

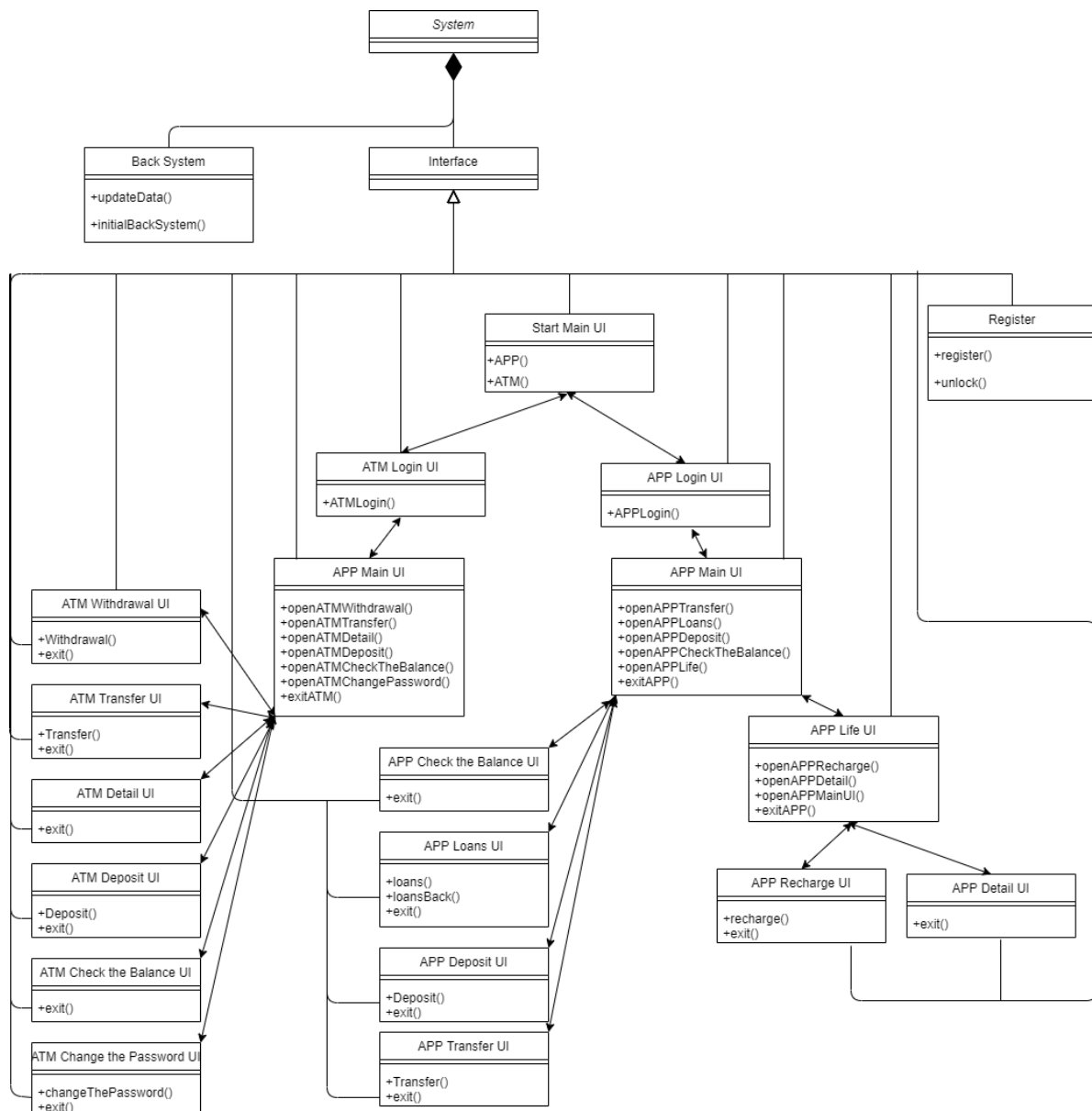
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