

User Manual of AI-Empowered Personal Finance Tracker

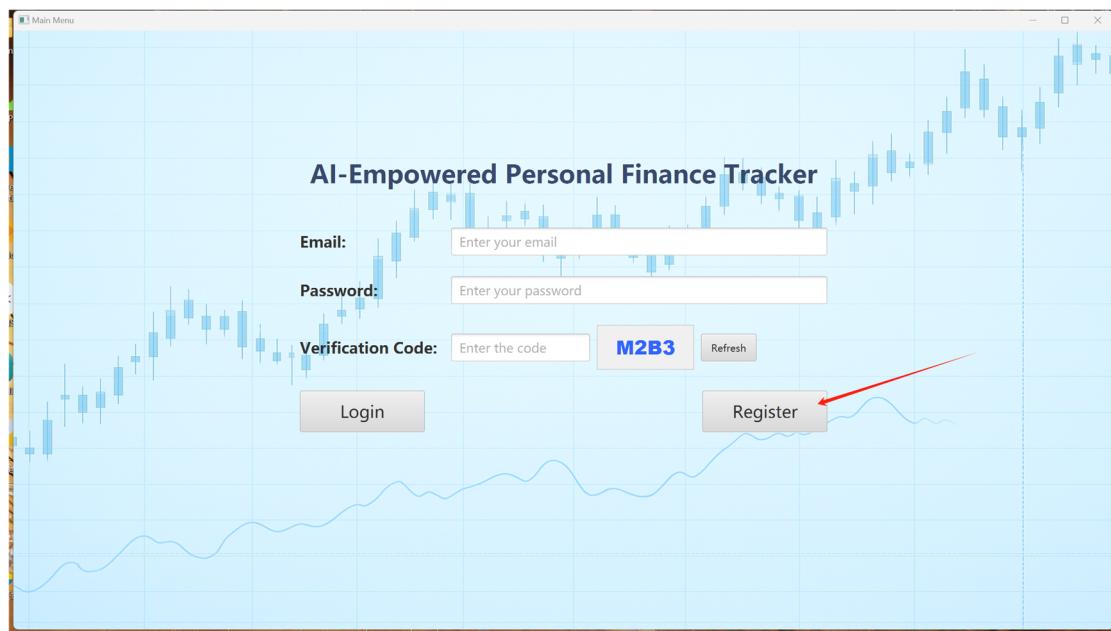
Group 58

Welcome to the Finance Tracker user manual. The AI personal finance assistant is designed to analyze consumption habits through AI and provide budget suggestions. The project is implemented through agile development, emphasizing that data is stored in text files and does not rely on databases. It supports manual correction and CSV data import. Our software includes several main pages: Homepage, Login Page, Transaction Page, Chart Analysis Page, VIP Page, AI Forecast Page, and Account Setting Page. This manual provides step-by-step instructions on how to use each feature of the Finance Tracker system effectively.

1. Login System

1.1 Register Page

- ① Click the "Register" button on the registration interface, and you will enter the registration interface.



- ② Register the user according to the prompts on the registration interface.
- **Nickname:** Enter the nickname you wish to use in the text box next to "Nickname:". The nickname is used to identify you on the platform. You can set it according to your preference.

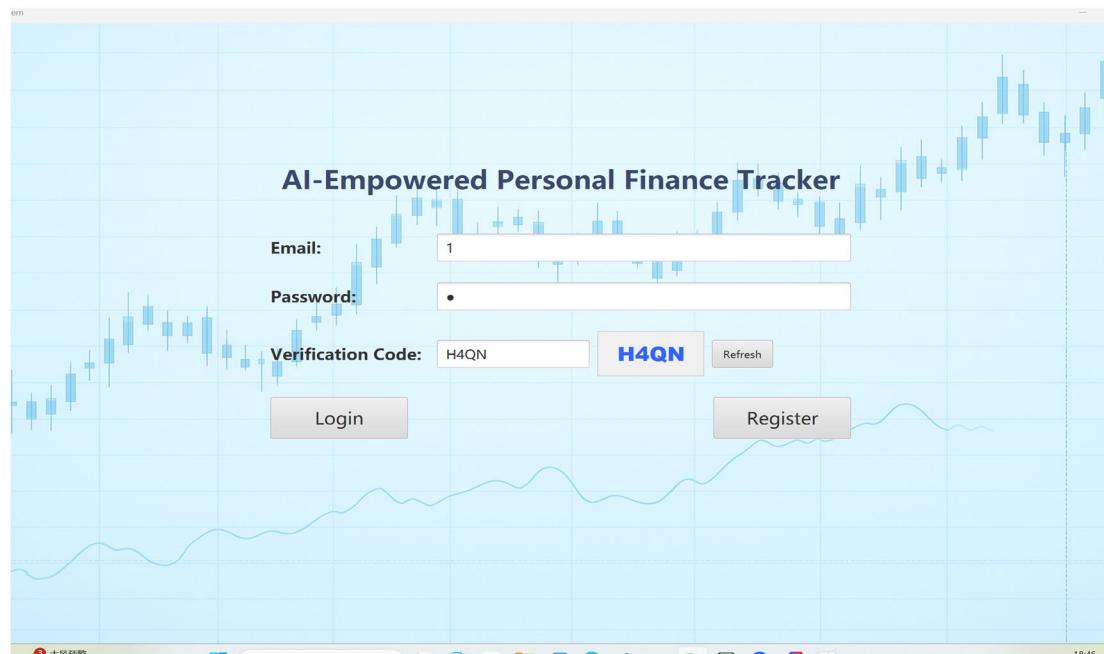
- **Password:** Set your login password in the text box next to "Password:". Please keep your password safe and avoid disclosing it.
 - **Email:** Enter a valid email address in the text box next to "Email:". The email address must follow the standard format, such as "example@domain.com". Once the email address is registered successfully, it cannot be modified
 - **Gender:** Click on the drop - down menu next to "Gender:" and select your gender from "male", "female", and "other".
 - **Date of Birth:** Click on the calendar icon next to "Date of Birth:". In the pop - up time table, select your date of birth. It is not allowed to select a date beyond the time of registration
- ③ After confirming that all information is filled in correctly, click the "**Register**" button to submit the registration information. A prompt will be given when the registration is successful. If the information does not meet the requirements, the system will pop up a prompt. Please modify it according to the prompt and resubmit. If you want to **give up** registration, click the "**Back**" button to return to the previous interface.



