ITCS424: Wireless and Mobile Computing

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PROPOSAL

What is your project for? Project Name and Problem statement.

We are going to build a School Selector System; There are two login methods for teachers and students. The functions available after login are different learning pages. Teachers can write questions and modify student scores, and students can view the results and analyze the results and do the questions.

Developed for students who wish to enroll in the most suitable school, to help the school attract more students to be admitted to the school

What is value or contribution of the project?

1. There are two login methods for teachers and students, and the functions that can be used after login are different [Study] The page says that the teacher can write questions and modify students' scores, etc., and students can only view the results and analysis of the results and do the questions

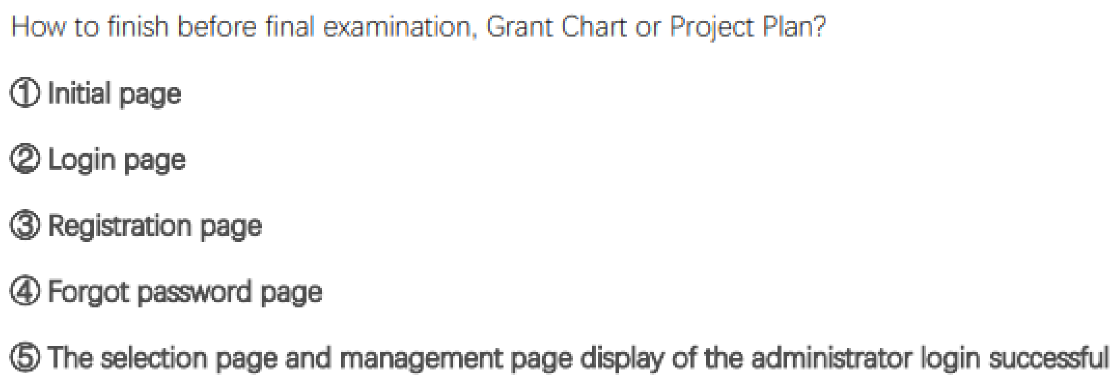
2. There are certain restrictions when teachers register and log in (preparing the mobile phone number that can be registered in advance, the teacher will have more mobile phone SMS verification restrictions than students when registering), and then students need to perform identity authentication after logging in. After the authentication is successful, you can Enjoy all the features, otherwise only the [plan] page is available

3. [Learning] page has a graph analysis of students’ grades, as well as all their grade queries (and the grades of the whole class), and then there will be a function that can do questions on this page (the teacher can make questions on this page, then students do the questions on this page)

4. [Plan] This page is for everyone to write down their own plans (can be set to be visible to themselves and to all people)

5. If the ability is met, improve the [Forum] page, connect to the cloud database, and everyone can post some content in it

School System



How to finish before final examination, Grant Chart or Project Plan?

① Initial page

② Login page

③ Registration page

④ Forgot password page

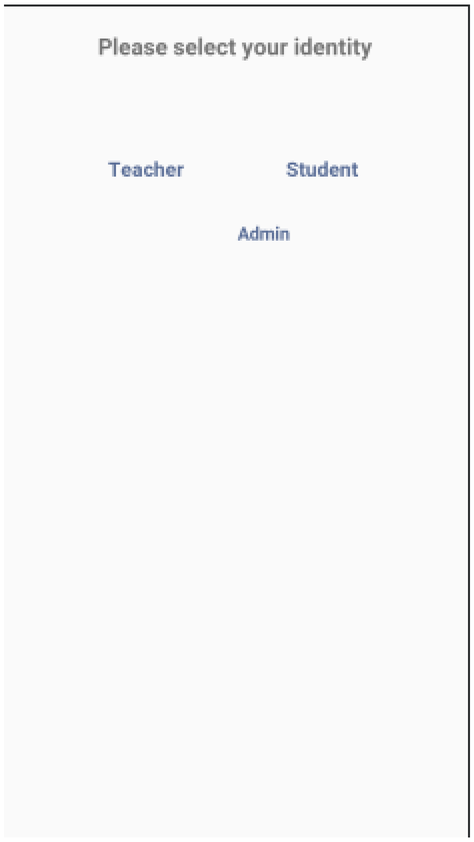
⑤ The selection page and management page display of the administrator login successful

Interface and function part

The interface can be divided into initial page (welcome page), login page (administrator, teacher, student), registration page (teacher, student), administrator management page (class teacher, teacher, student, class), forgot password page, login The main page after success (divided into four: my, plan, study, forum)

