Prototype

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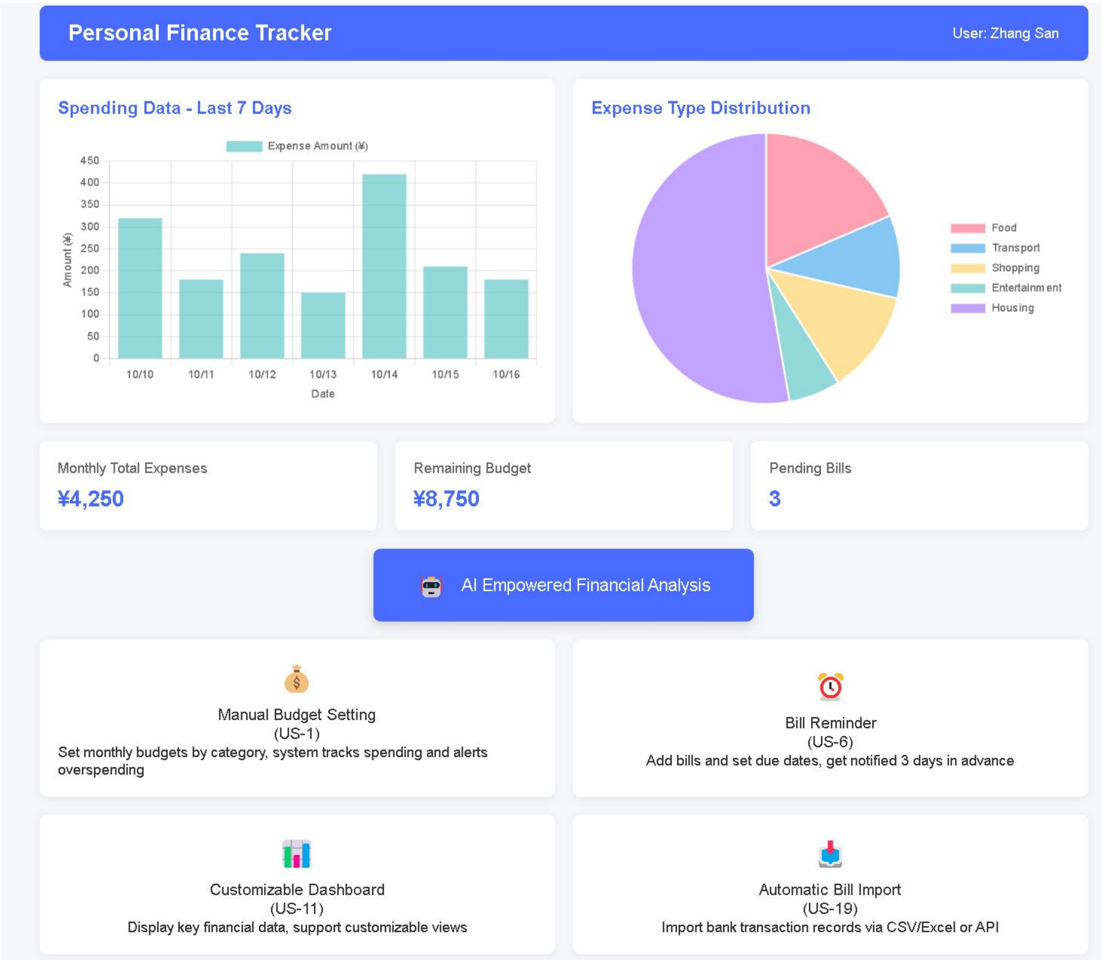
Inclusion：

The Personal Finance Tracker is a comprehensive online dashboard designed to help users manage their personal finances effectively. The platform enables users to easily track income, expenses, savings, and receive alerts about upcoming bills by providing features such as automatic bill import, financial health scoring, cash flow forecasting, and localization and scaling capabilities. In addition, users can customize the dashboard and select different widgets and layouts to meet personalized financial management needs. With an intuitive user interface and interactive charts, users can get a clear picture of their financial situation and make informed financial decisions based on suggestions for improvement provided.

Figure 1:



This figure 1 is a dashboard interface for a Personal Finance Tracker, providing a range of features and information displays to help users manage and track their personal financial situation. Here is a comprehensive analysis of the web page's functions:

1. User Interface (UI) Design

1.1 Responsive Layout:

The web page design takes into account the screen sizes of different devices, using CSS Grid layout to adapt to various screen sizes.

