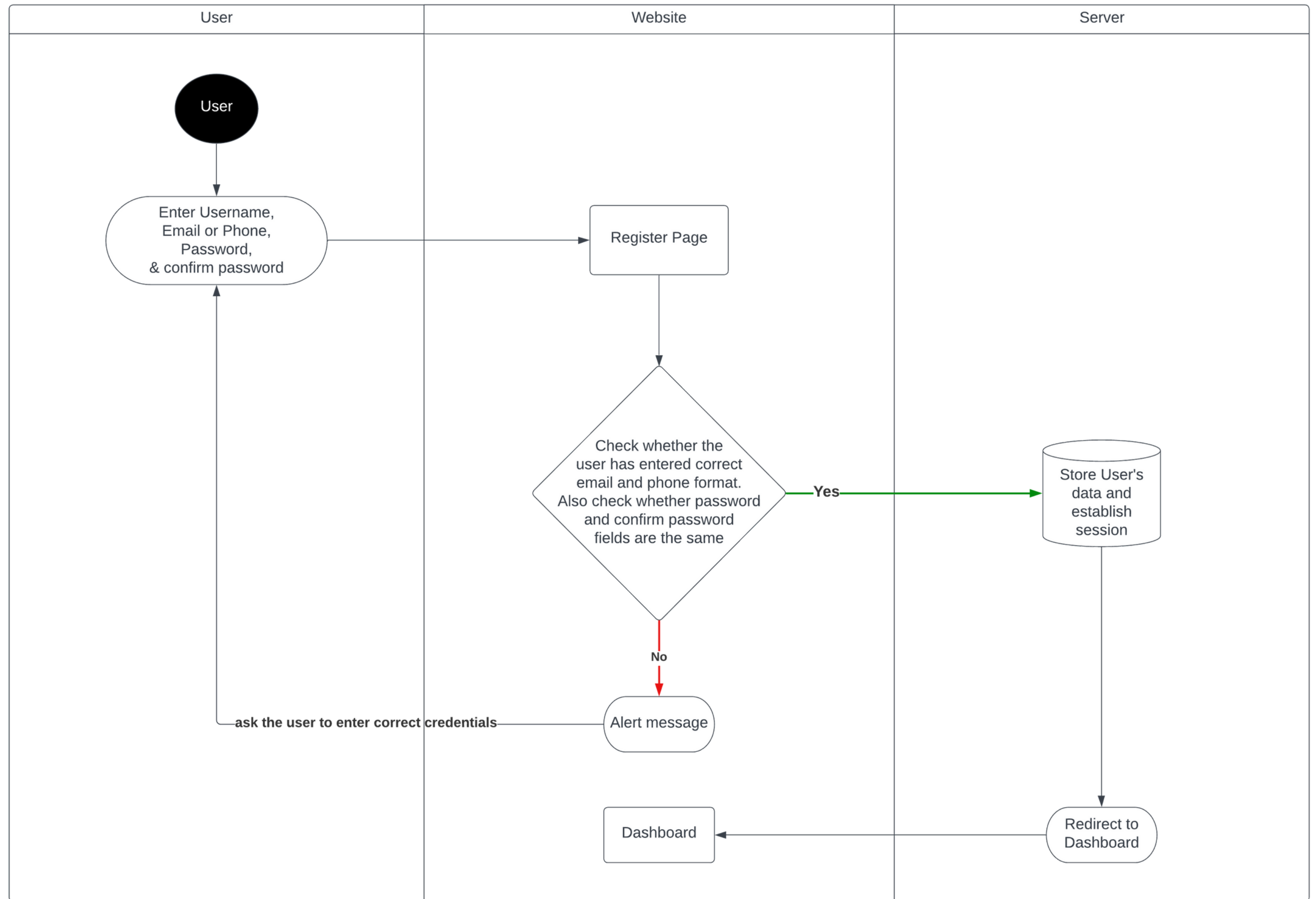
# Project Design

## 1. Home page



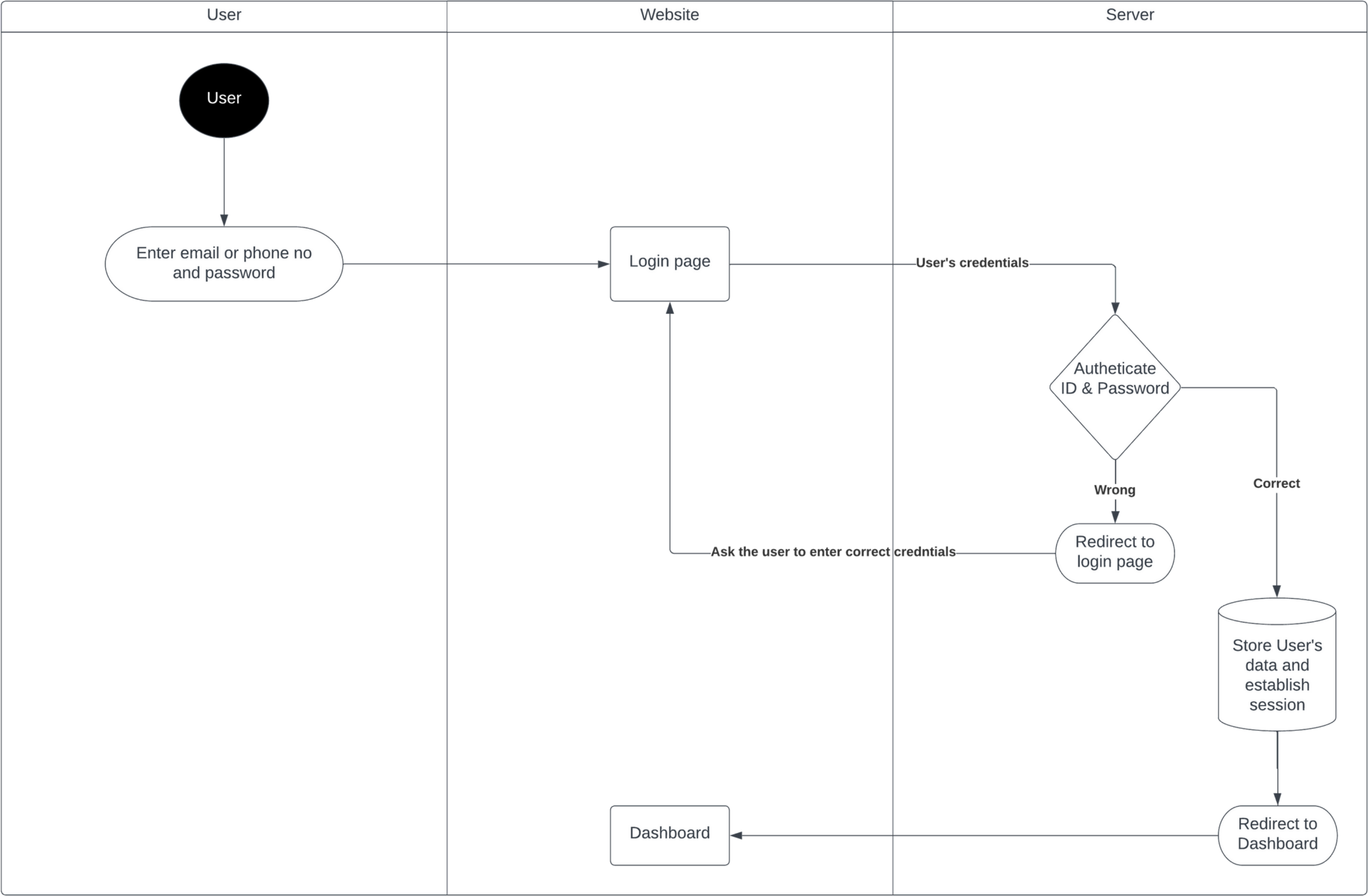
# Project Design

## 2. Register



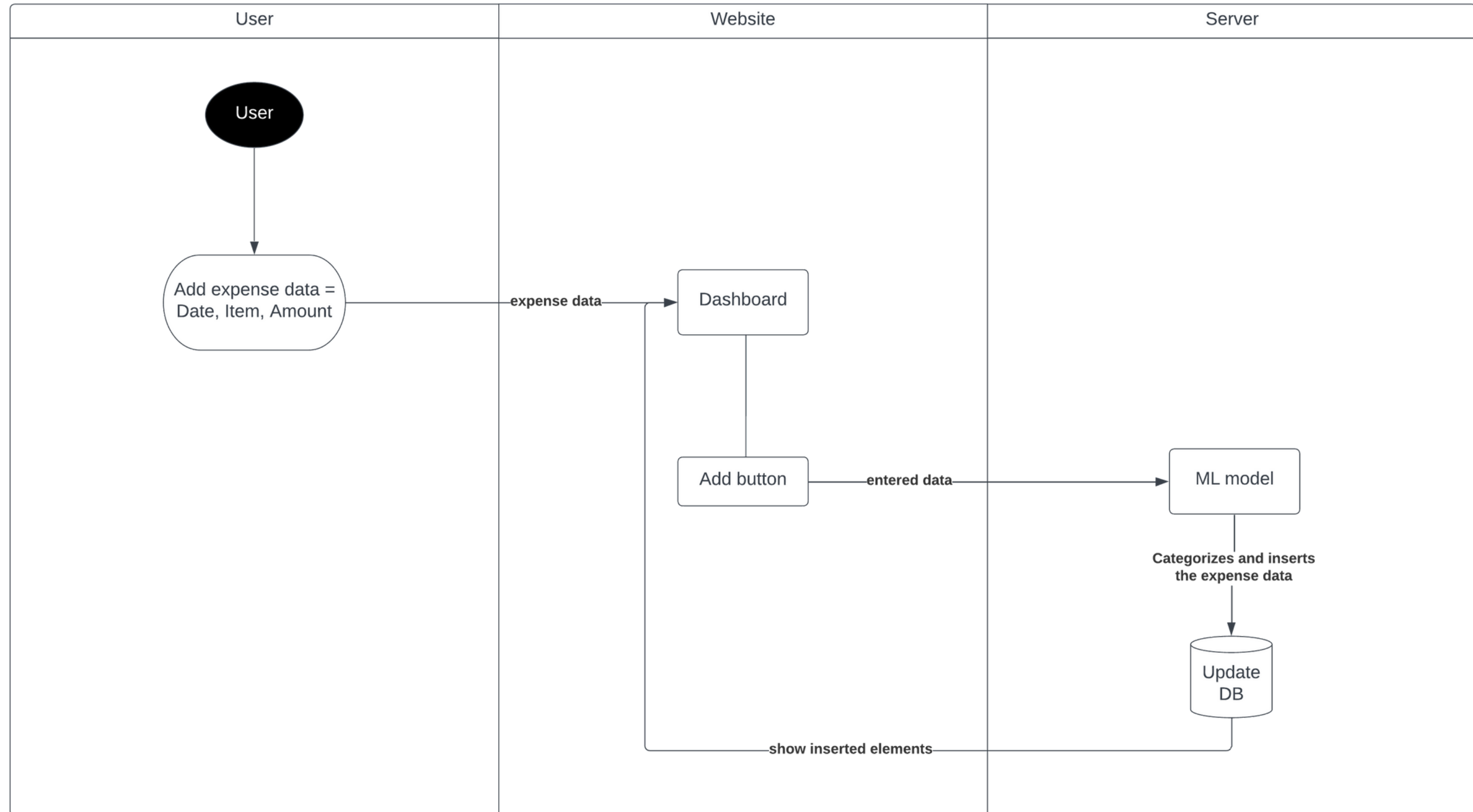
Project Design

3. Login