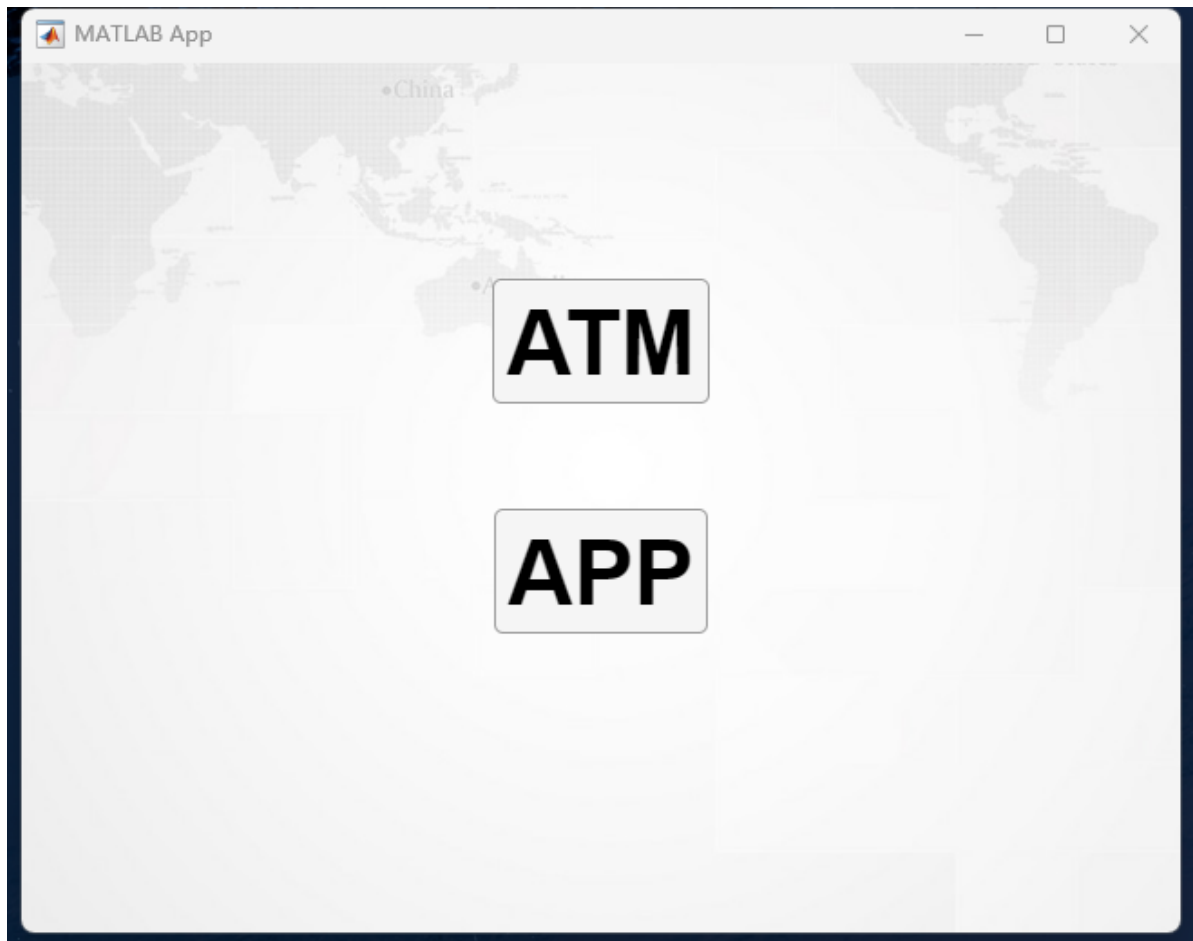
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1.System Architecture