1.2 Visual Style:

It features a clean, modern design style, with ample white space and clear fonts, as well as soft colors, to improve readability and user experience.

2. Dashboard description

2.1 Header Information (Header) - Brand Identification:

Displays "Personal Finance Tracker" as the name of the application. - **User Information**: Shows the name of the currently logged-in user (e.g., "User: Zhang San").

2.2 Data Charts (Dashboard Grid) - Spending Data - Last 7 Days Chart:

A bar chart that shows the spending data for the last 7 days, helping users understand short-term spending trends. - **Expense Type Distribution Chart**: A pie chart that displays the distribution of different types of expenses, such as food, transportation, shopping, entertainment, and housing.

2.3 Summary Information (Summary Section) - Monthly Total Expenses:

Shows the total amount of expenses for the user this month. - **Remaining Budget**: Displays the remaining budget amount for the user this month. - **Pending Bills**: Shows the number of bills that the user has upcoming payments for.

2.4 Functional Buttons (Buttons Section)

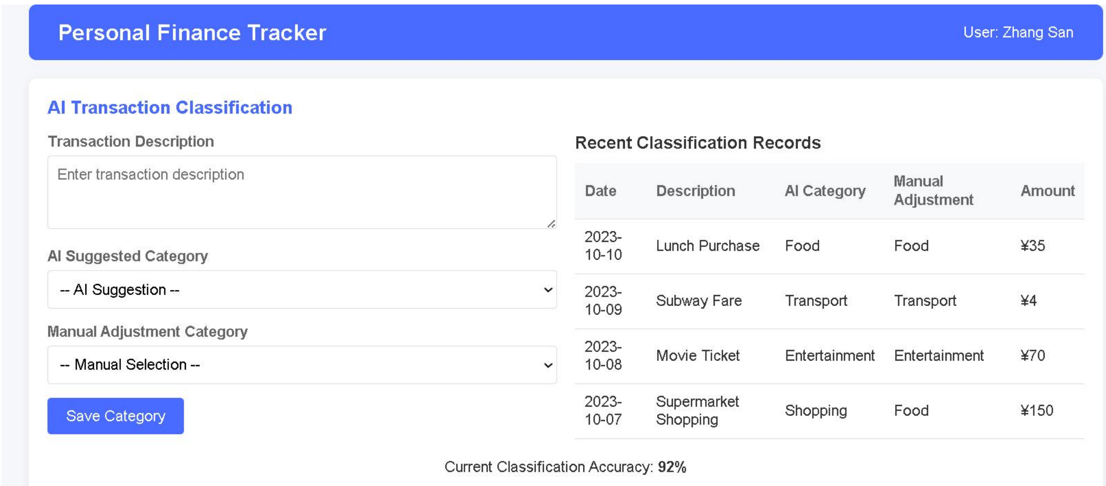
Manual Budget Setting: Alerts users that this feature is coming soon, allowing users to set monthly budgets by category, with the system tracking spending and alerting users of overspending.

Bill Reminder: Alerts users that this feature is coming soon, allowing users to add bills and set due dates, with the system notifying users 3 days in advance.

Customizable Dashboard: Alerts users that this feature is coming soon, allowing users to display key financial data and support customizable views. - Automatic Bill **Automatic Bill Import:** Alerts users that this feature is coming soon, allowing users to import bank transaction records via CSV/Excel or API.

3.AI Empowered Financial Analysis

Figure 2



3.1 AI Transaction Classification:

Transaction description input: Users can enter a description of the transaction.

AI suggested categorization: AI automatically suggests a transaction category, and users can select from a dropdown menu.