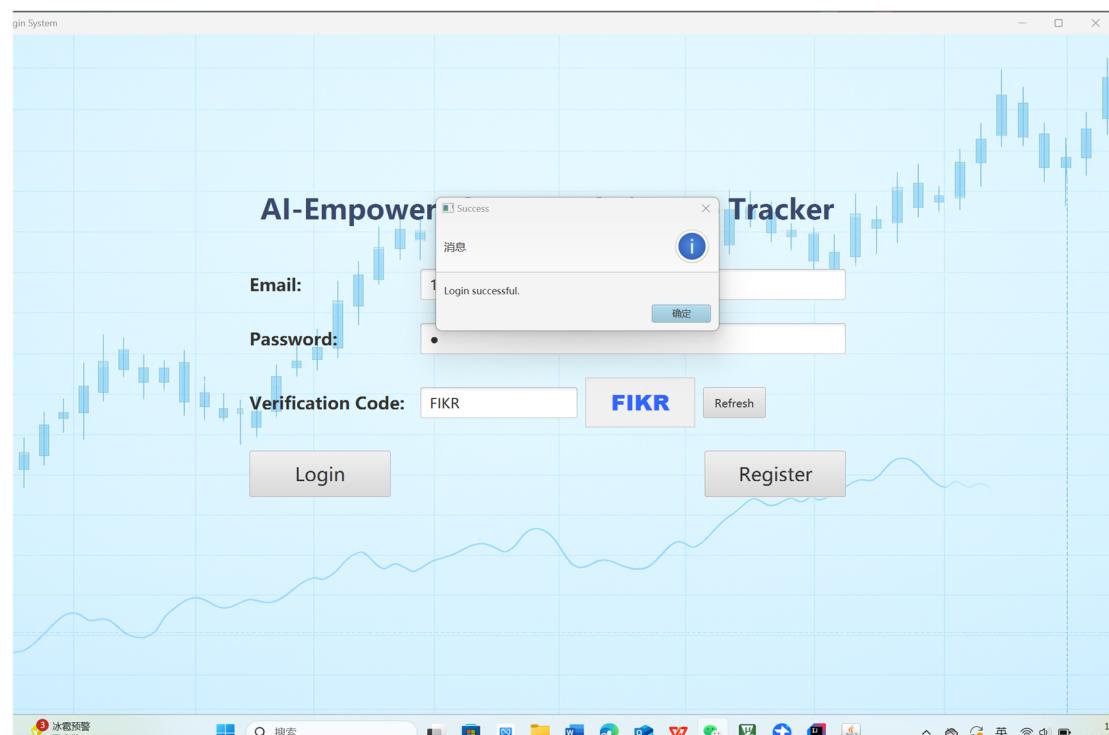
1.2 Login Page

- ① On the login interface, you'll see fields for "**Email**", "**Password**", and "**Verification Code**". Enter the email address you registered with in the "**Email**" text box.
- ② Input your password accurately in the "**Password**" text box. Make sure to enter it correctly as incorrect passwords will prevent login.

- ③ Enter the verification code displayed next to the "**Verification Code**" field. If the code is hard to read, you can click the "**Refresh**" button to get a new one.



- ④ After ensuring all information is entered correctly, click the "**Login**" button. If the credentials match the registered data, a "**Login successful**" prompt will appear, and you'll be redirected to the main interface. If the information is incorrect, the system will prompt an **error**. Please correct the information and try again.



2. Chart Analysis System

2.1 Home Page

① The Dashboard page lets you get a bird's-eye view of your finances: at the very top you'll see your Total Income, Total Expense and Net Balance laid out clearly, and below that a pie chart for the Income vs Expense ratio plus a bar chart showing your monthly cash flow in real-time.

② Clicking each item in the left-hand menu performs a different function:

- **Transaction:** add, edit or delete income and expense entries
- **Charts:** dive deeper into historical graphs and trends
- **VIP Center:** manage your membership status and perks
- **AI Forecast:** get smart predictions on your future cash flow

And up top, the **bell icon** shows **notifications** while **Visit Site** opens the web portal.

③ When you first sign up—say as “Bob”—and log in, the system will load this Dashboard (showing \$0.00 until you add anything) and prompt you to click **Transaction** to record your very first income or expense.



2.2 Chart Page

① Expense Category Distribution Pie Chart

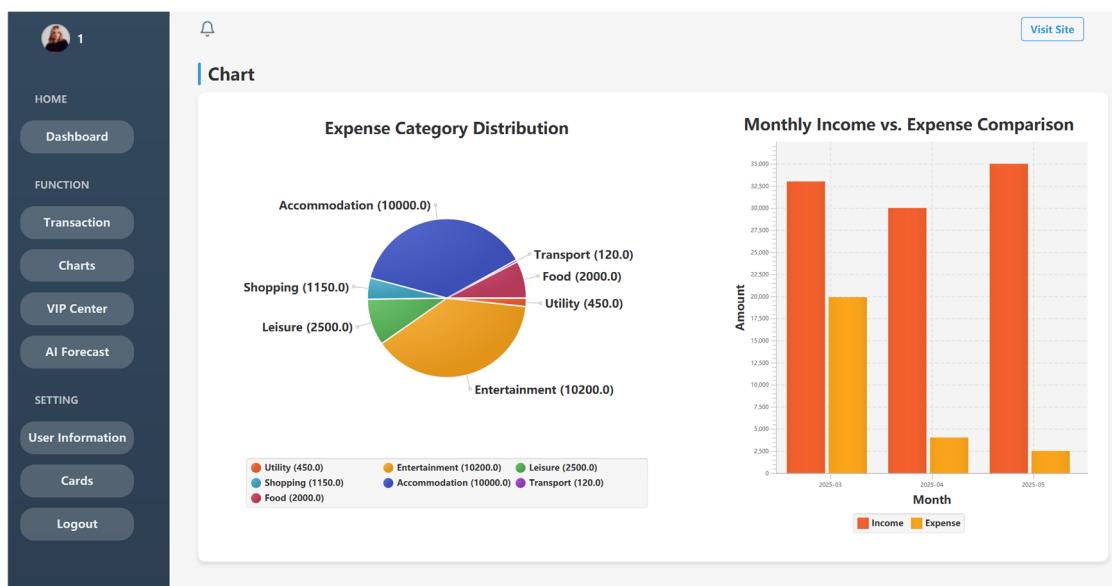
This pie chart displays the distribution proportion of your total expenses across categories such as accommodation, shopping, and leisure. The size of each sector represents the expense proportion, with amounts labeled to help you quickly track fund flows.

② Monthly Income vs. Expense Comparison Bar Chart

The bar chart compares monthly income (orange bars) and expenses (red bars). A red bar taller than the orange one indicates overspending. You can view details: income bars show composition (e.g., salary, bonuses), while expense bars show breakdowns (e.g., dining, transportation).

③ Automatic Calculation and Real-Time Update

The platform automatically calculates and updates data in real time without manual operations. After entering new income/expense data, charts update immediately to reflect the latest expense proportions and monthly income-expense comparisons. The system automatically calculates category totals and monthly summaries, providing an accurate and real-time financial overview for efficient financial management.



3. Transaction System

The Transaction Management page is where you can view, add, edit, and delete transactions. Here's a detailed guide on how to use this page:

3.1 Transaction Page

- ① The transactions are displayed in a table format with the following columns:
 - **Transaction:** The name of the transaction.
 - **Price:** The amount associated with the transaction.
 - **Classification:** The category of the transaction, including Income, Food, Clothing, Medical care, etc.
 - **Date:** The date when the transaction occurred.

- **Type:** Whether the transaction is an income or an expense.
- **Actions:** Options to edit the transaction.