2.Software Specification

S1.Main UI



Select which system to open

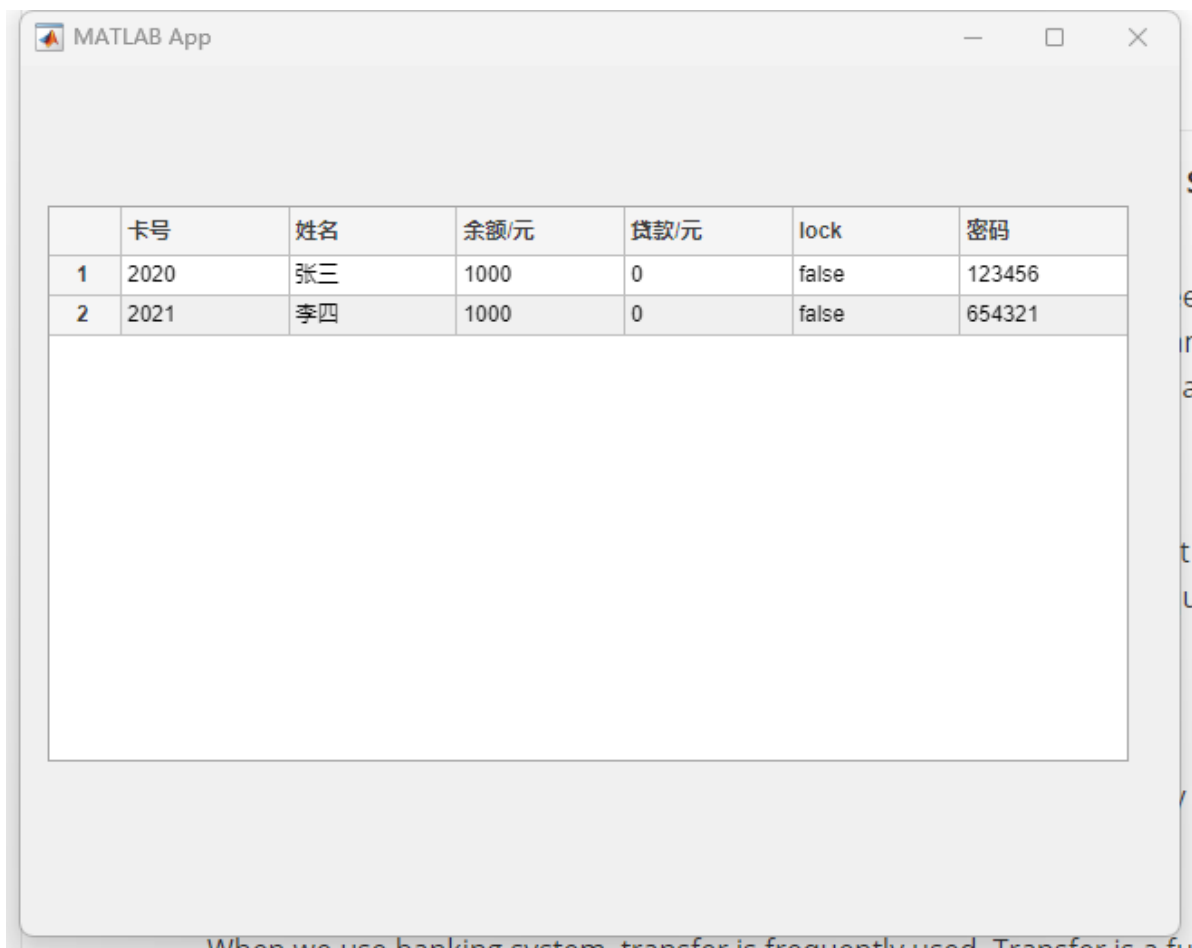
S1.1.Press "ATM" button

Process will open ATM login UI and transmit the users database and backstage pointer.

S1.2.Press "APP" button

Process will open APP login UI and transmit the users database and backstage pointer.