Of course, after clicking the corresponding function of each page, it will jump to a new page. we will show it by type:

Initial page:



Key code of the initial page Activity:

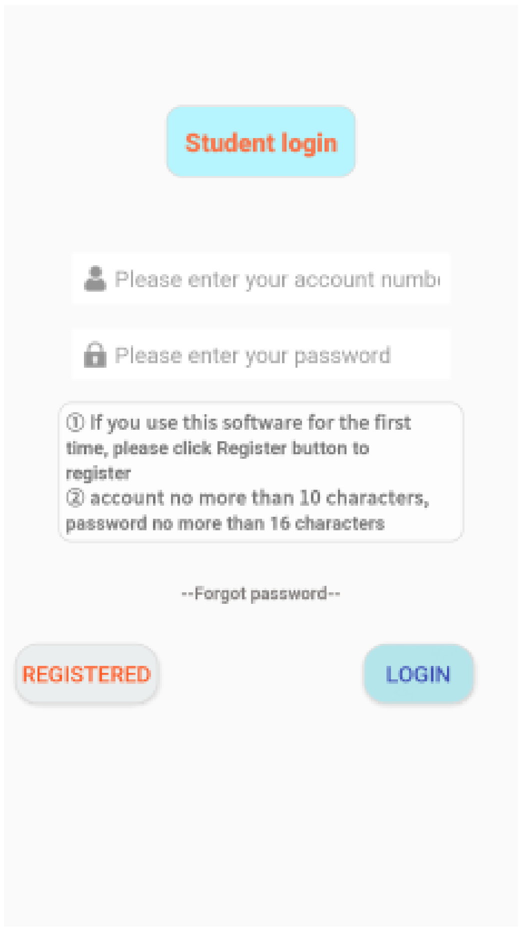
```
//Initial login interface, select the teacher, student or administrator
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_init);

        RelativeLayout chooseTeacher = (RelativeLayout) findViewById(R.id.ChooseTeacher);
        chooseTeacher.setOnClickListener(new JumpTeacher()); //Teacher login page jump
        RelativeLayout chooseStudent = (RelativeLayout) findViewById(R.id.ChooseStudent);
        chooseStudent.setOnClickListener(new JumpStudent()); //Student login page jump

        RelativeLayout chooseAdmin = (RelativeLayout) findViewById(R.id.ChooseAdmin);
        chooseAdmin.setOnClickListener(new JumpAdmin()); //Administrator page jump
    }

    private class JumpTeacher implements View.OnClickListener {
        @Override
        public void onClick(View view) {
            Intent intent = new Intent();
            intent.setClass(InitActivity.this, TLoginActivity.class);
            startActivity(intent);
        }
    }

    private class JumpStudent implements View.OnClickListener {
        @Override
        public void onClick(View view) {
            Intent intent = new Intent();
            intent.setClass(InitActivity.this, SLoginActivity.class);
            startActivity(intent);
        }
    }

    private class JumpAdmin implements View.OnClickListener {
        @Override
```

```
        public void onClick(View view) {
            customClick(view); //Call custom Dialog
        }
    }
```

As above, the role selection is actually monitored by Relative. In this way, users can monitor the jump when they click on the picture, text or the outer border. The following is the xml code in the middle of this page, because it was found during debugging. It can't adapt well on some phones with short screens, so we added Scroll View to make it slide up and down to enhance the adaptation effect of different models:

log in page

Here we will introduce it with the student login page:



① If you use this software for the first time, please click Register button to register
② account no more than 10 characters, password no more than 16 characters