The screenshot shows a user interface for managing transactions. On the left is a dark sidebar with a user profile icon and a list of navigation buttons: HOME (Dashboard, Transaction, Charts, VIP Center, AI Forecast), FUNCTION (User Information, Cards), and SETTING (Logout). The main area is titled 'Transaction' and displays a table of transaction records. The table has columns: Transaction, Price, Classification, Date, Type, and Actions (with an 'Edit' button). The data includes various items like Salary, Rent house, Stock, Iphone 15(1TB), Nike T-shirt, etc., with their respective details. At the bottom of the table are buttons for Add, Delete, Refresh, and Suggestion, along with a Monthly Budget input field and a Compare button.

| Transaction | Price | Classification | Date | Type | Actions |
|------------------|---------|--------------------|------------|---------|---------|
| Salary | 30000.0 | Salary | 2025-03-01 | income | Edit |
| Rent house | 10000.0 | Accommodation | 2025-03-01 | expense | Edit |
| Stock | 3000.0 | Finance Management | 2025-03-15 | income | Edit |
| Iphone 15(1TB) | 9900.0 | Entertainment | 2025-03-18 | expense | Edit |
| Nike T-shirt | 350.0 | Shopping | 2025-04-25 | expense | Edit |
| Salary | 30000.0 | Salary | 2025-04-01 | income | Edit |
| Groceries | 1500.0 | Food | 2025-04-05 | expense | Edit |
| Electricity Bill | 250.0 | Utility | 2025-04-10 | expense | Edit |
| Internet Bill | 200.0 | Utility | 2025-04-12 | expense | Edit |
| Restaurant | 500.0 | Food | 2025-04-14 | expense | Edit |
| Transportation | 120.0 | Transport | 2025-04-20 | expense | Edit |
| Movie Tickets | 300.0 | Entertainment | 2025-04-22 | expense | Edit |
| Clothes | 800.0 | Shopping | 2025-04-28 | expense | Edit |

② Adding a Transaction

1. Click the “Add” button located at the bottom of the transaction table.
2. A form will appear where you can enter the details of the new transaction.
3. Fill in the required fields: **Transaction name, Price, Classification, Date, and Type**.
4. Click Save to add the transaction to the list.

The screenshot shows a user interface for managing transactions. On the left is a dark sidebar with a user profile icon and a list of navigation buttons: HOME (Dashboard, Transaction, Charts, VIP Center, AI Forecast), FUNCTION (User Information, Cards), and SETTING (Logout). The main area is titled 'Transaction' and displays a table of transaction records. A modal dialog box is open over the table, allowing the addition of a new transaction. The dialog has fields for Transaction (text input), Price (text input), Classification (dropdown menu), Date (date picker), and Type (dropdown menu). At the bottom of the dialog are Save and Cancel buttons. The table below the dialog shows existing transaction data.

| Transaction | Price | Classification | Date | Type | Actions |
|------------------|-------|----------------------|------------|---------|---------|
| Salary | 3000 | Transaction | -03-01 | income | Edit |
| Rent house | 1000 | Price | -03-01 | expense | Edit |
| Stock | 300 | Classification | -03-15 | income | Edit |
| Iphone 15(1TB) | 990 | Date | -03-18 | expense | Edit |
| Nike T-shirt | 350 | Type(income/expense) | -04-25 | expense | Edit |
| Salary | 3000 | | -04-01 | income | Edit |
| Groceries | 1500 | | -04-05 | expense | Edit |
| Electricity Bill | 250 | | -04-10 | expense | Edit |
| Internet Bill | 200 | | -04-12 | expense | Edit |
| Restaurant | 500.0 | Food | 2025-04-14 | expense | Edit |
| Transportation | 120.0 | Transport | 2025-04-20 | expense | Edit |
| Movie Tickets | 300.0 | Entertainment | 2025-04-22 | expense | Edit |
| Clothes | 800.0 | Shopping | 2025-04-28 | expense | Edit |

③ Editing a Transaction

1. **Locate** the transaction you want to edit in the table.

2. Click the “**Edit**” button in the Actions column.

3. Modify the transaction details as needed.

4. Click “**Save**” to update the transaction.

| Transaction | Price | Date | Type | Actions |
|------------------|-------|----------------|------------|---------|
| Salary | 3000 | Transaction | -03-01 | income |
| Rent house | 1000 | Price | -03-01 | expense |
| Stock | 3000 | Classification | -03-15 | income |
| Iphone 15(1TB) | 9900 | Salary | -03-18 | expense |
| Nike T-shirt | 350 | Date | -04-25 | expense |
| Salary | 3000 | Type | -04-01 | income |
| Groceries | 1500 | income | -04-05 | expense |
| Electricity Bill | 250 | Save | -04-10 | expense |
| Internet Bill | 200 | Cancel | -04-12 | expense |
| Restaurant | 500.0 | Food | 2025-04-14 | expense |
| Transportation | 120.0 | Transport | 2025-04-20 | expense |
| Movie Tickets | 300.0 | Entertainment | 2025-04-22 | expense |
| Clothes | 800.0 | Shopping | 2025-04-28 | expense |

④ Deleting a Transaction

1. **Locate** the transaction you want to delete in the table.

2. Click the “**Delete**” button in the Actions column.

3. Confirm the deletion to remove the transaction from the list.

⑤ Refreshing the Page

Click the “**Refresh**” button to update the transaction list with any new data.

⑥ Getting Suggestions

Click the “**Suggestion**” button to receive financial management tips based on your current data.

3.2 Suggestion Page

① Beside the Refresh button, there is a suggestion function. After pressing the “**suggestion**” button, the AI will provide recommendations for reducing expenses based on your income and spending.

| Transaction | Price | Classification | Date | Type | Actions |
|------------------|---------|--------------------|------------|---------|---------|
| Salary | 30000.0 | Salary | 2025-03-01 | income | Edit |
| Rent house | 10000.0 | Accommodation | 2025-03-01 | expense | Edit |
| Stock | 3000.0 | Finance Management | 2025-03-15 | income | Edit |
| iPhone 15(1TB) | 9900.0 | Entertainment | 2025-03-18 | expense | Edit |
| Nike T-shirt | 350.0 | Shopping | 2025-04-25 | expense | Edit |
| Salary | 30000.0 | Salary | 2025-04-01 | income | Edit |
| Groceries | 1500.0 | Food | 2025-04-05 | expense | Edit |
| Electricity Bill | 250.0 | Utility | 2025-04-10 | expense | Edit |
| Internet Bill | 200.0 | Utility | 2025-04-12 | expense | Edit |
| Restaurant | 500.0 | Food | 2025-04-14 | expense | Edit |
| Transportation | 120.0 | Transport | 2025-04-20 | expense | Edit |
| Movie Tickets | 300.0 | Entertainment | 2025-04-22 | expense | Edit |
| Clothes | 800.0 | Shopping | 2025-04-28 | expense | Edit |

Add Delete Refresh Suggestion

Monthly Budget: Compare

- ② By clicking the "Give Advice" button, you will receive suggestions from the AI.

AI Prediction Advice

Advice:

Certainly! Based on the provided transaction data, here are some specific suggestions on how to reduce expenses in various categories:

1. **Entertainment**

- **Current Spending:** ¥10,200 (iPhone 15 + Movie Tickets)
- **Suggestion:**

- **iPhone 15:** Consider whether you really need the latest and most expensive model. A mid-range or refurbished phone could serve your needs just as well and save you a significant amount of money.

Get Advice

3.3 Compare Page

- ① At the bottom of the transaction interface, there is a compare function. Input original monthly budget. After clicking the "**Compare**" button, the AI will automatically compare your budget with your actual consumption and provide suggestions.