S2.Backstage

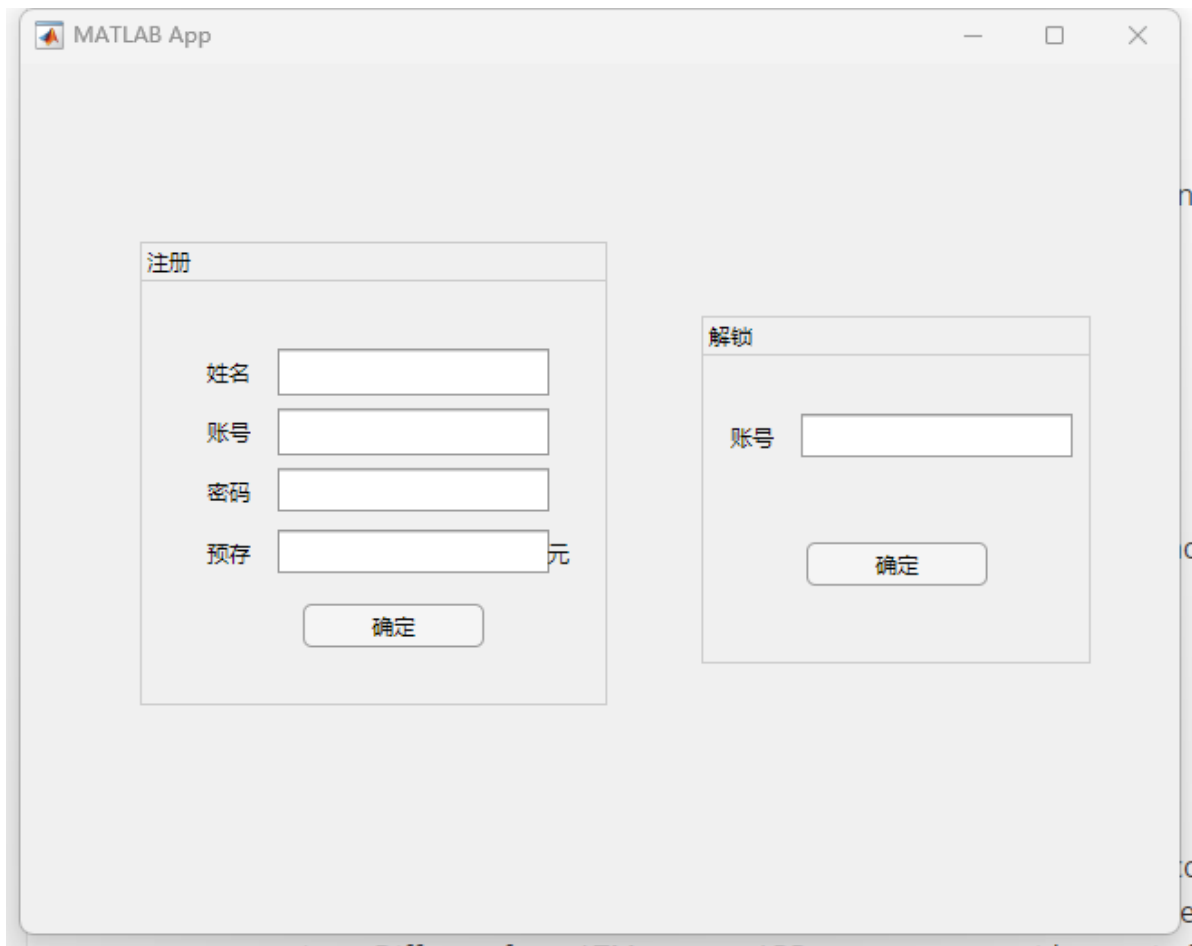


Show the users information.

S2.1.Update automatic

When users' information is changed, information showing on backstage will update to make sure it is correct. We use a handle class to transmit the information and a function called "update" to perform update operations.

S3.Register



S3.1.Register function

Type the information needed and press "确定" button, we will verify whether the input is valid. For example, "账号" should not be the same with the account that already exists. Password should be 6 to 18 digits long. "预存" should be a number more than 0. Any invalid input will be blocked.

S3.2.Unlock function

Type the account that needed to unlock. The account should be in our database and we will set it's "lock" to false. If the account doesn't exist, we will remind that the user does not exist.

S4.ATM login UI



S4.1.Login with card

We simulate ATM by pressing different buttons to insert different cards. We set button "z" to represent "张三" and button "l" to represent "李四".