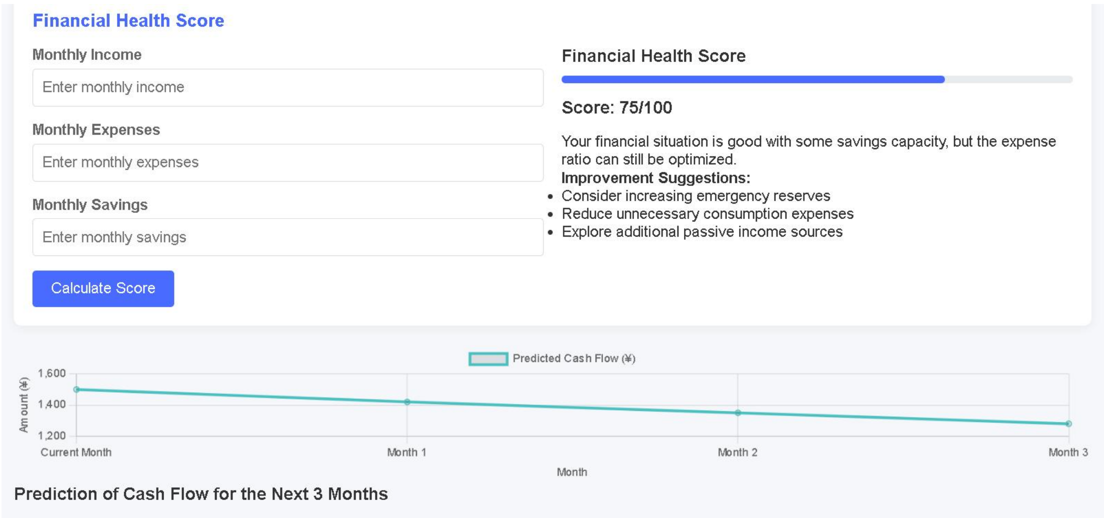
Manual correction of categorization: Users can manually choose a category to correct the AI suggestion.

Save categorization button: Users can save the categorization information.

Recent categorization record table: Displays the date, description, AI categorization, manual correction, and the amount of recent transactions.

Categorization accuracy: Shows the current accuracy rate of AI categorization.

Figure 3



3.2 Financial Health Score:

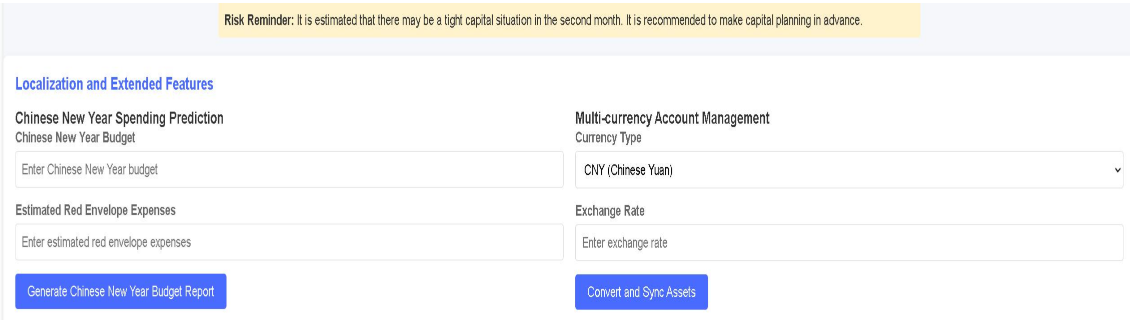
Monthly Income, Expenses, and Savings Input: Users enter information about their monthly income, expenses, and savings.

Calculate Score Button: Users can calculate their financial health score.

Financial Health Score Progress Bar: Displays a progress bar for the financial health score.

Score Result: Shows the score result and improvement suggestions.