The screenshot shows the 'Transaction' page of a financial application. On the left is a sidebar with a user profile icon and a list of navigation options: HOME, Dashboard, FUNCTION, Transaction, Charts, VIP Center, AI Forecast, SETTING, User Information, Cards, and Logout. The main area is titled 'Transaction' and contains a table with columns: Transaction, Price, Classification, Date, Type, and Actions. The table lists various transactions like Salary, Rent house, Stock, etc., with their respective details. Below the table are buttons for Add, Delete, Refresh, and Suggestion. At the bottom, there is a input field for 'Monthly Budget:' and a red arrow points to the 'Compare' button next to it.

| Transaction | Price | Classification | Date | Type | Actions |
|------------------|---------|--------------------|------------|---------|---------|
| Salary | 30000.0 | Salary | 2025-03-01 | income | Edit |
| Rent house | 10000.0 | Accommodation | 2025-03-01 | expense | Edit |
| Stock | 3000.0 | Finance Management | 2025-03-15 | income | Edit |
| Iphone 15(1TB) | 9900.0 | Entertainment | 2025-03-18 | expense | Edit |
| Nike T-shirt | 350.0 | Shopping | 2025-04-25 | expense | Edit |
| Salary | 30000.0 | Salary | 2025-04-01 | income | Edit |
| Groceries | 1500.0 | Food | 2025-04-05 | expense | Edit |
| Electricity Bill | 250.0 | Utility | 2025-04-10 | expense | Edit |
| Internet Bill | 200.0 | Utility | 2025-04-12 | expense | Edit |
| Restaurant | 500.0 | Food | 2025-04-14 | expense | Edit |
| Transportation | 120.0 | Transport | 2025-04-20 | expense | Edit |
| Movie Tickets | 300.0 | Entertainment | 2025-04-22 | expense | Edit |
| Clothes | 800.0 | Shopping | 2025-04-28 | expense | Edit |

- ② Click "**Close**" to return to the transaction interface.

The screenshot shows a 'Budget Analysis Report' window. The title is 'Budget Analysis Report'. The content includes sections for Spending Analysis, Category Breakdown, and Recommendations. In the Spending Analysis section, it says "Budget vs. Actual Spending:" with "Actual Spending: \$2500.0" and "Overspent: \$500.0 (25% over budget)". In the Category Breakdown section, it says "Category Breakdown:" with "Leisure: \$2500.0 (100% of total spending)". In the Recommendations section, it lists actions to reduce leisure spending and set specific goals. At the bottom right is a red 'Close' button.

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### Spending Analysis
**Budget vs. Actual Spending:**
- **Budget:** $2000.0
- **Actual Spending:** $2500.0
- **Overspent:** $500.0 (25% over budget)

**Category Breakdown:**
- **Leisure:** $2500.0 (100% of total spending)

### Recommendations
1. **Reduce Leisure Spending:**
- **Current Spending:** $2500.0
- **Target Spending:** Aim to reduce this to within your budget, ideally around $2000.0 or less.
- **Actions:**
  - Prioritize essential leisure activities and cut back on non-essential ones.
  - Look for free or low-cost entertainment options like parks, museums, or community events.
  - Consider group activities that can be more cost-effective.

2. **Set Specific Goals:**
- **Monthly Budget:** $2000.0
- **Leisure Budget:** Allocate a specific amount, e.g., $1500.0, leaving room for unexpected expenses or savings.

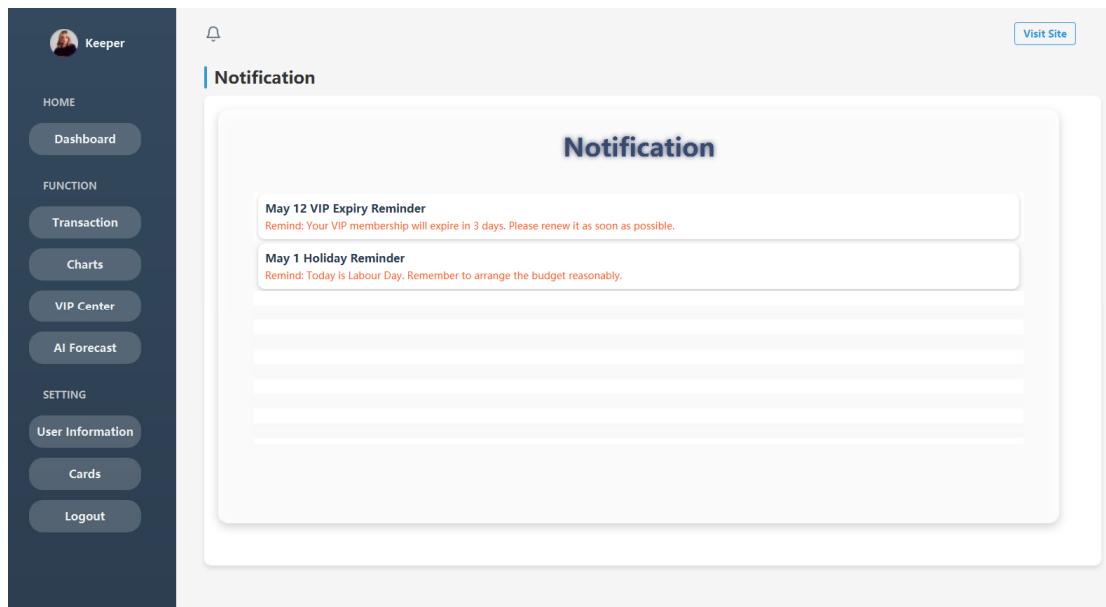
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3.4 Notification Page

- ① The **Notification** page automatically displays important reminders related to your account, such as VIP membership expiry alerts and holiday budget suggestions.
- ② Each notification includes a title and detailed description, with the most recent

messages shown at the top for easy viewing.

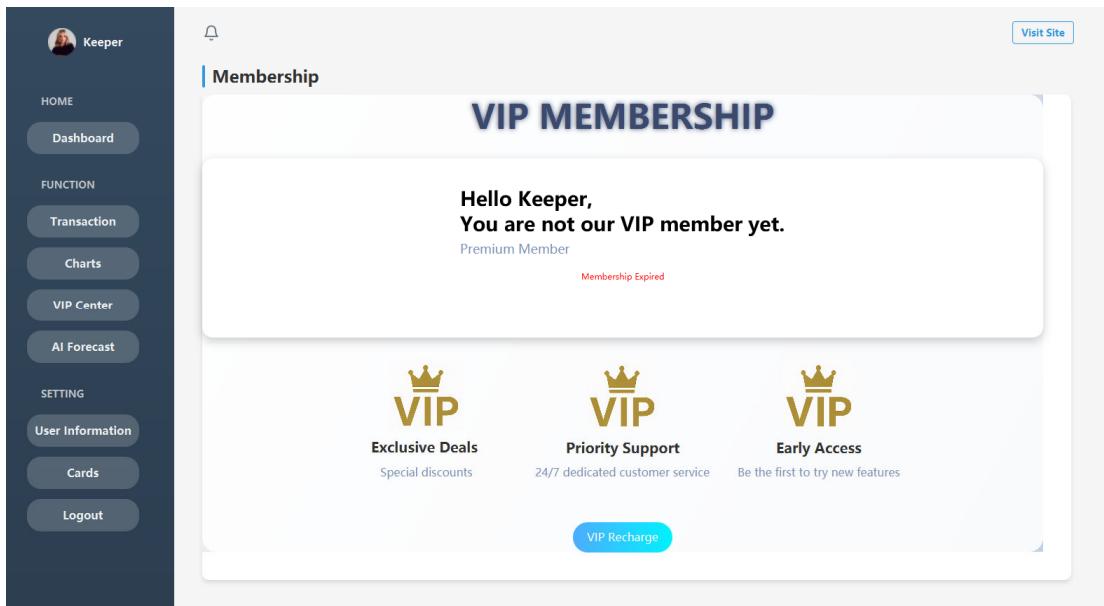
- ③ You can **switch** to **other** features using the navigation bar on the left, such as Transaction Records, Charts, and VIP Center. Click “Dashboard” or “Notification” to return to this notifications page at any time.
- ④ If you see a “**VIP Expiry Reminder**,” please go to the “VIP Center” promptly to renew your membership and avoid losing your VIP privileges.
- ⑤ On **holidays**, the system will automatically send budget management reminders to help you plan your finances more wisely.