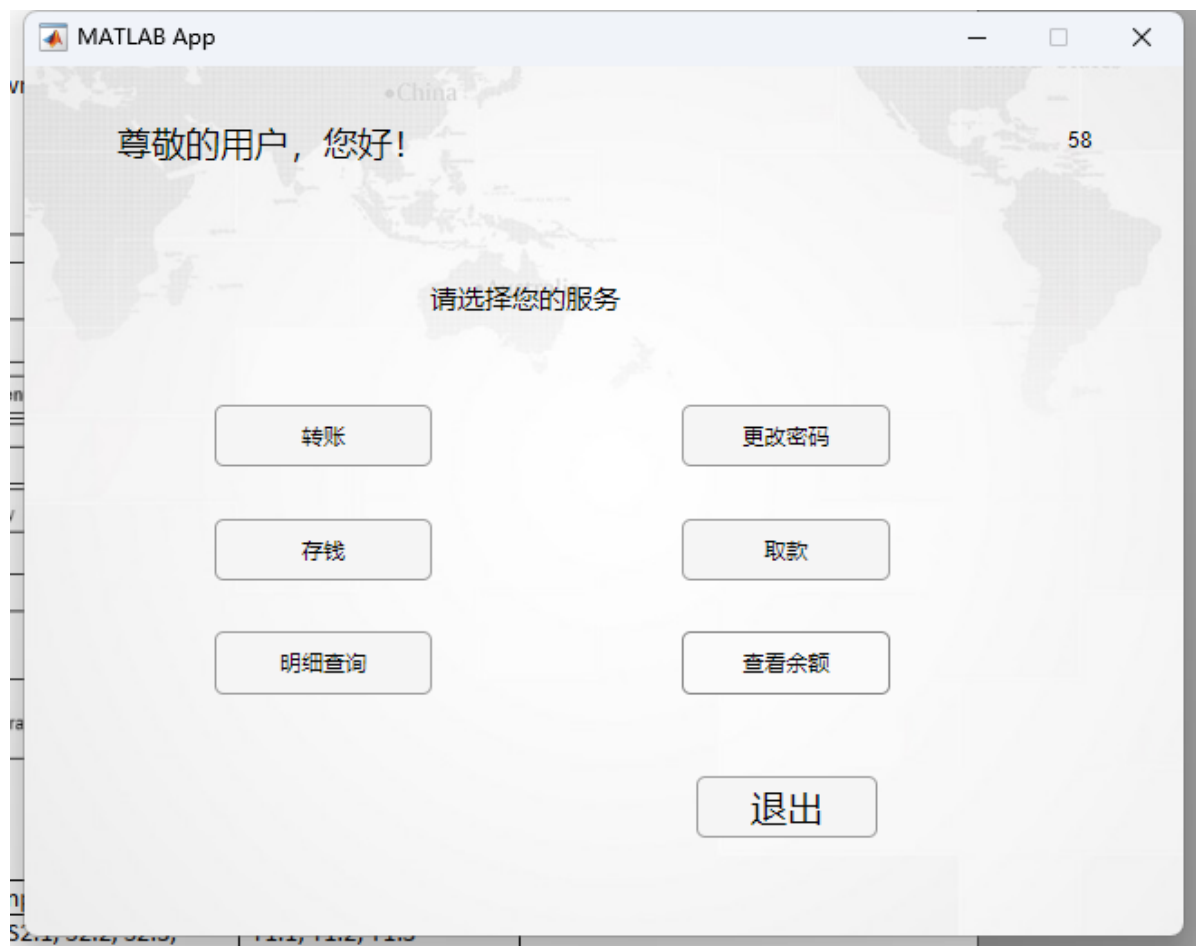
Because of MATLAB, keys often stone forest. So we set two button to choose which card to insert.

When insert card, we set the id be the user. And there will be a label to show insert card succeed. Type password, and we will check if the password is correct with database.

If correct, we will enter the ATM system. Process will open ATM main UI and transmit the users database and backstage pointer.

If not, user need to type password again. With more than 6 times of wrong, the card and the account will be locked and can use.

S5.ATM main UI



S5.1.ATM transfer button

When press "转账" button, process will open ATM transfer UI and transmit the users database and backstage pointer.

S5.2.ATM deposit button

When press "存钱" button, process will open ATM deposit UI and transmit the users database and backstage pointer.

S5.3.ATM detail button

When press "明细查询" button, process will open ATM detail UI and transmit the users database and backstage pointer.

S5.4.ATM change the password button

When press "更改密码" button, process will open ATM change the password UI and transmit the users database and backstage pointer.

S.5.5ATM withdrawal button

When press "取款" button, process will open ATM withdrawal UI and transmit the users database and backstage pointer.

S.5.6.ATM check the balance button

When press "查看余额" button, process will open ATM check the balance UI and transmit the users database and backstage pointer.

S.5.7.ATM exit button

When press "退出" button, process will back to ATM login UI and transmit the users database and backstage pointer.

S6.ATM transfer UI



S6.1.Transfer function

Type the transfer the card number and transfer amount correctly and press "确认" to transfer.

We will also check whether the card number is valid and is some else in the database. Also, check whether the transfer amount is valid and is more than 0 digital number. If there is not enough balance to pay for the transfer, the transfer won't happen too.

After all, if transfer succeed, we will add the transfer record to the details of the current user and the transferred user. And add amount to the goal and the balance of the current user minus the amount transferred.

S6.2.Back function

When press "取消" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S7.ATM deposit UI



S7.1.Deposit function

To simulate the operation of putting money into a real ATM. We set that type "T" to add a genuine note (100 yuan) , type "F" to add a forged note (100 yuan).

Press "确定" to do deposit. When there is no genuine notes, account's balance will not change. When there is more than one genuine note, the balance of the current user will increase corresponding quantity.