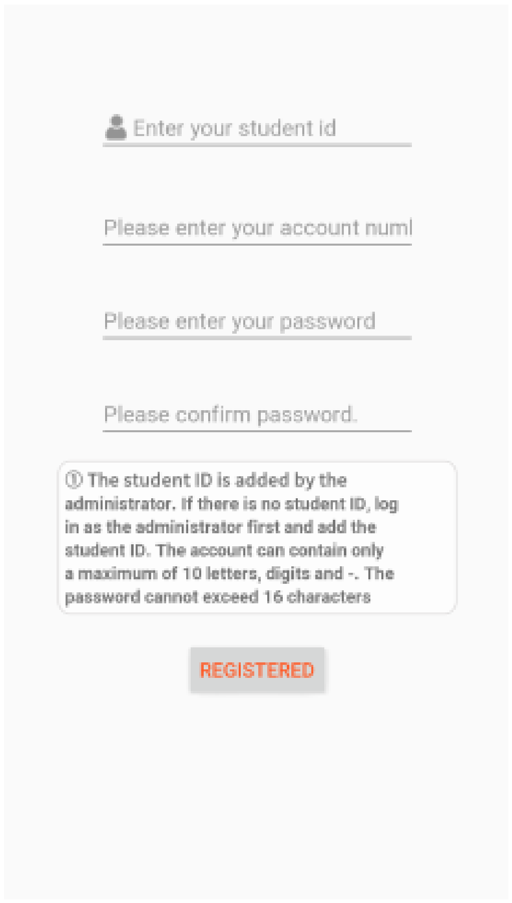
The input box of the login page has monitoring and restrictions on the length of the input content. The account we set is up to 10 digits and the password is up to 16 digits. The digits here are closely related to registration. The monitoring and restriction methods are as follows:

```
/**
* Monitor the text in the account input box
**/
private void nameCntentListener() {
   usernameEditText2.addTextChangedListener(new TextWatcher() {
       @Override
       public void beforeTextChanged(CharSequence charSequence, int start, int count, int after) {

       }

       @Override
       public void onTextChanged(CharSequence s, int start, int before, int count) {
           Editable editable = usernameEditText2.getText();
           int len = editable.length();//The length of the input text
           if (len> 10) {
               int selEndIndex = Selection.getSelectionEnd(editable);
               String str = editable.toString();
               //Intercept the new string
               String newStr = str.substring(0, 10);
               usernameEditText2.setText(newStr);
               editable = usernameEditText2.getText();
               //New string length
               int newLen = editable.length();
               //The old cursor position exceeds the length of the new string
               if (selEndIndex> newLen) {
                   selEndIndex = editable.length();
               }
               //Set the position of the new cursor
               Selection.setSelection(editable, selEndIndex);
               if (counter1 <3) {//Nothing but three hahaha
                   Toast.makeText(SLoginActivity.this, "The account number is up to 10 acridine!",
Toast.LENGTH_SHORT).show();
                   counter1++;
               }
           }
       }

       @Override
       public void afterTextChanged(Editable editable) {

       }
   });
}

/**
* Monitor the text in the password input box
**/
private void passwordCntentListener() {
   passwordEditText2.addTextChangedListener(new TextWatcher() {
       @Override
       public void beforeTextChanged(CharSequence charSequence, int start, int count, int after) {

       }
       @Override
       public void onTextChanged(CharSequence s, int start, int before, int count) {
           Editable editable = passwordEditText2.getText();
           int len = editable.length();//The length of the input text
           if (len> 16) {
               int selEndIndex = Selection.getSelectionEnd(editable);
               String str = editable.toString();
               String newStr = str.substring(0, 16);
               passwordEditText2.setText(newStr);
               editable = passwordEditText2.getText();
               int newLen = editable.length();
               if (selEndIndex> newLen) {
                   selEndIndex = editable.length();
               }
               Selection.setSelection(editable, selEndIndex);
               if (counter2 <3) {//Nothing but three hahaha
                   Toast.makeText(SLoginActivity.this, "The password is up to 16 digits!",
Toast.LENGTH_SHORT).show();
                   counter2++;
               }
           }

       }

       @Override
       public void afterTextChanged(Editable editable) {

       }
   });
```

}

registration page

The registration page on the teacher side and the student side is different. The teacher registers through the mobile phone number (send SMS verification code), and the students register through the student number:



Enter your student id

Please enter your account numl

Please enter your password

Please confirm password.

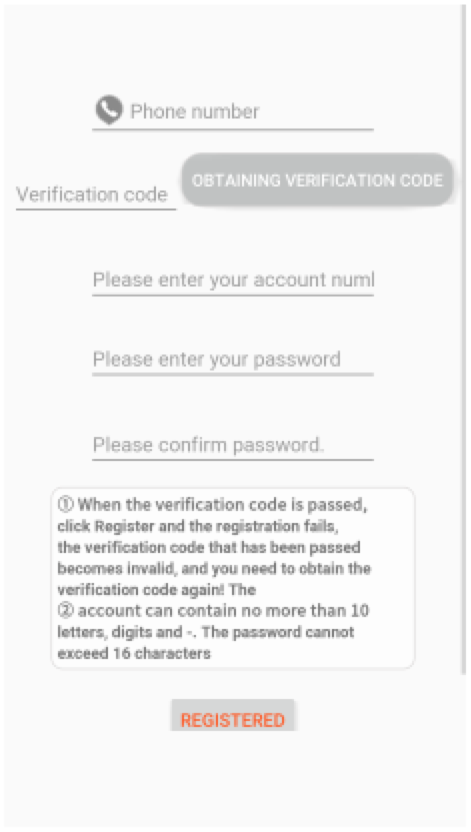
ⓘ The student ID is added by the administrator. If there is no student ID, log in as the administrator first and add the student ID. The account can contain only a maximum of 10 letters, digits and -. The password cannot exceed 16 characters