4. VIP System

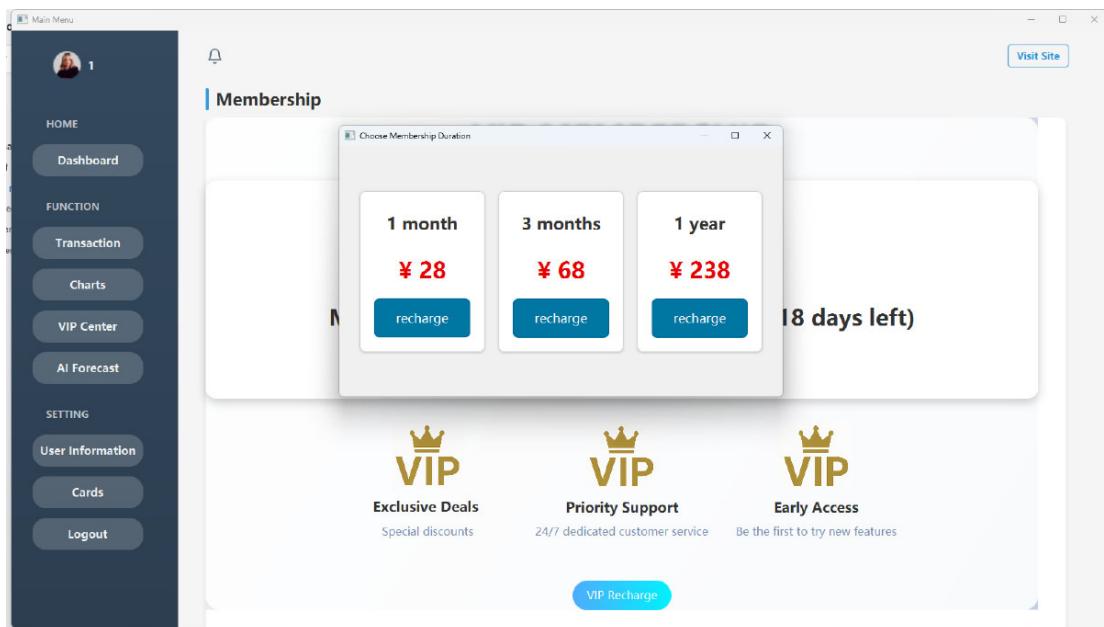
4.1 VIP Check Page

- ① The **VIP Membership** page shows your current VIP status and benefits. If your membership is expired or you are not a VIP, you will see a reminder here.
- ② You can click the **VIP Recharge** button to renew or upgrade your VIP membership at any time.
- ③ VIP members enjoy exclusive deals, priority customer support, and early access to new features.

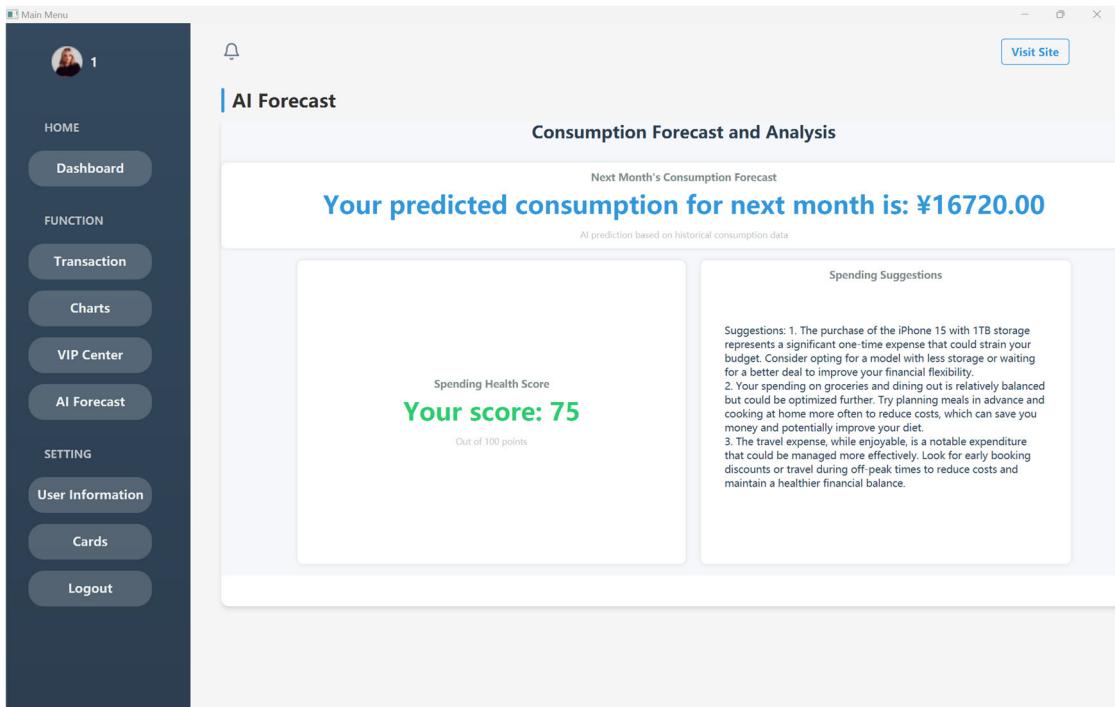


4.2 VIP Recharge Page

- ① Pressing the **VIP Recharge** button to enter this page, the page displays three options for membership duration: **1 month, 3 months, 1 year**.
- ② Recharging Your Membership
 - **Choose a Duration:** Select the desired membership duration by clicking on the corresponding card.
 - **Click Recharge:** After selecting the duration, click the recharge button to proceed with the payment.
 - **Confirm Payment:** Follow the prompts to complete the payment process.



4.3 AI Forecast Page



- ① Navigate to the AI Forecast page by clicking the "AI Forecast" option in the left - hand menu.
- ② Once on the page, you'll see the "Consumption Forecast and Analysis" section. Here, the predicted consumption amount for the next month is displayed prominently, which is calculated based on your historical consumption data by the AI.
- ③ Below the predicted amount, there is a "Spending Health Score" section that shows your score out of 100 points. This score reflects the health of your spending habits.
- ④ Additionally, the "Spending Suggestions" section provides personalized advice. For example, it might suggest optimizing large - expense purchases, adjusting grocery and dining - out spending, or managing travel expenses more effectively. **Review these suggestions to improve your financial management.**

5. Account System

5.1 UserInfo Page

- ① In the left - hand navigation bar of the Main Menu, locate and click on the "User Information" option to enter the "User Management - User Information" interface.
- ② Modify the user information according to the prompts on the interface.
 - **Nickname:** If you wish to change your nickname, delete the existing content in the text box next to "Nickname:" and enter the new nickname.
 - **Email:** The email address does not support modification.