Figure 4



3.3 Localization and Extended Features:

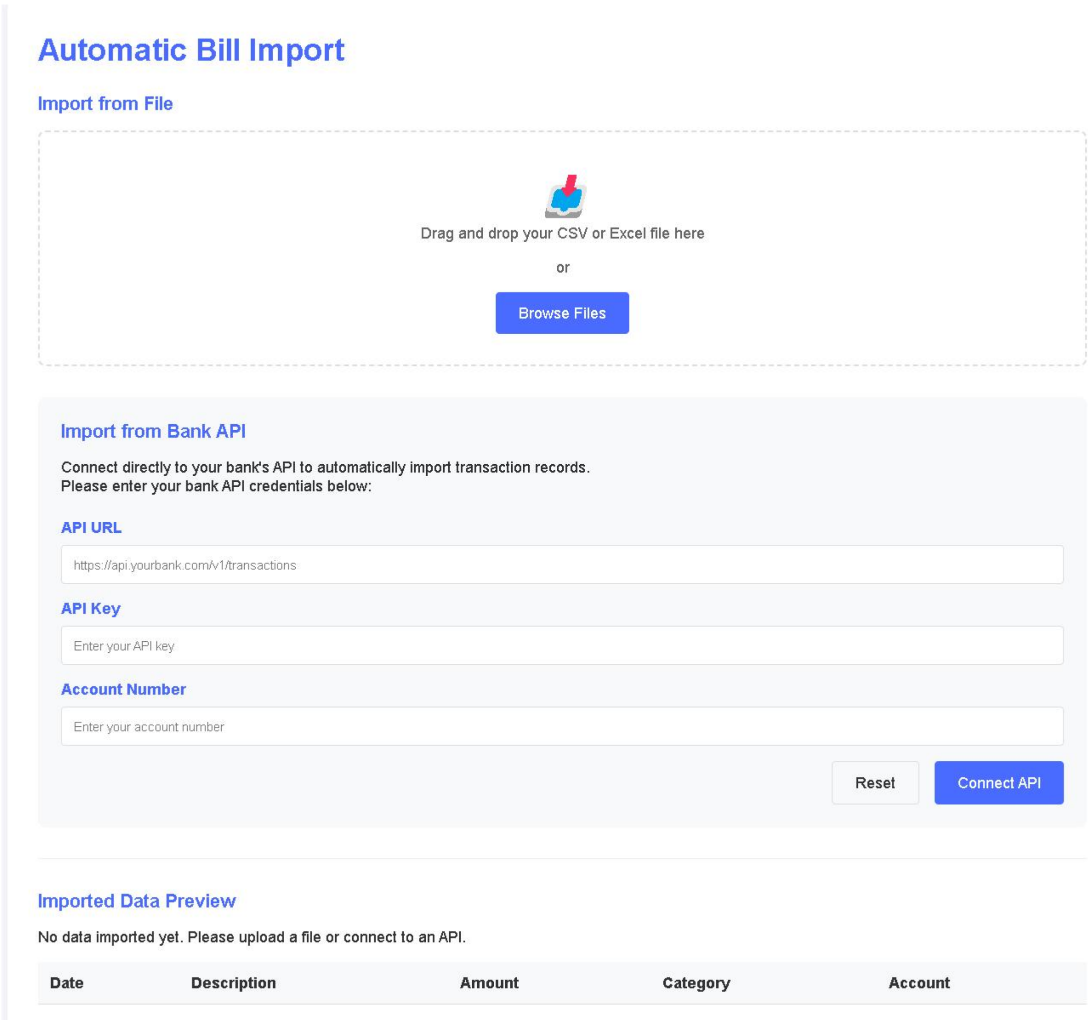
Lunar New Year Spending Forecast: Users can input their budget and expected red envelope expenses for the Lunar New Year to generate a budget report.

Multi-Currency Account Management: Users can select currency types and enter exchange rates to convert and synchronize assets.

4 Detailed description of function buttons

4.1 Automatic Bill Import

Figure 5：Automatic Bill Import’s Overview



Drag and Drop Upload: Users can upload CSV or Excel files by dragging and dropping them into the designated area.

Browse Files Button: Users can click the button to browse and select files to upload.

File Input Field: A hidden file input field used to trigger the file selection dialog.

API Import:

API Connection Information: Users can enter their bank's API URL, API key, and account number.

Reset Button: Users can reset the API credential input form.

Connect API Button: Users can click the button to connect to their bank's API and import transaction records.