The filled phone number and student number are added at the same time when the user is added by the administrator. Therefore, here, the filled content will be queried and compared in the database. If not, a pop-up window will remind the user to bind it from the administrator first. Here takes the function of student registration as an example to show the java code:

```
public class SRegisterActivity extends AppCompatActivity {


    private Button buttonRegister;

    private EditText editTextStudentNum, editTextUserName2, editTextPassword2,
editConfirmPassword2;

    private String studentNum, userName2, password2, confirm2;

    private int counter1 = 0, counter2 = 0; //Limit the number of pop-up windows to prevent users
from always not complying with the rules and pop-up windows constantly


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_sregister);

        buttonRegister = findViewById(R.id.buttonRegister2);

        editTextStudentNum = findViewById(R.id.editStudentNum);

        editTextUserName2 = findViewById(R.id.add_username2);

        editTextPassword2 = findViewById(R.id.add_password2);

        editConfirmPassword2 = findViewById(R.id.confirm_password2);


        //Modify the font of the registration button

        Typeface customFont = Typeface.createFromAsset(this.getAssets(), "fonts/Coca-
Cola.TTF");

        buttonRegister.setTypeface(customFont);


        nameCntentListener();
```

```
passwordCntentListener();


/**
 * register
 **/
buttonRegister.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {


        studentNum = editTextStudentNum.getText().toString().trim();
        userName2 = editTextUserName2.getText().toString().trim();
        password2 = editTextPassword2.getText().toString().trim();
        confirm2 = editConfirmPassword2.getText().toString().trim();
```

Teacher registration

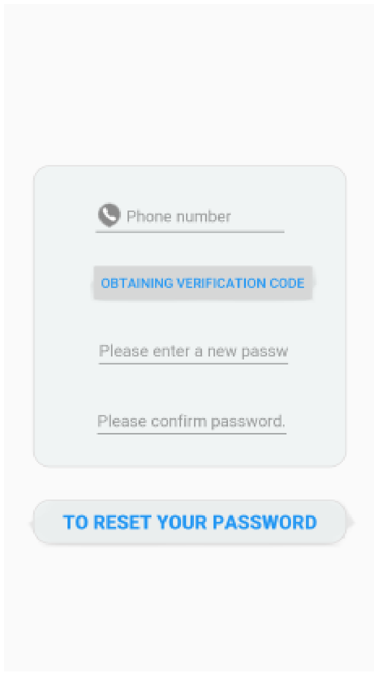

Phone number
Verification code
OBTAINING VERIFICATION CODE
Please enter your account numl
Please enter your password
Please confirm password.
REGISTERED

① When the verification code is passed, click Register and the registration fails, the verification code that has been passed becomes invalid, and you need to obtain the verification code again! The
② account can contain no more than 10 letters, digits and -. The password cannot exceed 16 characters

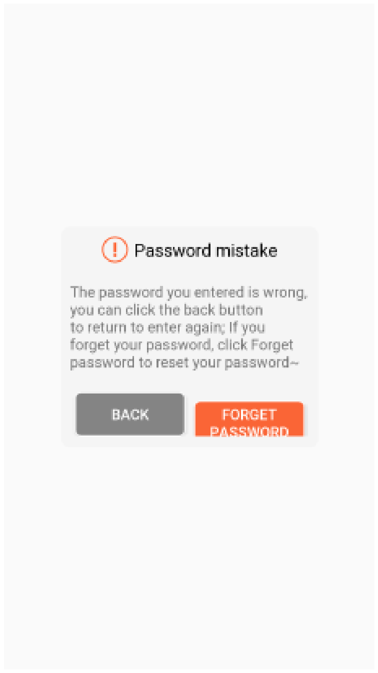
```
eh = new EventHandler() {
    @Override
    public void afterEvent(int event, int result, Object data) {
        if (result == SMSSDK.RESULT_COMPLETE) {
            //Callback completed
            if (event == SMSSDK.EVENT_SUBMIT_VERIFICATION_CODE) {
                //Submit the verification code successfully
                runOnUiThread(new Runnable() {
                    @Override
                    public void run() {
                        userName = editTextUserName.getText().toString().trim();
                        password = editTextPassword.getText().toString().trim();
                        phoneNum = editTextPhoneNum.getText().toString().trim();
                        confirm = editConfirmPassword.getText().toString().trim();

                        //If the username or password is empty
                        if (userName.equals("") || password.equals("")) {
                            Toast.makeText(TRegisterActivity.this, "The account or password is empty, please fill in again", Toast.LENGTH_SHORT).show();
                        } else {
                            if (!LimitName.limitName(userName)) {
                                Toast.makeText(TRegisterActivity.this, "The account only allows the combination of English letters, numbers and -", Toast.LENGTH_SHORT).show();
                            } else {
                                nameCntentListener();
                                passwordCntentListener();
                                if (!password.equals(confirm)) {//The two entered passwords are inconsistent
                                    Toast.makeText(TRegisterActivity.this, "The password entered twice is inconsistent, please re-enter", Toast.LENGTH_SHORT).show();
                                    editConfirmPassword.setText(""); //Clear the content of the input box
                                    editTextPassword.setText("");
                                }
```