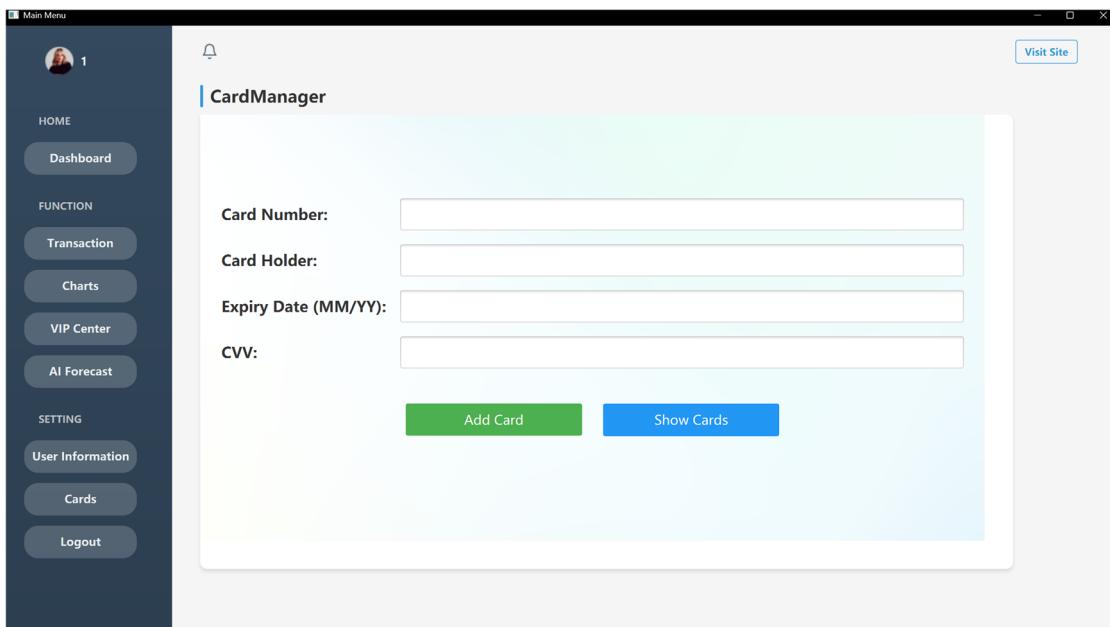
- **Gender:** If you want to modify your gender, click on the drop - down menu next to "Gender:". Select the appropriate gender from options such as "Male", "Female", "Other".
- **Date of Birth:** If you need to adjust your date of birth, click on the calendar icon next to "Date of Birth:". In the pop - up calendar interface, select the correct date.
- ③ After confirming that all the information you want to modify has been entered correctly, click the blue "Update" button at the bottom of the interface to submit and save the modified user information. There will be a prompt when you make the modification successfully. If you encounter problems during the modification process or wish to abandon the changes, you can go to another interface first and then come back.

The screenshot shows a user management interface. On the left is a sidebar with a user profile picture and the number '1'. Below it are sections for 'HOME' (Dashboard), 'FUNCTION' (Transaction, Charts, VIP Center, AI Forecast), and 'SETTING' (User Information, Cards, Logout). The main area is titled 'UserManagement' and contains a 'User Information' form. The form has fields for Nickname (1), Email (1@qq.com), Gender (Male), and Date of Birth (2025/4/2). A blue 'Update' button is at the bottom right of the form.

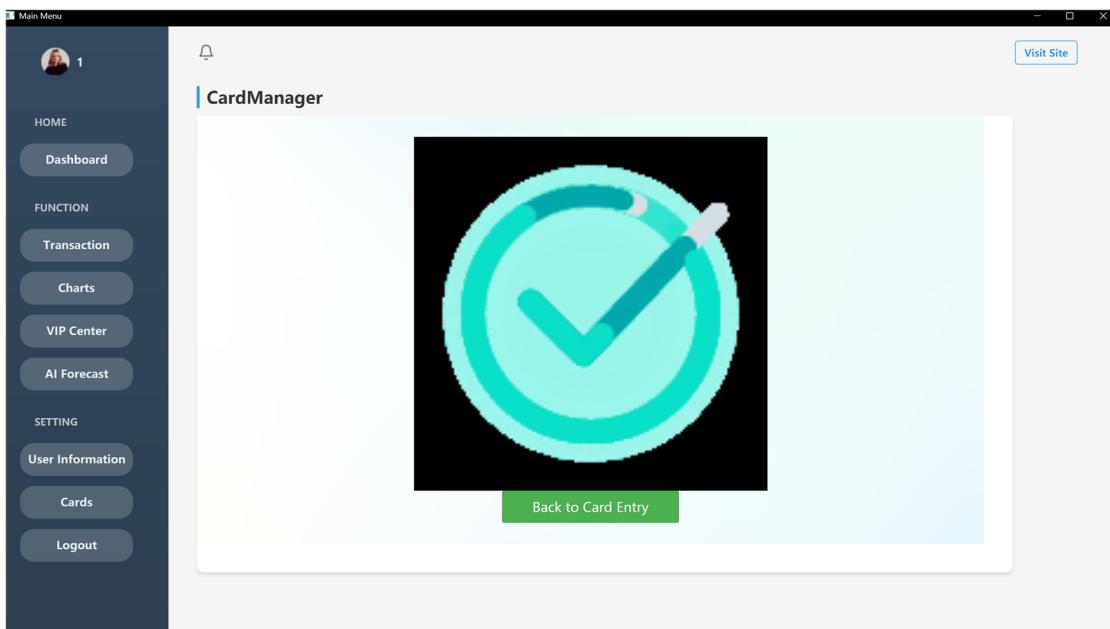
5.2 Card Page

① Adding a New Credit Card

- Navigate to the **Card Entry Form** section of the interface.
- You will find the following input fields:
 - **Card Number:** Enter your card number.
 - **Cardholder Name:** Enter the name printed on your card.
 - **Expiry Date:** Input the expiration date of your card.
 - **CVV:** Enter the CVV code from the back of your card.



- After filling in the required information, press the “**Submit**” button to add the card.
- If the information is valid, a success animation will be displayed briefly to confirm that the card has been successfully added.