We will add the transfer record to the details of the current user.

S7.2.Back function

When press "取消" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S8.ATM detail UI



S8.1.View the detail and filter by filter

Users can view all their payment list according to different categories here.

Change the value of filter into "收入", the table will show incomes.

Change the value of filter into "支出", the table will show outcomes.

Change the value of filter into "自己", the table will show Self-operated bills.

Change the value of filter into "他人", the table will show others-operated bills.

Change the value of filter into "全部", the table will show others-operated bills.

We filter it by the characteristics of database.

S8.2.Back function

When press "返回" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S9.ATM change the password UI



S9.1.Change the password function

Type the old password and new password and new password again correctly. Then press "确定", user's password will change to new password.

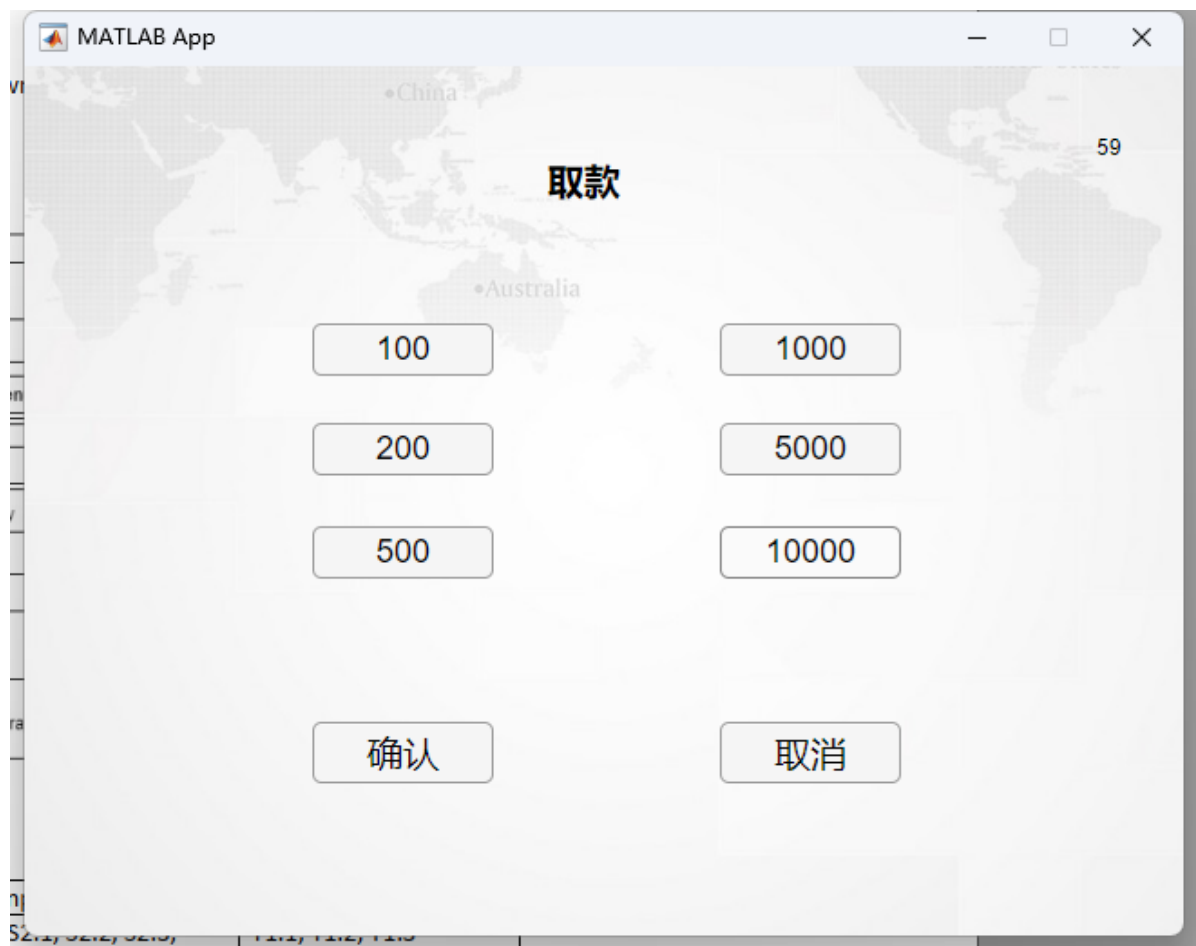
We will check whether the old password is same with user's password and the new password is 6 to 18 digital number.