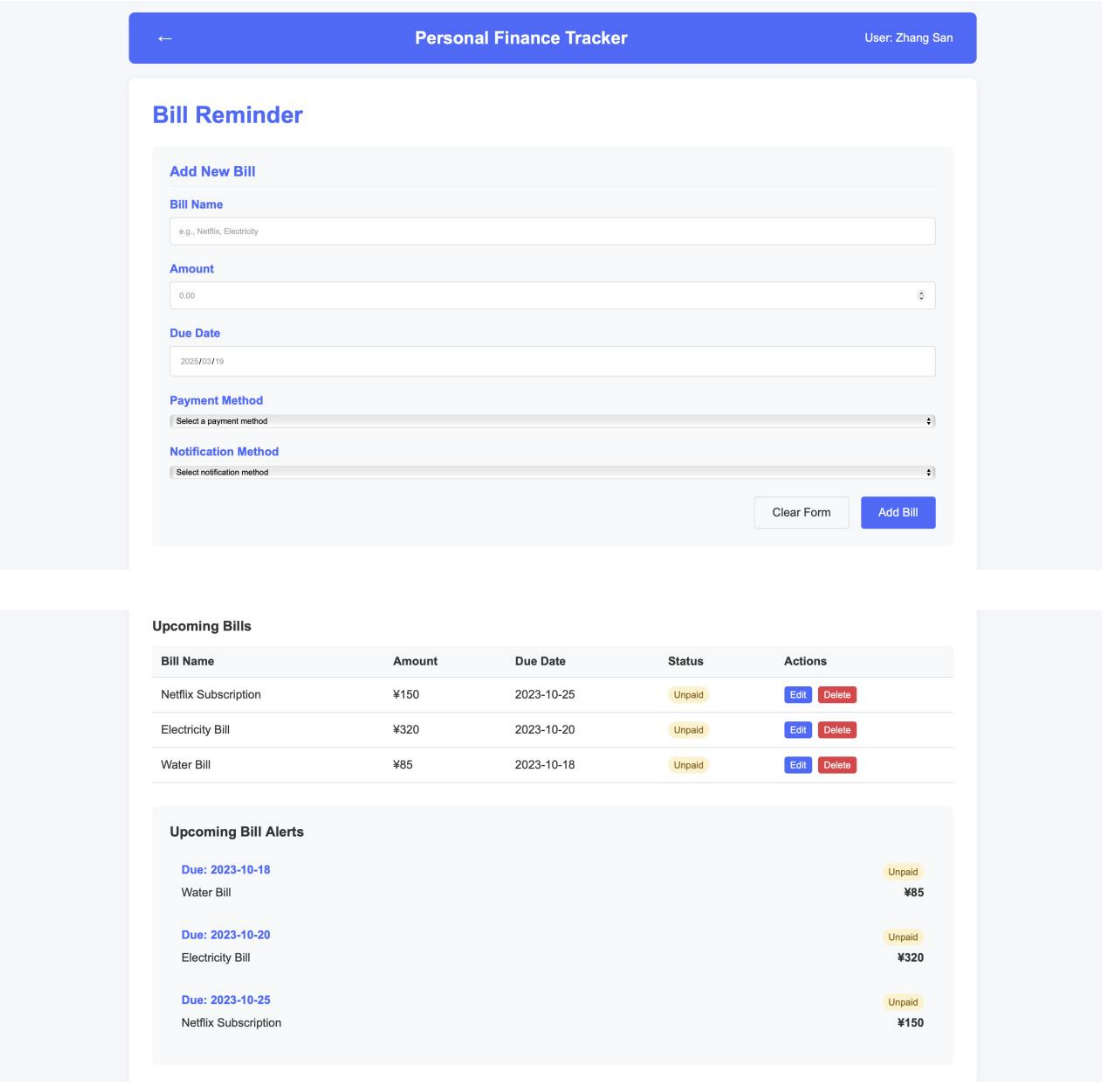
Preview of Imported Data:

Preview Message: Displays a message indicating that no data has been imported yet.

Preview Table: Shows a preview of the imported data, including date, description, amount, category, and account information

4.2 Bill Reminder

Figure 6: Bill Reminder's Overview



The Bill Reminder page of the Personal Finance Tracker is designed to help users efficiently manage and track their upcoming financial obligations. It ensures that users never miss a payment by providing automated bill tracking and reminders.

Key Features:

1. Add New Bills

Users can manually enter bill details, including:

Bill Name (e.g., Netflix, Electricity)

Amount (e.g., ¥150)

Due Date (to schedule timely reminders)

Payment Method (Credit Card, Debit Card, Bank Transfer, Cash, etc.)

Notification Method (Email, Push Notification, or both)

2. Upcoming Bills Table

Displays all pending bills with key details:

Bill Name, Amount, Due Date, Payment Status.

Interactive Edit & Delete buttons allow users to manage bills conveniently.

3. Bill Status & Alerts

Bills are categorized with status indicators:

Paid (Green), Unpaid (Yellow) and Overdue (Red)

Upcoming Bill Alerts dynamically list the closest due payments, helping users stay on top of their finances.

4. User-Friendly Design & Responsiveness

Modern and intuitive UI with clear sections.

Mobile-friendly layout, ensuring accessibility on different devices.

Hover effects and smooth animations enhance usability.