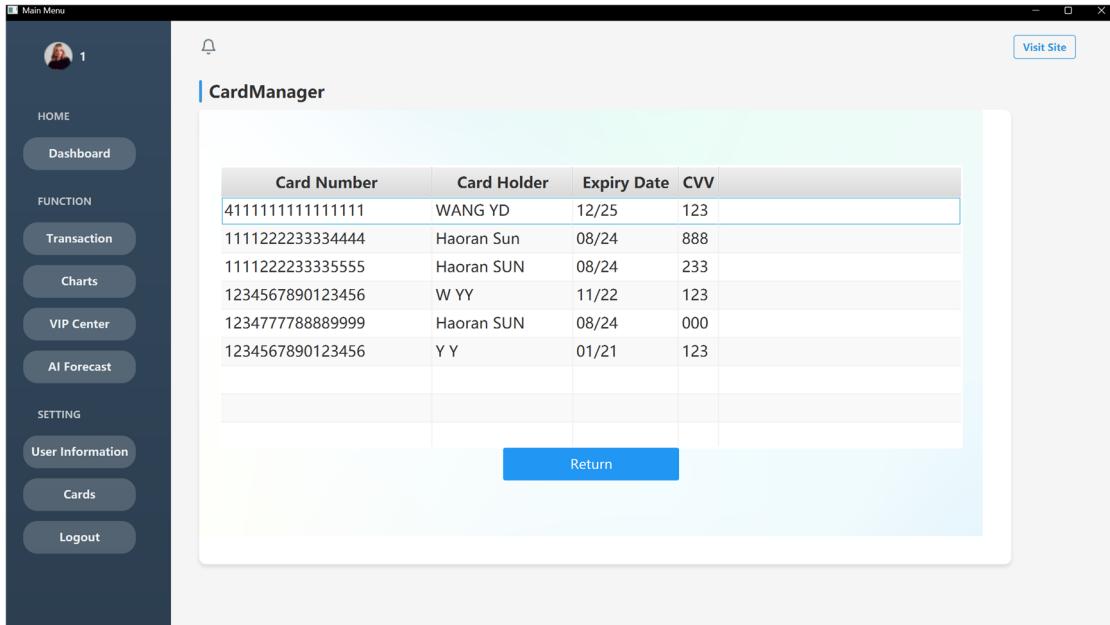


② Viewing Saved Cards

- To view previously saved credit cards, navigate to the **Card Table View**.
- The saved cards will be displayed in a table format with details such as:
 - **Card Number**
 - **Cardholder Name**

○ Expiry Date

- You can scroll through the table to see all stored cards.
- The system will automatically load saved card data when you open this view.



③ Navigating Between Views

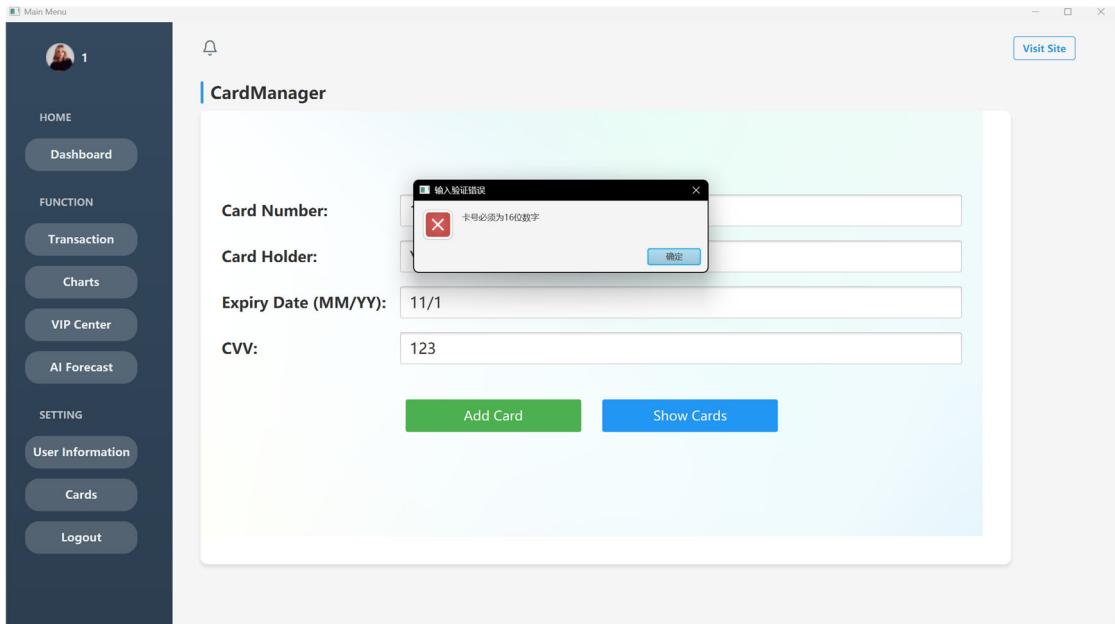
- To switch between views, such as from the card entry form to the card table view, use the navigation options available at the left of the screen.
- There will be “back” buttons in the interface that allow you to return to the previous screen after performing an action, such as adding or deleting a card.

④ Data Persistence

All card data is automatically saved in the system. You do not need to manually save your entries, as they are stored persistently for later retrieval. This is managed automatically by the application.

⑤ Error Handling

If you enter invalid information (e.g., incorrect card number format, missing expiry date), the system will display an **error** message. Make sure all fields are correctly filled before submitting.