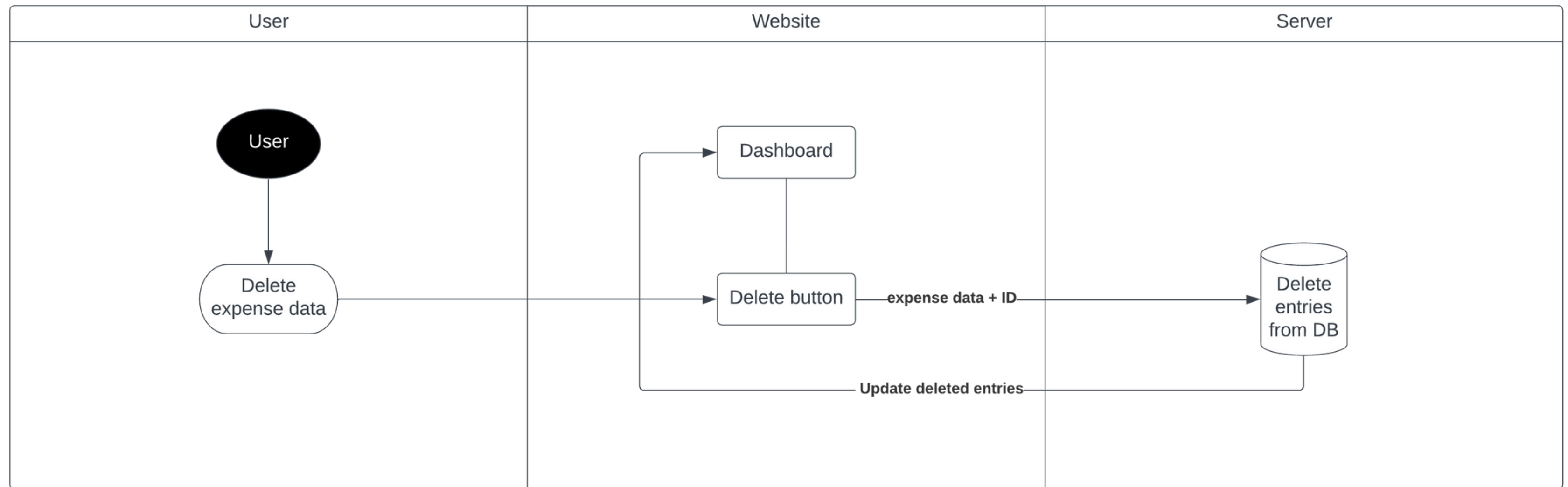
# Project Design

## 4. Add Expense Data



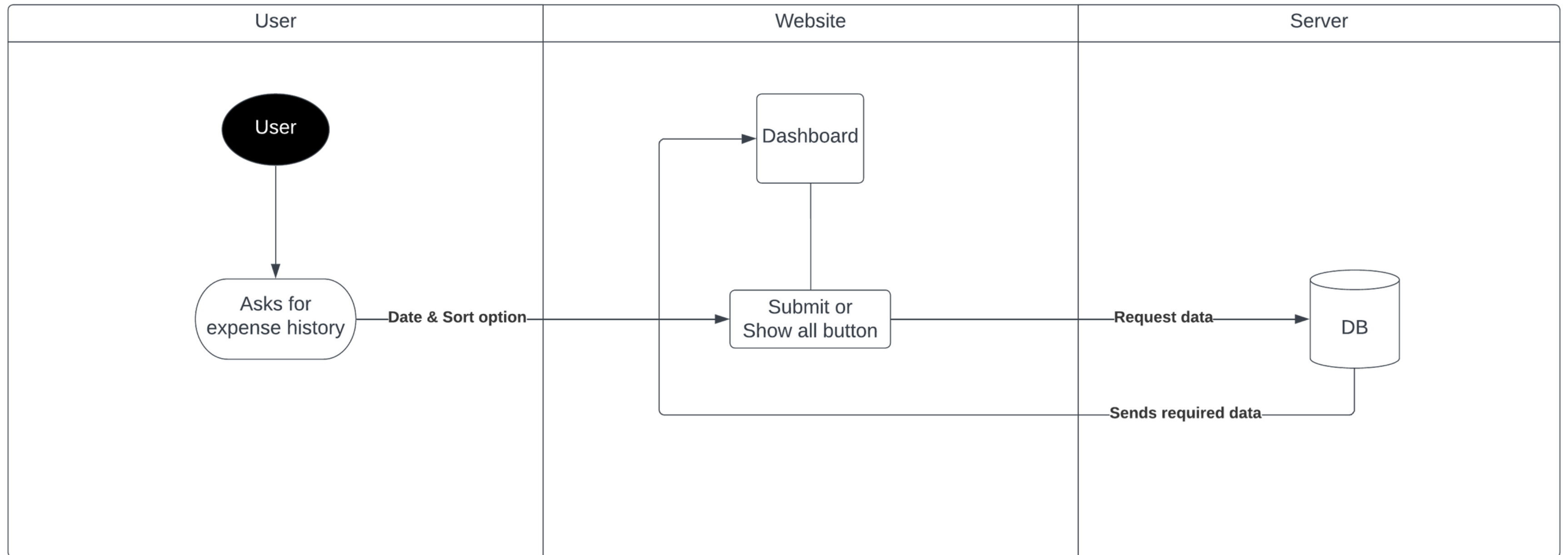
# Project Design

## 5. Delete Expense Data



# Project Design

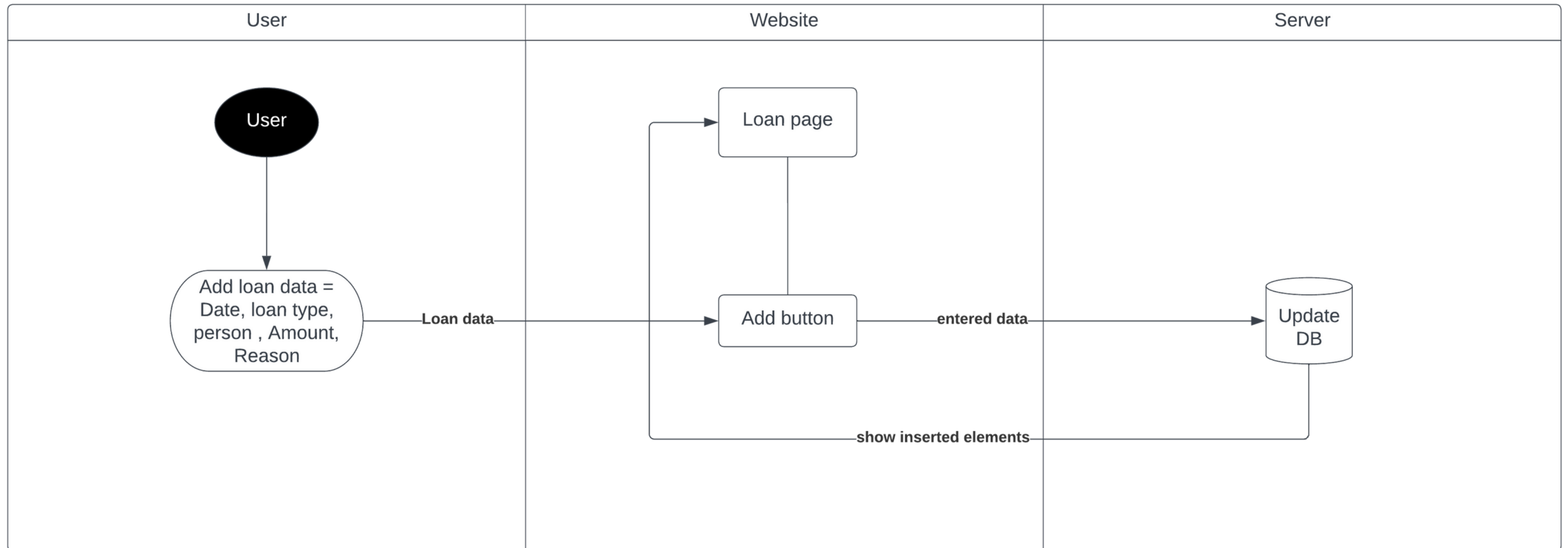