5. Navigation & Interaction

A Back Button allows users to return to the main dashboard.

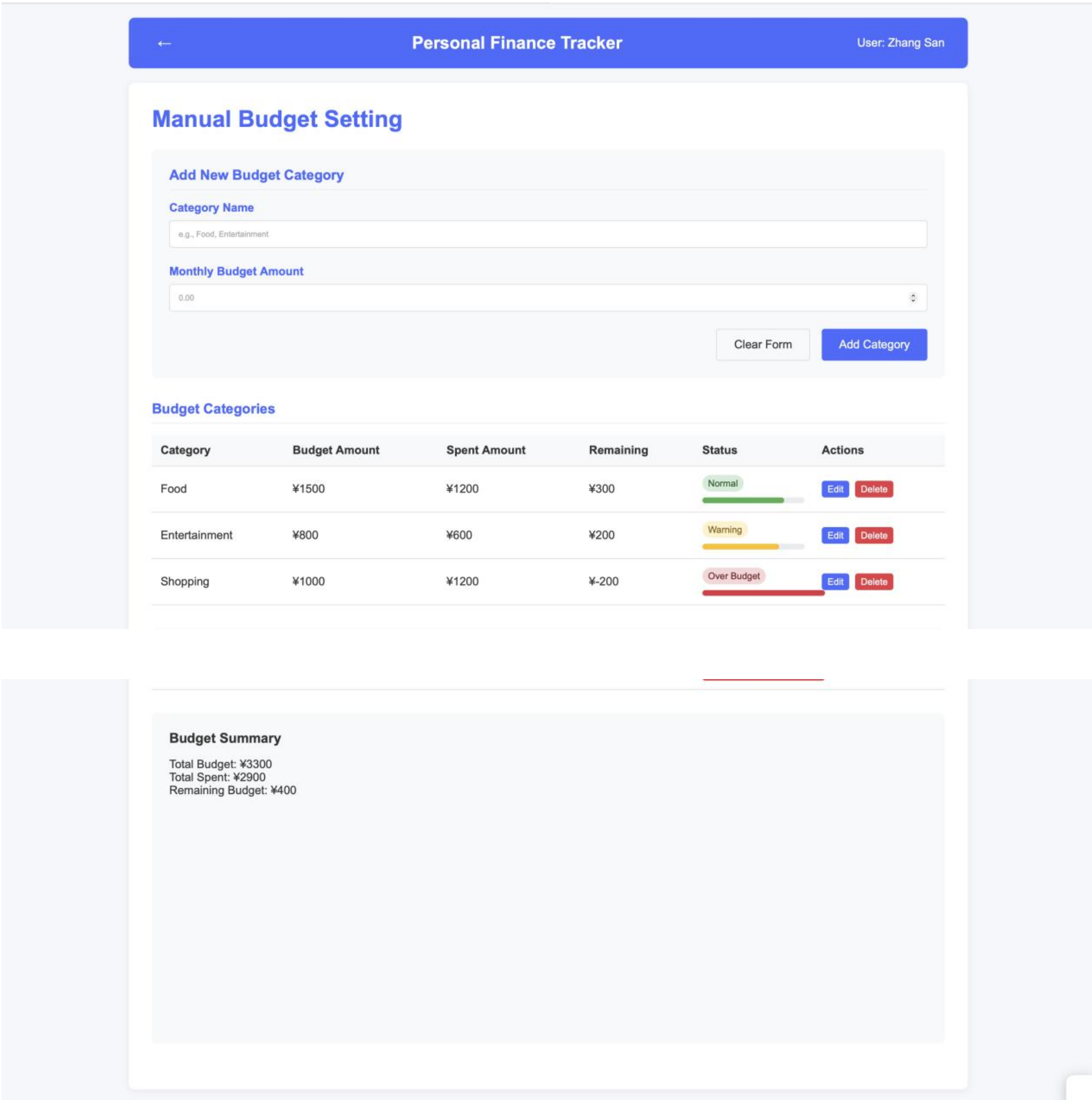
The "Add Bill" button dynamically updates the table and alert list.

User actions are supported with instant feedback messages (e.g., success alerts when a bill is added).

This Bill Reminder module provides a streamlined and automated way to keep track of recurring expenses, ensuring users maintain financial discipline and avoid late payments.