If not, change will not happen. If succeed, user's password will be changed in database.

S9.2.Back function

When press "取消" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S10.ATM withdrawal



S10.1.Withdrawal function

Press the button that you want to withdrawal. We will compare to user's balance. And if it is enough, withdrawal succeed. The account balance will be reduced accordingly.

S10.2.Back function

When press "取消" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S11.ATM check the balance UI



S11.1.Check the balance function

Users can view all their balance here.

S11.2.Back function

When press "取消" button, process will back to ATM main UI and transmit the users database and backstage pointer.

S12.APP login UI



S12.1.Login with ID

Type ID and password, and we will check if the ID is in database and the password is correct with database.

If correct, we will enter the APP system. Process will open APP main UI and transmit the users database and backstage pointer.

If not, user need to type password again. With more than 6 times of wrong, the card and the account will be locked and can use.

S13.APP main UI



S13.1.APP transfer button

When press "转账" image, process will open APP transfer UI and transmit the users database and backstage pointer.

S13.2.APP loans button

When press "贷款" image, process will open APP loans UI and transmit the users database and backstage pointer.

S13.3.APP check the balance button

When press "余额" image, process will open APP check the balance button UI and transmit the users database and backstage pointer.

S13.4.APP life UI

When press "生活" button, process will open APP change the password UI and transmit the users database and backstage pointer.

S13.5.APP exit button

When press "退出" button, process will back to APP login UI and transmit the users database and backstage pointer.

S14.APP transfer UI



S14.1.Transfer function

Type the transfer the card number and transfer amount correctly and press "确认" to transfer.

We will also check whether the card number is valid and is some else in the database. Also, check whether the transfer amount is valid and is more than 0 digital number. If there is not enough balance to pay for the transfer, the transfer won't happen too.

After all, if transfer succeed, we will add the transfer record to the details of the current user and the transferred user. And add amount to the goal and the balance of the current user minus the amount transferred.

S14.2.Back function

When press "取消" button, process will back to APP main UI and transmit the users database and backstage pointer.

S15.APP loans UI



S15.1.Loans function

This UI will show the loans you have. Input the value below it. check whether the transfer amount is valid and is more than 0 digital number.

Press "还贷" to repay the loans. If is more than the loans users have, repay will not happen. Otherwise, the account balance will be reduced by a corresponding amount and repay succeed and record this in the database.

Press "贷款" to loan. If input is valid, the account balance will increase by a corresponding amount and system will record it in database.

S15.2.Back function

When press "取消" button, process will back to APP main UI and transmit the users database and backstage pointer.

S16.APP check the balance UI



S16.1.Check the balance function

Users can view their balance here.

S16.2.Back function

When press "返回" button, process will back to APP main UI and transmit the users database and backstage pointer.

S17.APP life UI



S17.1.APP recharge button

When press "校园卡充值","交通卡充值","物业缴费" image, process will open APP recharge UI and transmit the users database and backstage pointer.

S17.2.APP detail button

When press "明细查询" image, process will open APP detail UI and transmit the users database and backstage pointer.

S17.3.APP main UI button

When press "首页" image, process will open APP main UI and transmit the users database and backstage pointer.

S17.4.APP exit button

When press "退出" button, process will back to APP login UI and transmit the users database and backstage pointer.

S18.APP recharge UI



S18.1.Recharge function

Type recharge amount correctly and press "确认" to recharge.

We will check whether the recharge amount is valid and is more than 0 digital number. If there is not enough balance to pay for the recharge, the recharge won't happen.

After all, if recharge succeed, we will add the recharge record to the details of the current user. The balance of the current user minus the amount recharge.

S18.2.Back function

When press "取消" button, process will back to APP life UI and transmit the users database and backstage pointer.

S19.APP detail



S19.1.View the detail and filter by filter

Users can view all their payment list according to different categories here.

Change the value of filter into "收入", the table will show incomes.

Change the value of filter into "支出", the table will show outcomes.

Change the value of filter into "自己", the table will show Self-operated bills.

Change the value of filter into "他人", the table will show others-operated bills.

Change the value of filter into "全部", the table will show others-operated bills.

We filter it by the characteristics of database.

S19.2.Back function

When press "返回" button, process will back to APP life UI and transmit the users database and backstage pointer.