## 6. Show expense history





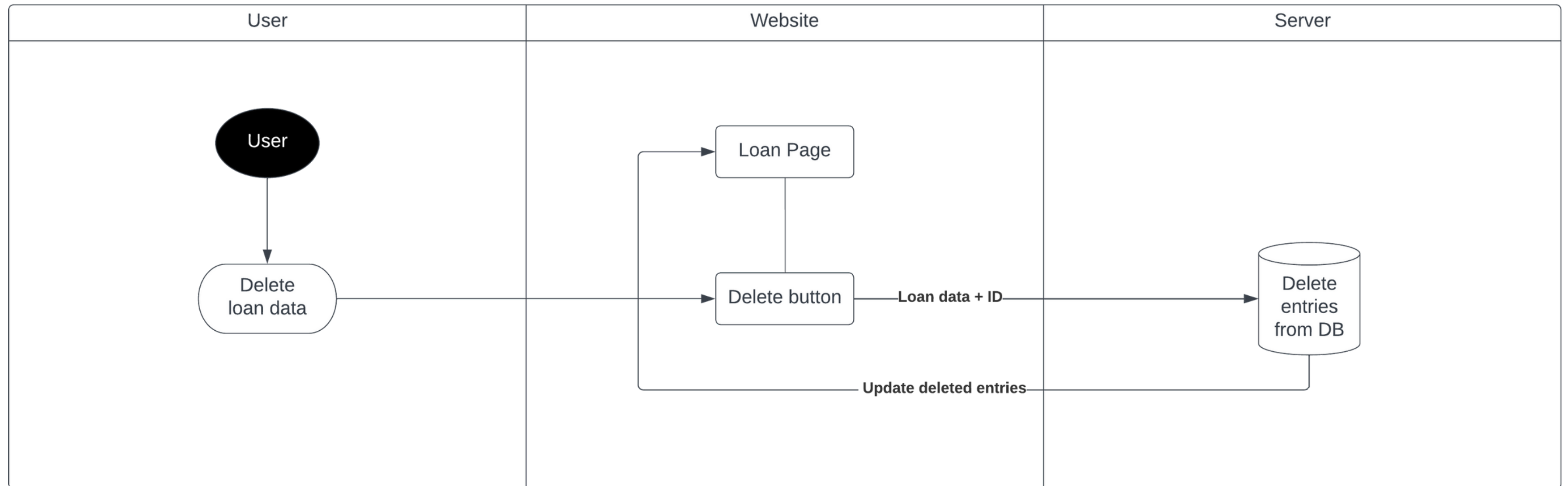
# Project Design

## 7. Add loan data



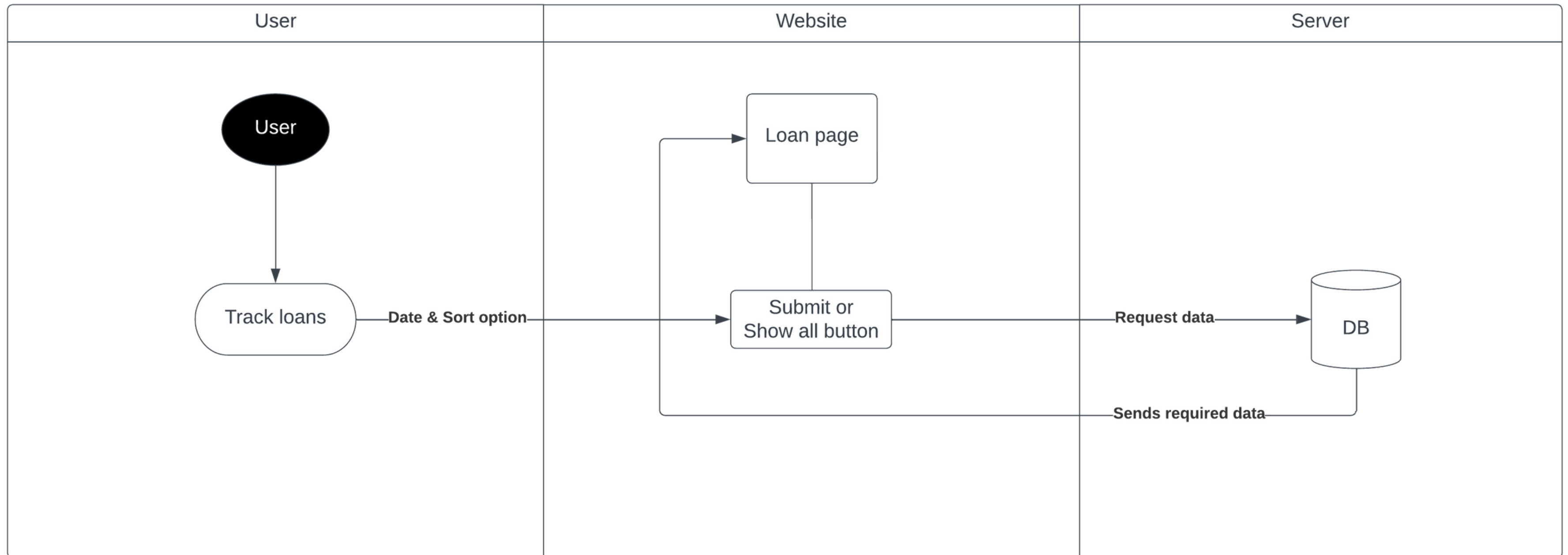
# Project Design

## 8. Delete loan data