Forgot password page:

Student retrieve password:



wrong password

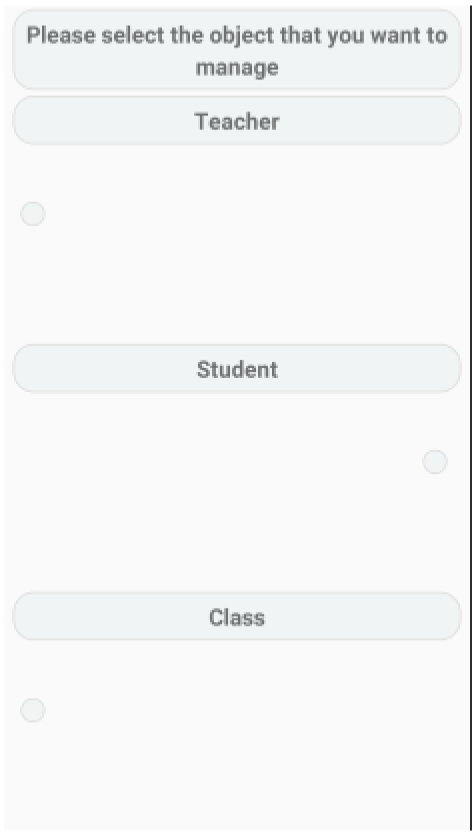

Password mistake

The password you entered is wrong, you can click the back button to return to enter again; If you forget your password, click Forget password to reset your password~

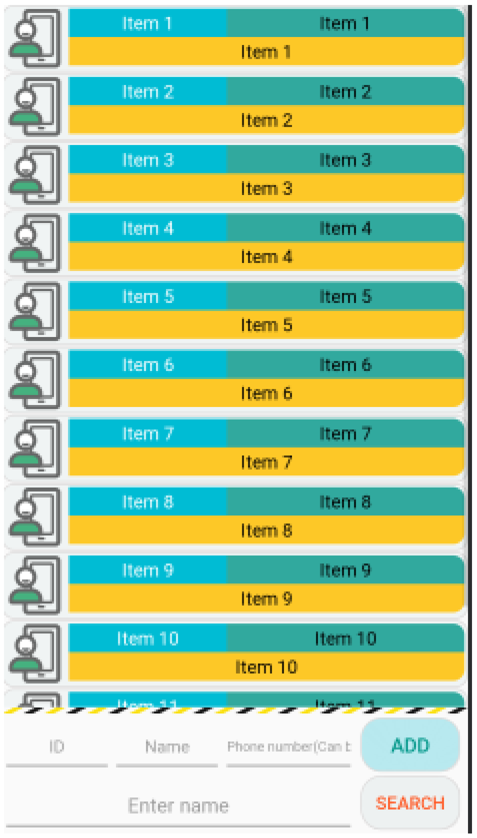
This page can be directly clicked to jump from the [Login] page or my customized AlertDialog pops up because of the wrong password. If you select [Forgot Password], you will be redirected to this page

