Requirement

1.System Objective

In this project, we are developing a software that simulates the **Banking System**. The banking software will simulate the behavior of real banking systems.

We asked for **apps** on mobile phones and **ATMs**. The banking system needs to have its own **database**, which stores everything about users, including but not limited to user name, user card number, user password, user balance, user transfer or consumption record, user loan amount, etc.

ATM

In an **ATM** system, a login interface is required. Enter the correct account and password to access the system. After entering the system, you can conduct transfer, balance inquiry, withdrawal, deposit, detailed inquiry, change password and other operations.

1.1.1.Login

Customer should Insert the card and enter his owner password correctly to be able to manage his account.

1.1.2.Transfering

When we use banking system, transfer is frequently used. Transfer is a function allow us to give money to others in order to have a deal or other things. And we could use this function only if you enter the correct password.

1.1.3.Check balance

Checking balance means that we List the balance of our account.

1.1.4.Detail

Detail means that make a list of our transactions, which will help us to know when we have the deal and how many money we cost or transfer.

1.1.5.deposit

We could deposit money and increase the money in the bank account.

1.1.6.Withdraw money

With ATM, we could withdraw cash, and reduce the money in the bank account.

1.1.7.Change the password

Provides a function to change a user's password.

APP

In the **APP** system, a login interface is also required. Enter the correct account and password to access the system. After entering the system, you can conduct transfer, balance query, detailed query and other operations. Different from ATM system, APP system can provide certain financial information, and can recharge traffic cards and campus cards. In addition, the app provides loan services.

1.2.1.Login

Different with ATM, customer should Enter his card number and enter his owner password correctly to be able to manage his account.

1.2.2.Loans

Provide a feature that allows users to take out loans.

1.2.3.Recharge

Provide a function that allows users to recharge traffic cards, campus cards and property payment.

1.2.4.Financial information

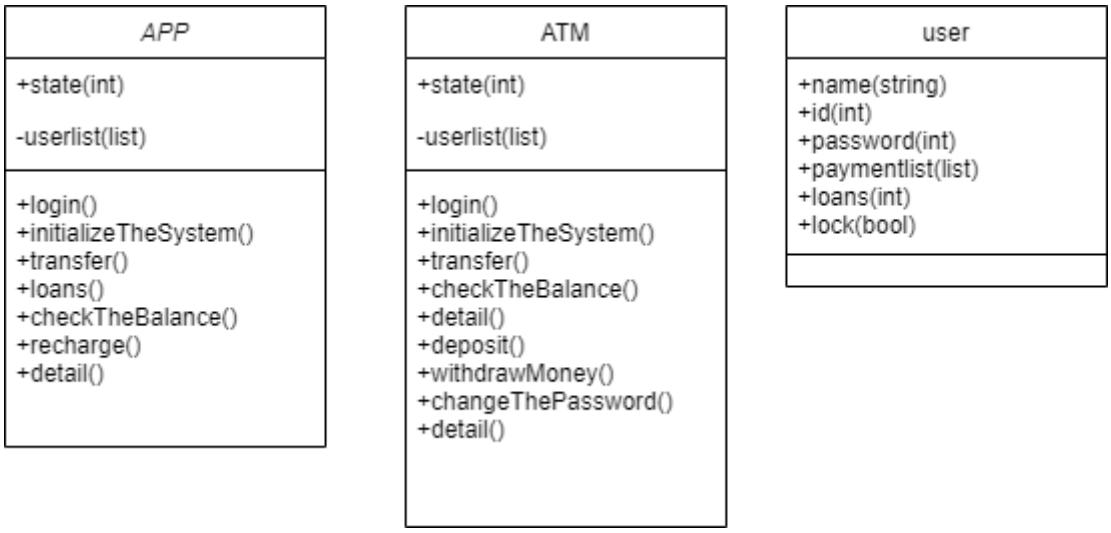
Provide certain financial information to let users know the state of finance.