# Project Design

## 9. Track loans



# System Implementation

## 1.Register page



### Register to Continue

**Name**

**Email or Phone**

**Password**

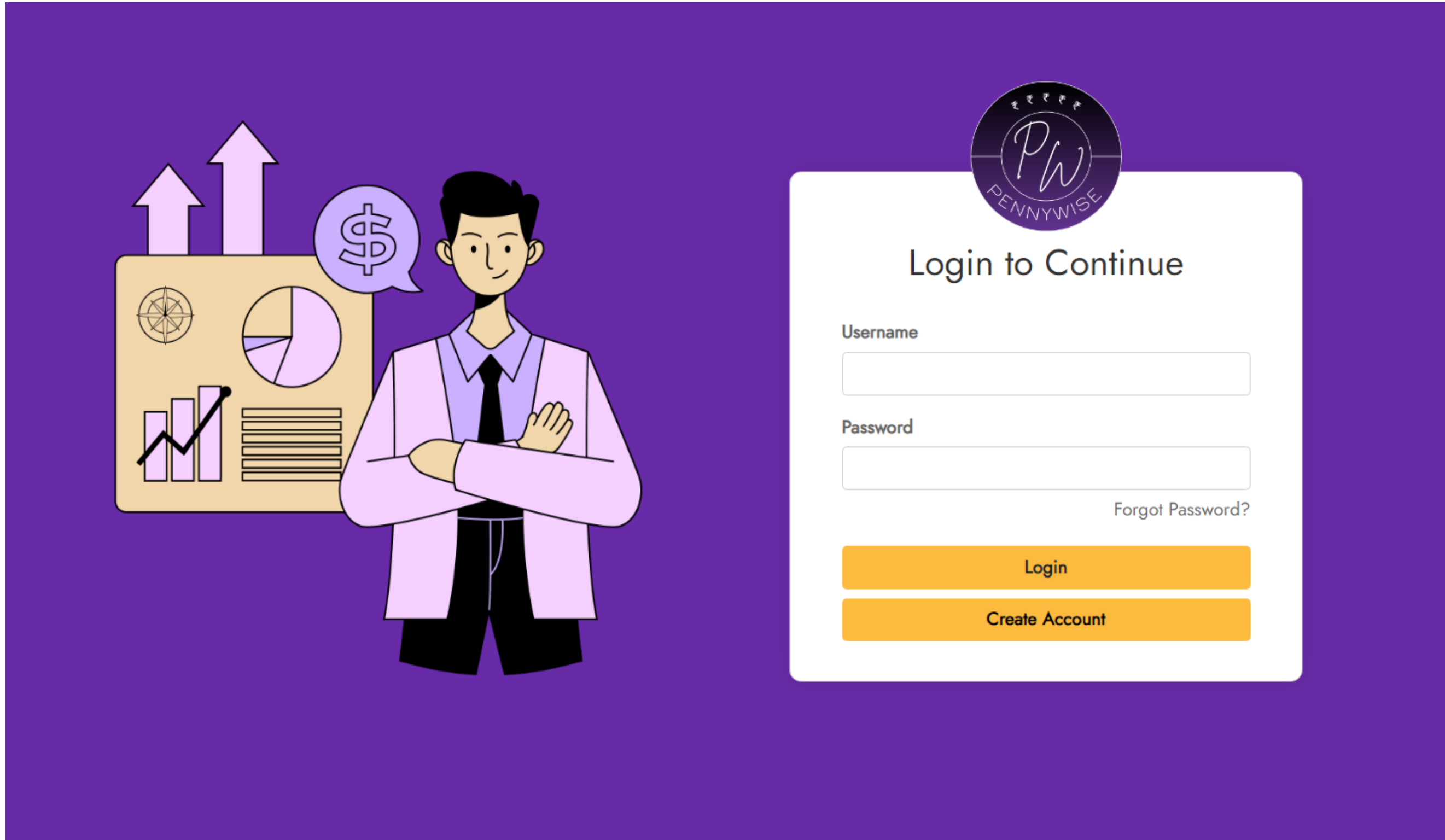
**Confirm Password**

**Register**

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

# System Implementation

## 2. Login page



# System Implementation

## 3. Dashboard page - to add or delete expenses

## 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:

Sort By:

Show all

Submit

ITEM	AMOUNT IN RS	DATE	CATEGORY
dosa	50	22/04/2023	NA
dolo 650	40	22/04/2023	NA
petrol	200	22/04/2023	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