Administrator page

Selection page and management page display for successful administrator login



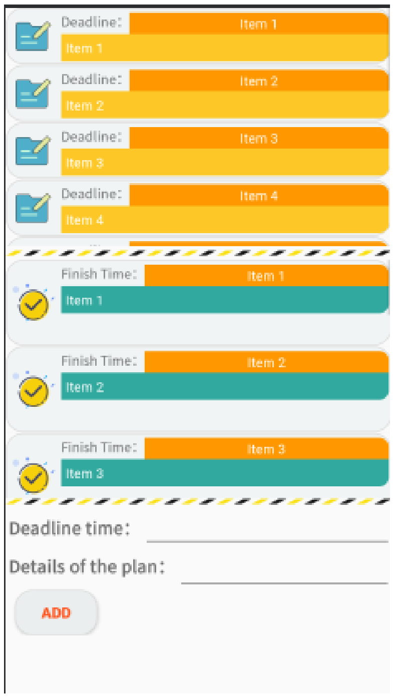
Manage student pages



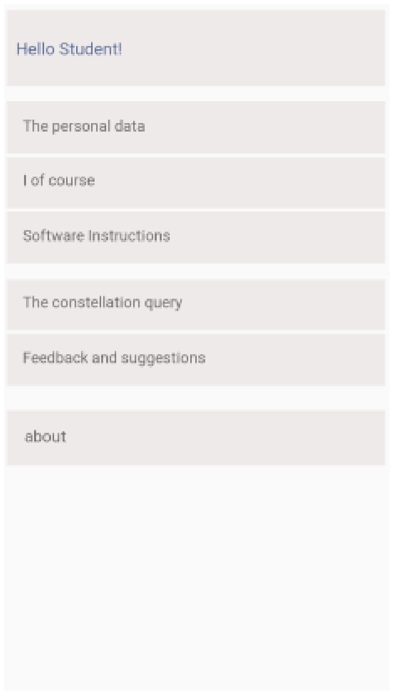
For the user management page, I use List View and SimpleCursorAdapter to achieve real-time refresh and display. When using these two, it is important to have "_id integer primary key autoincrement" in the table.

```
private void initView() {
    listView = (ListView) findViewById(R.id.studentListview);
    btn_insert = (Button) findViewById(R.id.btn_insert);
    btn_search = (Button) findViewById(R.id.btn_search);
    et_ID = (EditText) findViewById(R.id.et_studentID);
    et_name = (EditText) findViewById(R.id.et_studentName);
    et_phone = (EditText) findViewById(R.id.et_studentPhone);
    et_search = (EditText) findViewById(R.id.et_searchStudent);
}


private void initEvent() {
    btn_insert.setOnClickListener(this);
    btn_search.setOnClickListener(this);


    openHelper = new DBOpenHelper(this);
    mDbWriter = openHelper.getWritableDatabase();
    mDbReader = openHelper.getReadableDatabase();


    simpleCursorAdapter = new SimpleCursorAdapter(StudentActivity.this, R.layout.user_item,
null,
            new String[]{"userID", "realName_u", "phoneNumber_u"}, new int[]{R.id.user_id,
R.id.user_name, R.id.user_phone},
CursorAdapter.FLAG_REGISTER_CONTENT_OBSERVER);


    listView.setAdapter(simpleCursorAdapter); //Set the adapter for ListView
    refreshListview(); //Custom method used to refresh ListView when the data list changes


}


//Refresh the data list
public void refreshListview() {
    Cursor cursor = mDbWriter.query(DBOpenHelper.USER_INFO, null, "identity=?", new
String[]{"1"}, null, null, "userID");
    simpleCursorAdapter.changeCursor(cursor);
}
```