4.3 Manual Budget Setting

Figure 7: Manual Budget Setting’s Overview



4.3.1 Budget Management Features

1. Adding a New Budget Category

Users can create custom budget categories through a structured input form with the following fields:

- Category Name: Defines the type of expense (e.g., "Food," "Entertainment").
- Monthly Budget Amount: Sets a spending limit for that category.
- Action Buttons： "Clear Form" resets all input fields.

"Add Category" submits the budget category, automatically updating the budget table.

Once added, the budget category appears in the Budget Categories Table, allowing users to track their spending progress.

2. Budget Categories Table

This table displays all user-defined budget categories, helping users track their financial allocations. The table contains the following columns:

Category: The type of expense (e.g., "Shopping").

Budget Amount: The allocated budget for the category.

Spent Amount: The total amount spent so far in that category.

Remaining Amount: The budget left after spending.

Status Indicator: Displays the current spending condition:

- Normal (Green Badge): Spending is under control.
- Warning (Yellow Badge): Close to exceeding the budget.
- Over Budget (Red Badge): Spending has surpassed the allocated budget.

Progress Bar: A visual representation of the spending percentage.

Actions:

- Edit Button: Allows modifications to the category's budget.
- Delete Button: Removes a budget category.

4.3.2 Budget Progress & Status Indicators

1. Budget Status
Each category has a status indicator that visually represents spending progress:

- Normal (Green) → Budget is well managed.
- Warning (Yellow) → Spending is nearing the budget limit.
- Over Budget (Red) → Exceeded the allocated budget.

2. Progress Bars
Each budget category includes a progress bar:

- Green → Safe spending level
- Yellow → Approaching budget limit
- Red → Over budget

These indicators help users quickly assess their financial situation.

4.3.3 Budget Summary & Insights

1. Budget Summary Section
A separate **summary section** provides an overview of all budget categories, displaying:

Total Budget: The total amount allocated for all categories.

Total Spent: The total expenditure across all categories.

Remaining Budget: The leftover funds for the month.

This section provides a **clear financial snapshot**, helping users analyze their budgeting performance and make adjustments as needed.

4.3.4 User Experience & Design

1. Navigation & Interaction

A Back Button allows users to return to the Dashboard.

Instant Updates: Adding or modifying budget categories dynamically updates the table and summary section.

User Confirmation Messages: Alerts notify users when a budget category is successfully added, edited, or deleted.

2 Responsive & User-Friendly Design

Clean and structured UI for easy navigation.

Hover effects and smooth animations enhance usability.

Mobile-friendly layout ensures smooth functionality across different devices.