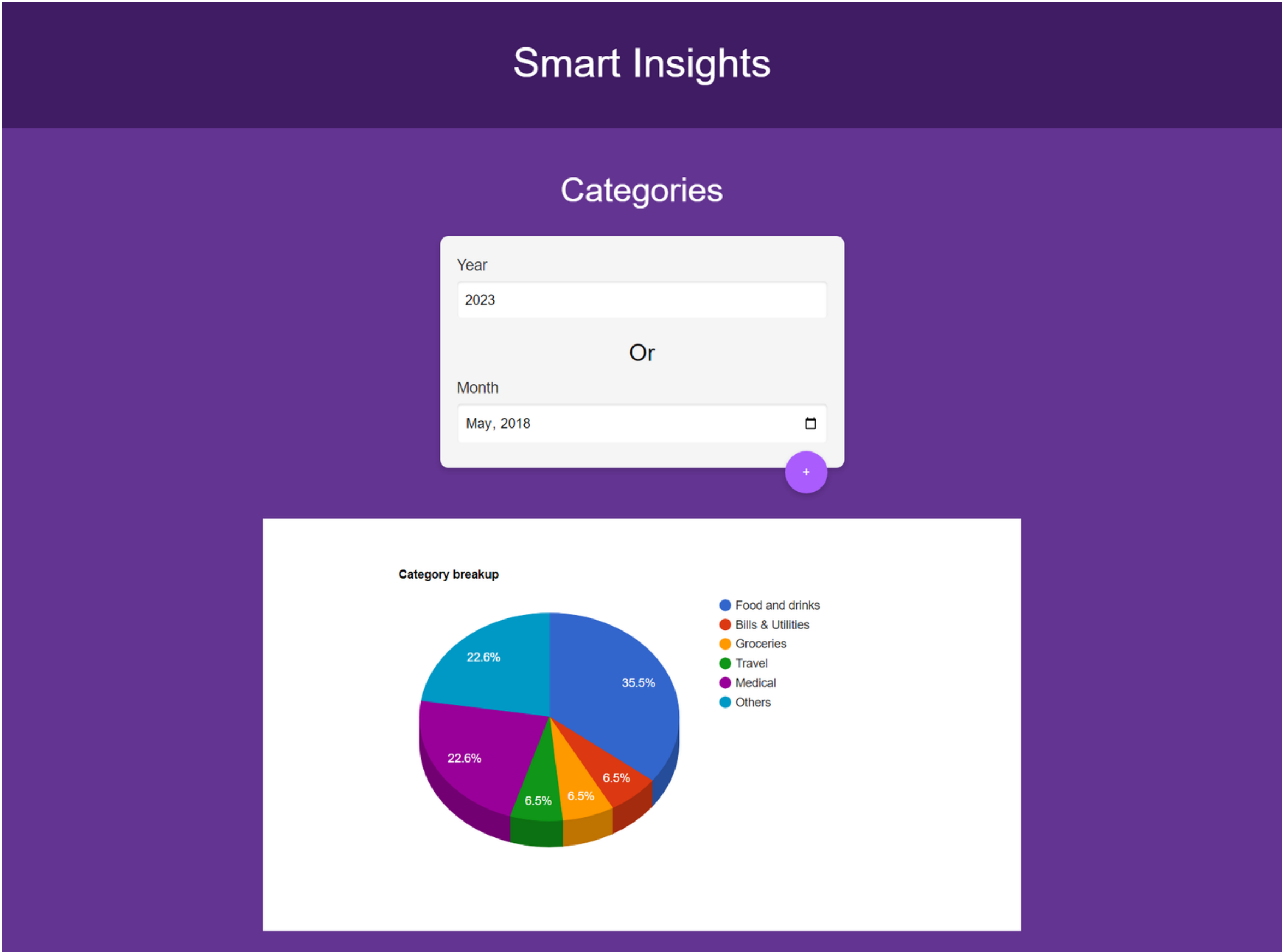
▼

Apply filter

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

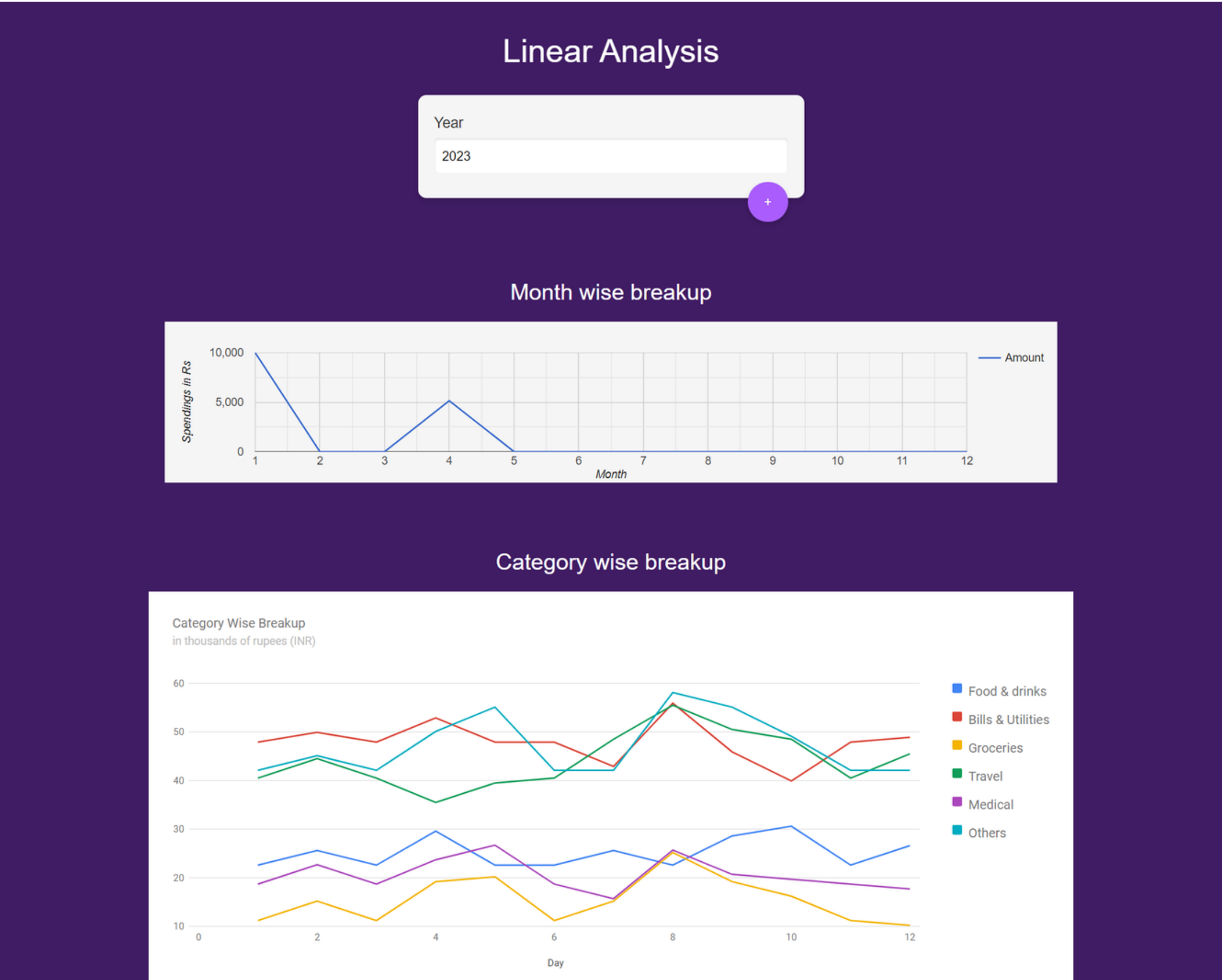
# System Implementation

## 7. Insights page - to represent category wise expense data



# System Implementation

## 8. Insights page - to represent month wise expense data




# System Implementation

Deployed website link =

[Click here to access the website...](#)

# System Testing

## 1.Login Page entry



### Login to Continue

Username not found


Username

Password

[Forgot Password?](#)

Login

Create Account



### Login to Continue

Incorrect password

Username

Password

[Forgot Password?](#)

Login

Create Account

# System Testing

## 2.Register page entry



### Register to Continue

Email is already registered

Name

sammedcjain

Email or Phone

sammedcjain@gmail.com

Password

.....

Confirm Password

.....

Register

Already have an account? Login here.

localhost:3000 says

Please give a valid username.  
Usernames should not have numbers.

OK

### Register to Continue

Name

2020is\_sammedcjain\_b@nie.ac.in

Email or Phone

tony@gmail.com

Password

....

Confirm Password

....

Register

Already have an account? Login here.

localhost:3000 says

Please enter a valid email address or 10-digit phone number.

OK

### Register to Continue

Name

sammedcjain

Email or Phone

sammedcjain@gmail

Password

....

Confirm Password

....

Register

Already have an account? Login here.

# System Testing

## 2.Register page entry

localhost:3000 says  
Please enter a 10-digit phone number.

OK

### Register to Continue

**Name**

**Email or Phone**

**Password**

**Confirm Password**

**Register**

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

localhost:3000 says  
Password and confirm password do not match.

OK

### Register to Continue

**Name**

**Email or Phone**

**Password**

**Confirm Password**


**Register**


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

# System Testing

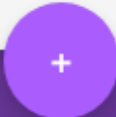
## 3. Dashboard page entry

Add or Delete your expenses here


Date:  
 

Item:  
  Please fill out this field.


Amount:




Add or Delete your expenses here


Date:  
 

Item:


Amount:  
  Please fill out this field.