1.2.2.Transfering, detail, check balance

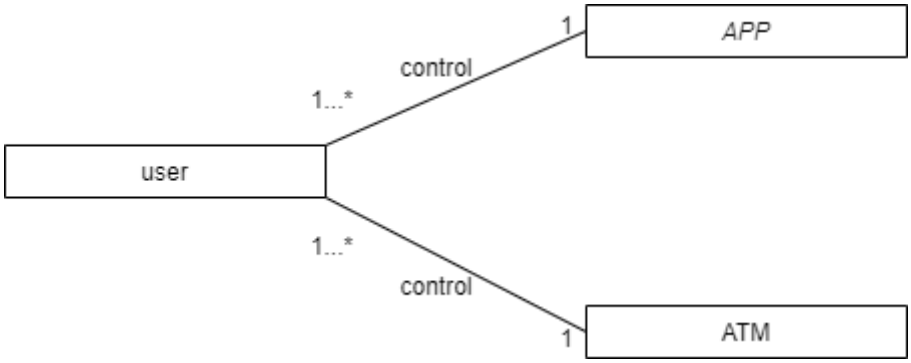
Same with ATM.

2.Domain Analysis

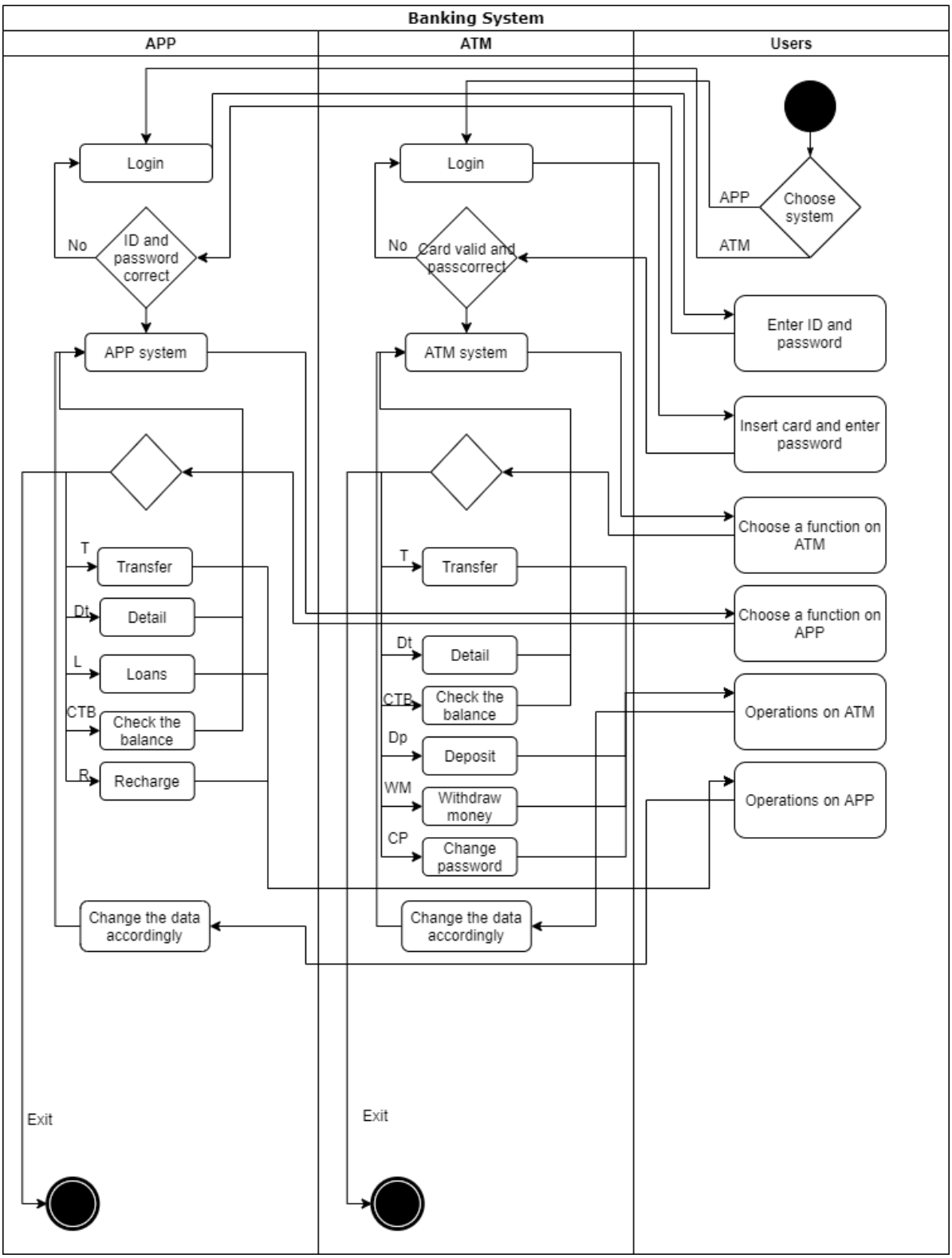
The participants of activities of the game can be categorized into the users, ATM and APP.