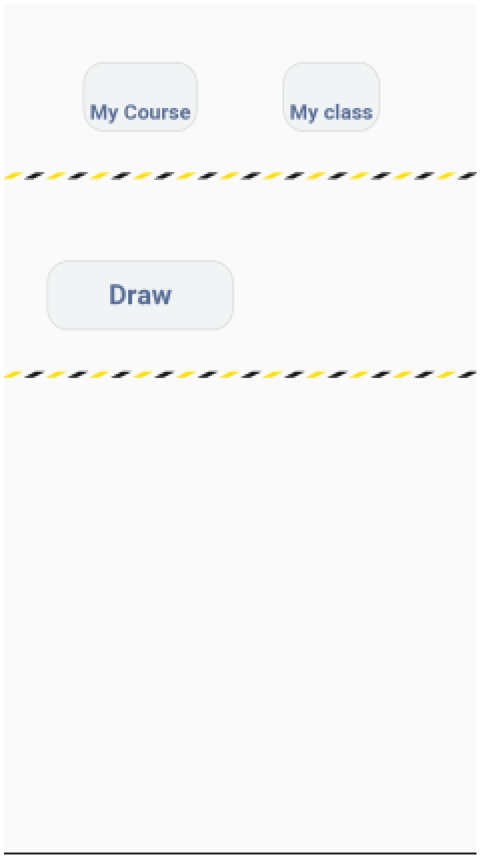
Planning interface



Personal interface



Learning interface

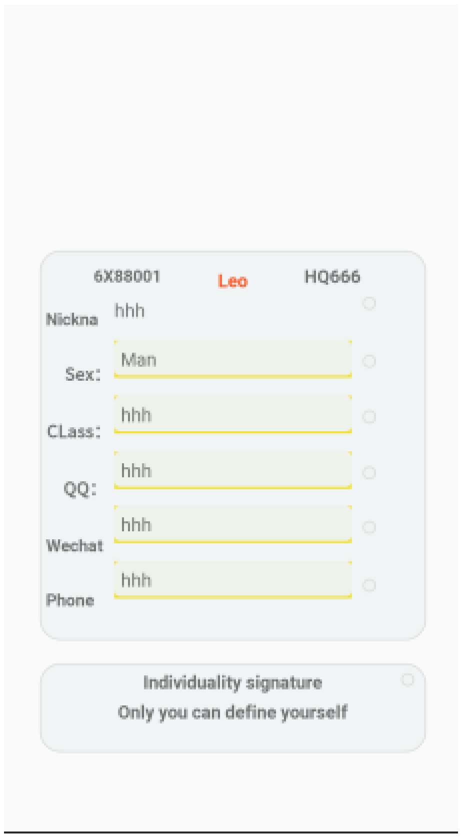


Functionally, a listener is added to each Image Button on the right, as follows:

```
//Set up monitoring
	ib_nickName.setOnClickListener(new EditNickName()); //nickname editing
	ib_sex.setOnClickListener(new EditSex()); //Sex edit
	ib_class.setOnClickListener(new EditClass()); //Class edit
	ib_qq.setOnClickListener(new EditQQ()); //qq edit
	ib_wechat.setOnClickListener(new EditWechat()); //Wechat edit
	ib_phoneNumber.setOnClickListener(new EditPhoneNumber()); //phone number edit
```

ib_motto.setOnClickListener(new EditMotto()); //signature editing

Profile page:



6X88001 Leo HQ666

Nickna hhh

Sex: Man

CLass: hhh

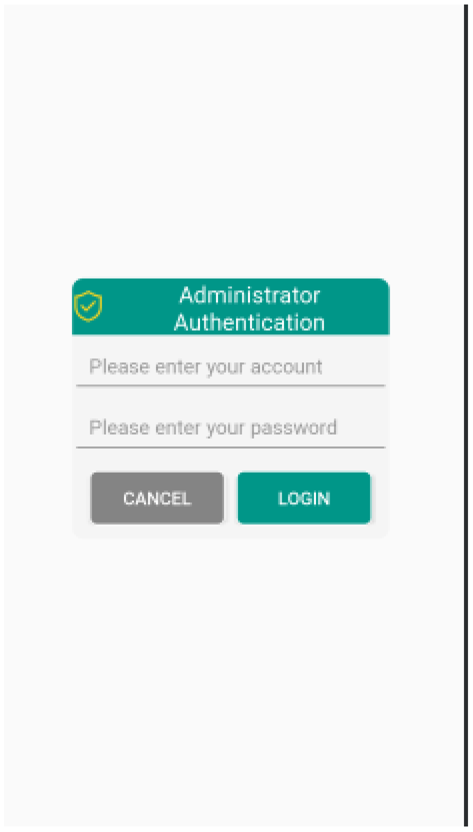
QQ: hhh

Wechat hhh

Phone hhh

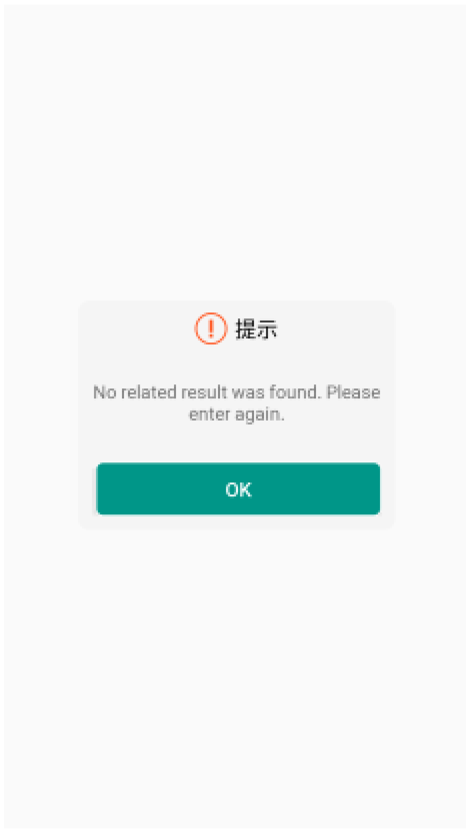
Individuality signature
Only you can define yourself