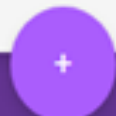


Add or Delete your expenses here

Date:  
 

Item:

Amount:  
  Please fill out this field.





# System Testing

## 4.Expense history

### Your expense history

Date:

Sort By:



Please select an item in the list.

### Your expense history

Date:

Sort By:

Apply filter

No elements found for this date.

Show all

# System Testing

## 5.Loan page entry

### Add/Delete Loans

Date: 12-05-2023

Loan Type: Borrowed

From: Select a person

Amount: 50

Reason: Taxi

Please select an item in the list.

### Add/Delete Loans

Date: 31-05-2023

Loan Type: Lent

From: Kiran

Amount: Amount in Rs

Reason: Taxi

Please fill out this field.

### Add/Delete Loans

Date: 17-06-2023

Loan Type: Lent

From: Sajjan

Amount: 1000

Reason: Reason

Please fill out this field.

# System Testing

## 6.Loan history

### Track Your loans

Date:

Sort By:

Apply filter

No elements found for this date.

Show all

### Track Your loans

Date:

Sort By:



Please select an item in the list.

Apply filter

# Conclusion

- All the defined objectives have been successfully implemented .
- With its user-friendly interface and various features, Pennywise empowers users to achieve better financial control, paving the way for improved financial health.
- Extensive testing procedures have been implemented to verify the functionality & performance aspects of the application.
- Through these tests, any potential issues or bugs have been identified and addressed, resulting in a stable application.
- Overall, this project delivers an efficient solution for managing expenses and loans, empowering users to make informed financial decisions and improve their financial well-being.

# Future Enhancements

- Expense Sharing and Splitting : Introduce features that enable users to share and split expenses with friends, family, or colleagues.
- Mobile SMS data integration : Integration of user's mobile messages containing money transactions to automatically add expenses to the PennyWise app.
- Integration with Digital Wallets and Payment Platforms: Expand integration capabilities to include popular digital wallets and payment platforms.
- Enhanced user accessibility: Developing mobile versions of PennyWise for Android and iOS devices.

Thank  
You