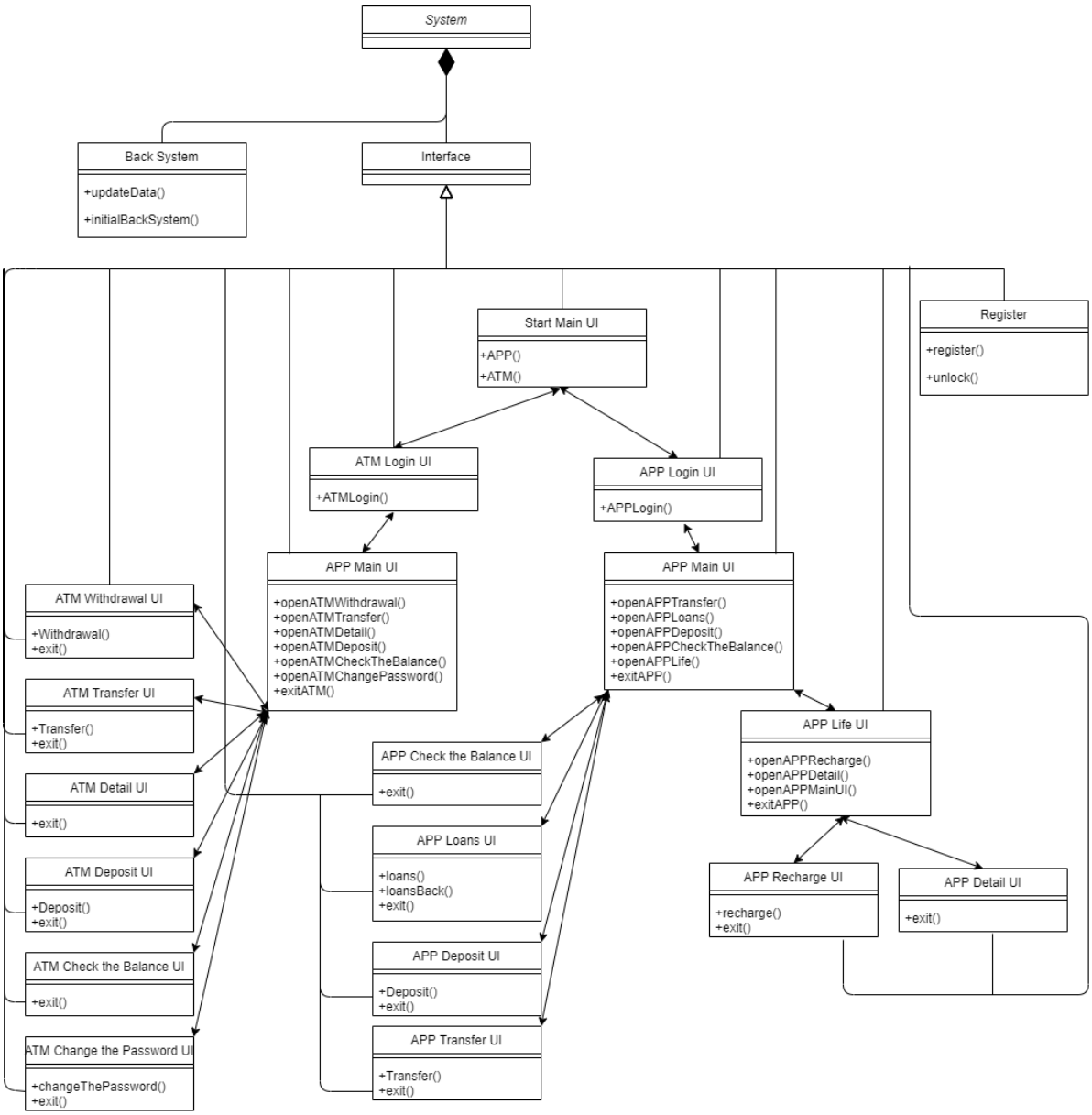
The relationships among different participants are shown as follows