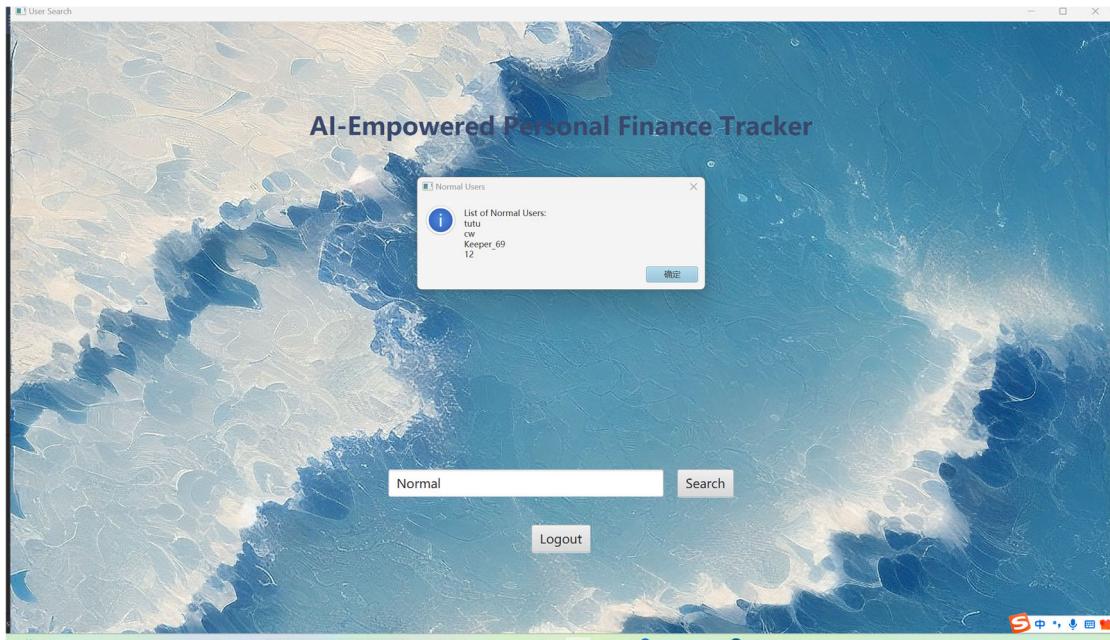


5.3 Administration

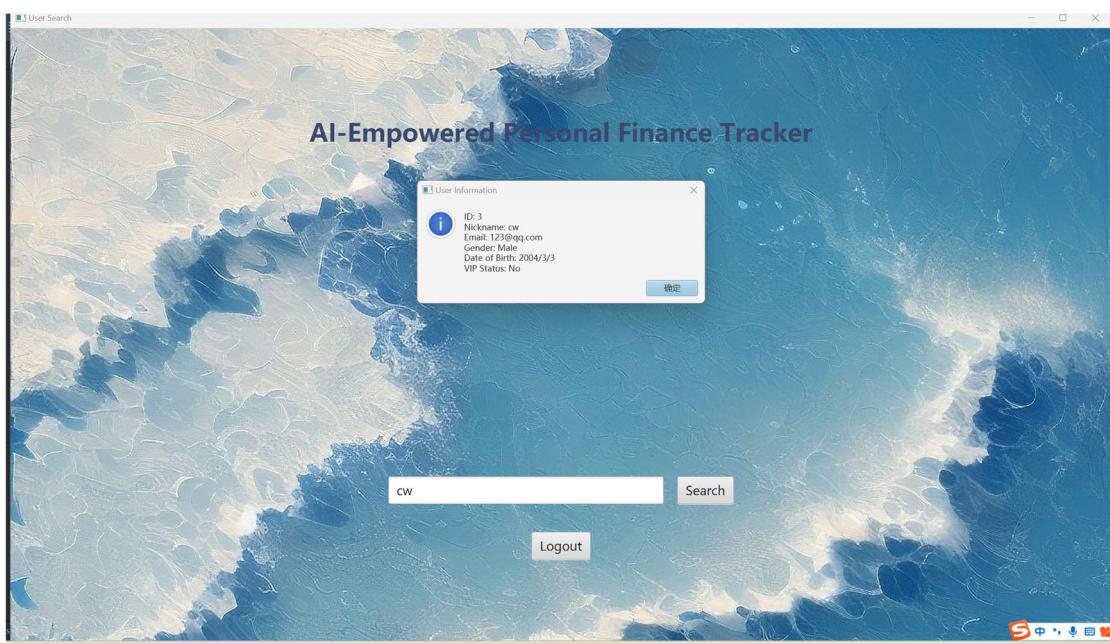
- ① Enter the administrator's email: Administration@qq.com and password: 000000 along with the correct verification code, then click the "Login" button to access the admin interface.



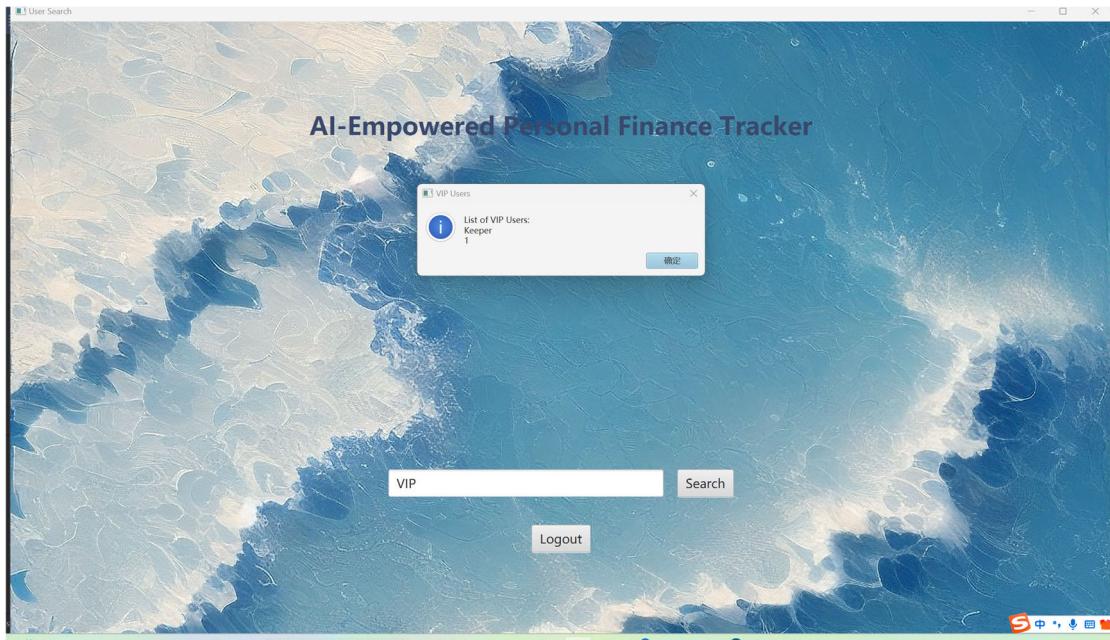
- ② After logging into the admin interface, you can view the information of the person you want to search for in the pop-up window.



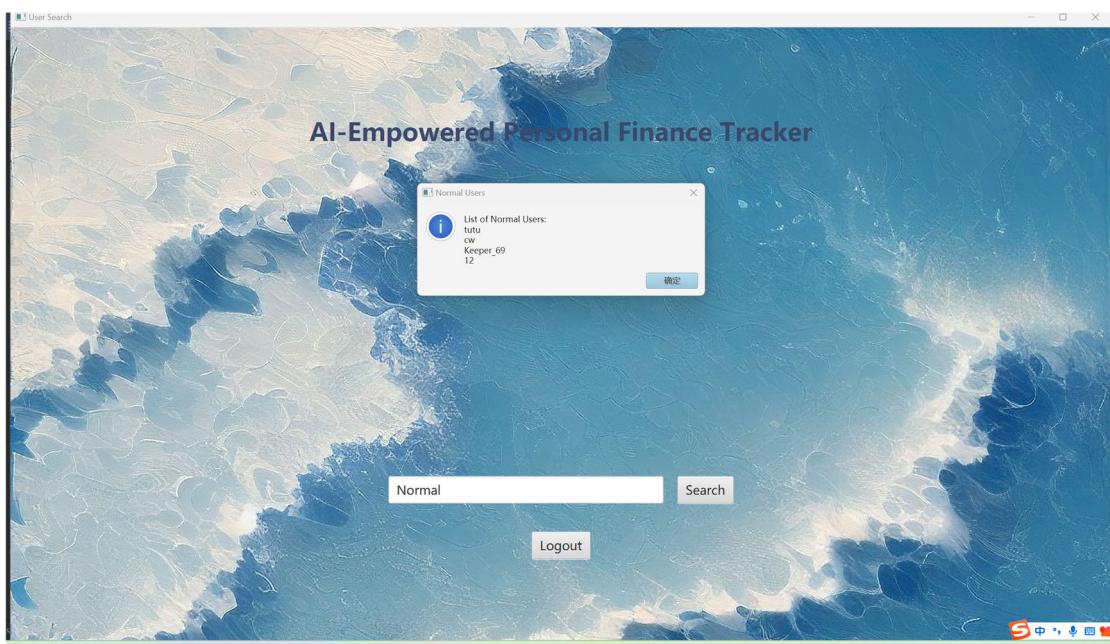
- ③ If you enter the correct **nickname**, such as "cw", information about "cw" will pop up.



- ④ If you enter "**VIP**", the nicknames of all **VIP users** will pop up.



- ⑤ If you enter "Normal", the nicknames of all Normal users will pop up.



- ⑥ If you enter an incorrect nickname, such as "ppp", a message saying "**User not found**" will pop up, indicating that the nickname could not be found.