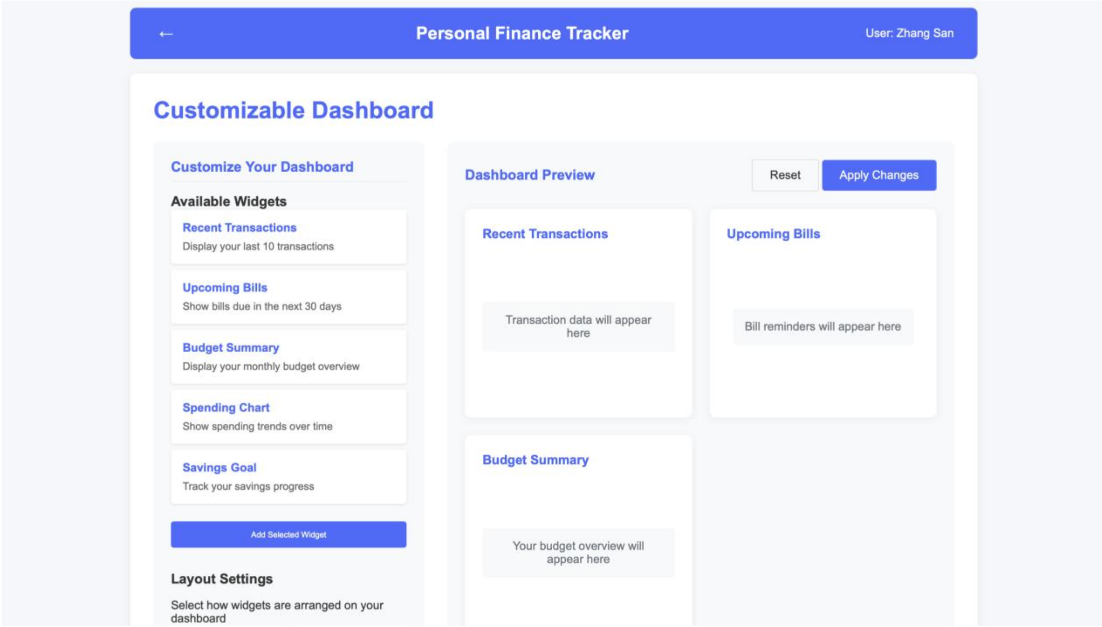
4.3.5 Benefits of Manual Budget Setting

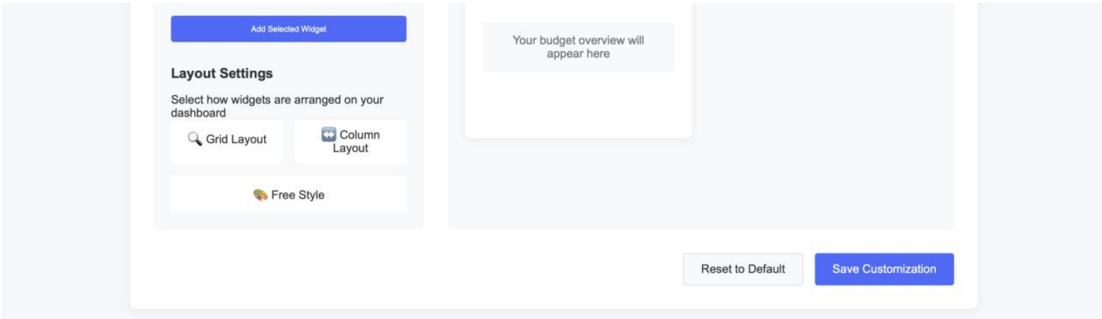
1. Improved financial organization by categorizing expenses.
2. Better spending control through real-time tracking and alerts.
3. Prevention of overspending using progress bars and warnings.
4. Personalized budget tracking with customizable categories.

This module provides a structured and interactive way to manage personal finances, ensuring users maintain financial discipline while having full control over their spending habits.

4.4 Customizable Dashboard

Figure 8 : Customizable Dashboard Feature’s Overview





The Customizable Dashboard module in the Personal Finance Tracker allows users to personalize their financial overview by selecting and arranging widgets according to their preferences. This feature enhances usability by giving users control over the data they see and how it is presented.

4.4.1 Dashboard Customization Features

1. Adding Widgets

Users can choose from a variety of predefined widgets, including:

- Recent Transactions: Displays the last 10 transactions.
- Upcoming Bills: Shows bills due in the next 30 days.
- Budget Summary: Provides an overview of monthly budgeting.
- Spending Chart: Visualizes spending trends over time.
- Savings Goal: Tracks progress towards savings targets.

Widgets can be dragged and dropped into the dashboard layout, allowing for easy customization.

2. Layout Customization

Users can select different layout styles to organize widgets:

- Grid Layout: Arranges widgets in a structured grid.
- Column Layout: Stacks widgets in a vertical format.
- Free Style: Allows flexible placement of widgets.

Users can switch between layouts seamlessly to suit their preferences.

4.4.2 Dashboard Preview & Adjustments

1. Interactive Preview

A real-time preview displays how the customized dashboard will look.

Users can add, remove, or rearrange widgets dynamically.

2. Reset & Save Options

- Reset Dashboard: Restores the default widget arrangement.
- Save Customization: Stores the user' s personalized dashboard settings.

These options ensure that users can easily modify their dashboard without losing their preferences.

4.4.3 User Experience & Design

1. Intuitive Drag-and-Drop Interface

Users can simply drag widgets from the available list and drop them into the preview section. And smooth animations enhance the user experience.

2. Mobile-Friendly & Responsive Design

The dashboard is fully responsive, ensuring usability across different screen sizes.

Layouts automatically adjust for mobile, tablet, and desktop views.

4.4.4 Benefits of the Customizable Dashboard

1. Enhanced user control by allowing personalized financial overviews.
2. Quick access to key financial data through a widget-based interface.
3. Improved organization by structuring widgets based on user needs.
4. Flexible layout options for a tailored financial tracking experience.

This feature provides a highly customizable and interactive way to manage personal finances efficiently.