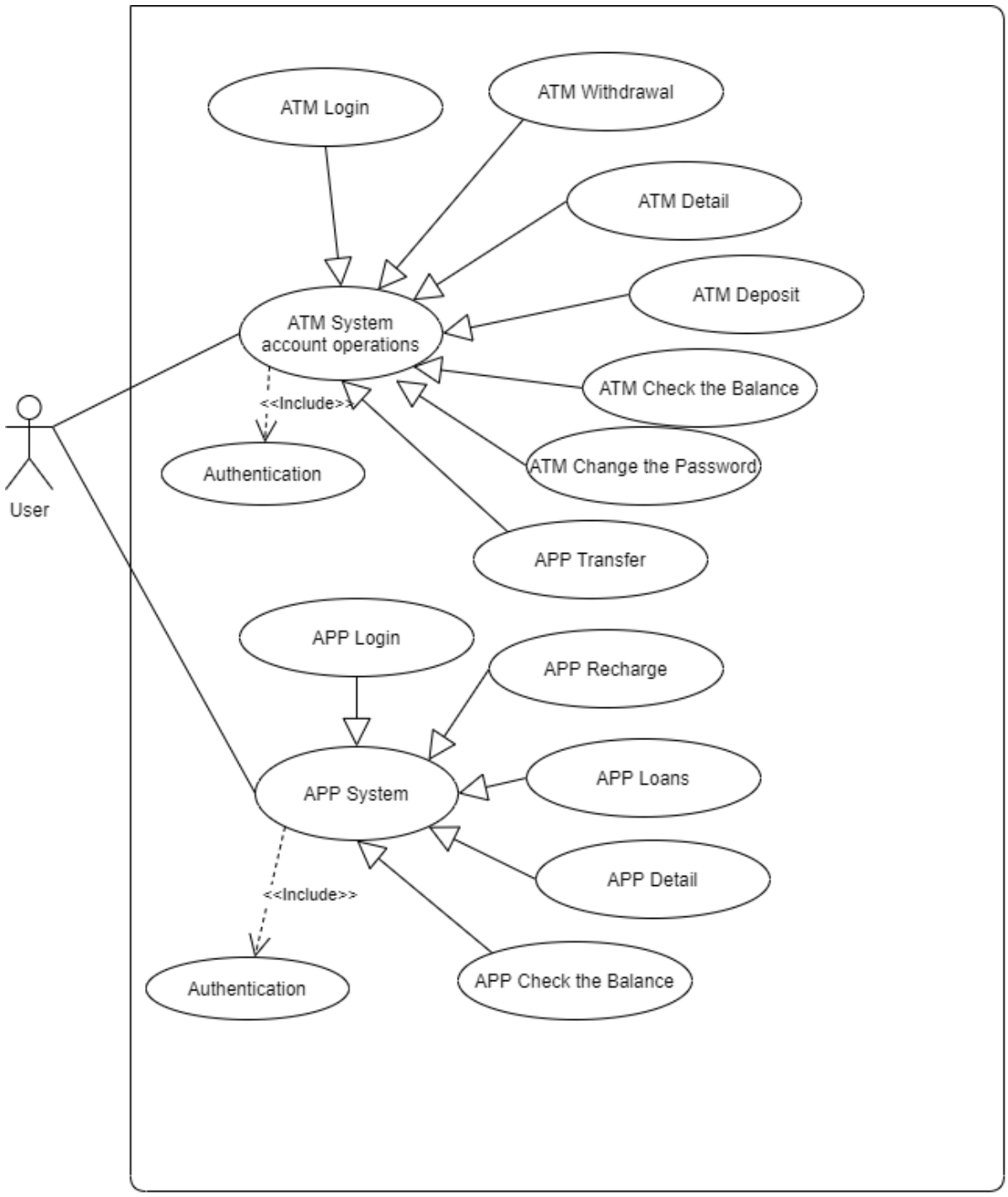
Below is the sequence of events for users use this system:


Banking System
APP
ATM
Users
Login
Login
APP
Choose system
ATM
No
ID and password correct
No
Card valid and passcorrect
Enter ID and password
APP system
ATM system
Insert card and enter password
Choose a function on ATM
T
Transfer
T
Transfer
Dt
Detail
Choose a function on APP
Dt
Detail
L
Loans
CTB
Check the balance
Operations on ATM
CTB
Check the balance
Dp
Deposit
R
Recharge
WM
Withdraw money
Operations on APP
CP
Change password
Change the data accordingly
Change the data accordingly
Exit
Exit

3.System Architecture



4.Use Cases


ATM Login
ATM Withdrawal
ATM Detail
ATM Deposit
ATM System
account operations
ATM Check the Balance
<<Include>>
Authentication
ATM Change the Password
User
APP Transfer
APP Login
APP Recharge
APP System
APP Loans
APP Detail
<<Include>>
Authentication
APP Check the Balance

5.Software Requirements

R1.register

There are two functions. Users can register their accounts there and can unlock their accounts by bank's staffs here.

- R1.1.Users should be able register their accounts by staffs. Need **name, card ID, password, balance** value.
- R1.2.Users should be able unlock their accounts by staffs when their accounts is locked.

R2.mainUI

There are two button. One of them leads to ATM, one of them leads to APP.

- R2.1.When users push ATM, jump to ATM login UI.
- R2.2.When users push APP, jump to APP login UI.

R3.backstage

This UI is to show the database of our system. Show users' information.

- R3.1.backstage can show users' information correctly.

R4.ATM withdrawal

Withdrawal user's money.

- R4.1.Set 6 buttons (value: 100, 200, 500, 1000, 5000, 10000). Let users withdrawal different count of money correctly.
- R4.2. Users can Back to main UI .

R5.ATM transfer

- R5.1.Transfer correct and record the transfer.
- R5.1. Users can Back to ATM main UI .

R6.ATM main UI

- R6.1.Users can enter transfer.
- R6.2.Users can enter deposit.
- R6.3.Users can enter detail
- R6.4.Users can enter change the password
- R6.5.Users can enter withdrawal
- R6.6.Users can enter check the balance
- R6.7. Users can Back to ATM login UI .

R7.ATM detail

- R7.1.Users can view their payment list according to different categories here.
- R7.2. Users can Back to main UI .

R8.ATM deposit

- R8.1.Users can deposit here and ATM can distinguish real money form fake money.
- R8.2. Users can Back to main UI .

R9.ATM check the balance

- R9.1.Users can view their balance here.
- R9.2. Users can Back to main UI .

R10.ATM change the password

- R10.1.Users can change their password here. And the password should be number and be limited in 6 to 18.
- R10.2. Users can Back to main UI .

R11.APP transfer

- R11.1.Transfer correct and record the transfer.
- R11.2. Users can Back to APP main UI .

R12.APP recharge

- R12.1.Users can recharge something here. Like Campus card recharge, traffic card recharge, property payment.
- R12.2.Users can Back to APP life UI .

R13.APP main UI

- R13.1.Users can enter transfer.
- R13.2.Users can enter check the balance.
- R13.3.Users can enter loans.
- R13.4.Users can enter life UI.
- R13.5.Users can Back to APP login UI .

R14.APP loans

- R14.1.Users can loans here. Any invalid input will be block.
- R14.2.Users can Back to APP main UI .

R15.APP login UI

- R15.1.Users need to type correct ID and password to enter the system. The account will be automatically locked if the password is incorrect for six times. When that happens, users need to unlock their account in at the bank to make sure they can use their account.

R16.APP life UI

- R16.1.Users can enter recharge.
- R16.2.Users can enter detail.
- R16.3.Users can enter APP main UI.
- R16.4.Users can Back to APP login UI .

R17.APP login UI

- R17.1Users need to type password with their card inserted to enter the system. The account will be automatically locked if the password is incorrect for six times. When that happens, users need to unlock their account in at the bank to make sure they can use their account.

R18.APP detail UI

- R18.1.Users can view their payment list according to different categories here.
- R18.2.Users can Back to life UI .

R19.APP check the balance UI

- R19.1.Users can view their balance here.
- R19.2. Users can Back to main UI .