Administrator verification:


Administrator Authentication
Please enter your account
Please enter your password
CANCEL
LOGIN

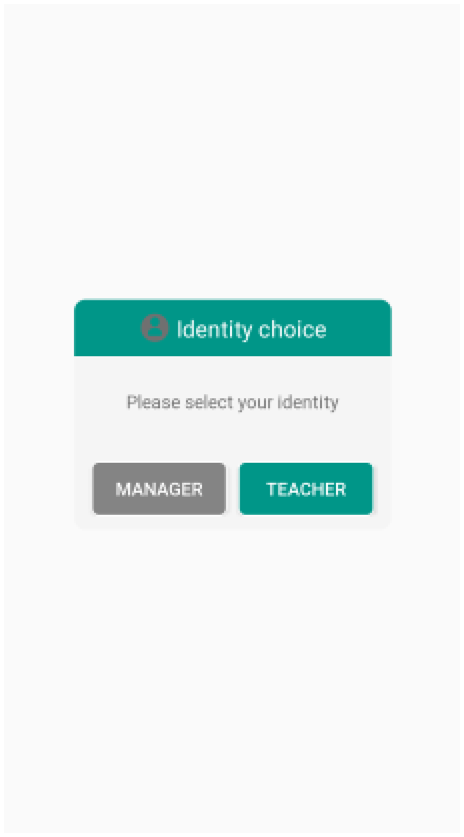
```
/**
* Custom login dialog
*/
private void customClick(View v) {
  AlertDialog.Builder builder = new AlertDialog.Builder(InitActivity.this);
  final AlertDialog dialog = builder.create();
  final View dialogView = View.inflate(InitActivity.this, R.layout.dialog_admin_login, null);
  //Set the dialog layout
  dialog.setView(dialogView);
  dialog.show();
  dialog.getWindow().setBackgroundDrawable(null);
  final Button btnLogin = (Button) dialogView.findViewById(R.id.btn_login);
  final Button btnCancel = (Button) dialogView.findViewById(R.id.btn_cancel);
  btnLogin.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
          et_name = (EditText) dialogView.findViewById(R.id.et_name);
          et_pwd = (EditText) dialogView.findViewById(R.id.et_pwd);
          String name = et_name.getText().toString().trim();
          String pwd = et_pwd.getText().toString().trim();
          if (name.equals("") || pwd.equals("")) {
              Toast.makeText(InitActivity.this, "The account and password cannot be empty, please
fill in again", Toast.LENGTH_SHORT).show();
          } else {
              if (name.equals("Henry")) {
                  if (pwd.equals("666666")) {
                      Intent intent = new Intent();
                      intent.setClass(InitActivity.this, AdminActivity.class);
                      startActivity(intent);
                      dialog.dismiss();
                  } else {
                      Toast.makeText(InitActivity.this, "The password is incorrect, please fill in again",
Toast.LENGTH_SHORT).show();
                  }

              } else {
                  Toast.makeText(InitActivity.this, "The account number is incorrect, please fill in
again", Toast.LENGTH_SHORT).show();
              }
          }
      }
  });
  btnCancel.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
          dialog.dismiss();
      }
  });
}
```

Prompt page:



No related result was found. Please enter again.

Identity selection:



```
private void selectClick(View v) {
        AlertDialog.Builder builder = new AlertDialog.Builder(AdminActivity.this);
        final AlertDialog dialog = builder.create();
        final View dialogView = View.inflate(AdminActivity.this, R.layout.dialog_admin_teacher,
null);
        //Set the dialog layout
        dialog.setView(dialogView);
        dialog.show();
        dialog.getWindow().setBackgroundDrawable(null);
        final Button btnHead = (Button) dialogView.findViewById(R.id.btn_selectHead);
        final Button btnTeacher = (Button) dialogView.findViewById(R.id.btn_selectTeacher);
```

```
    btnHead.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
                    Intent intent = new Intent();
                    intent.setClass(AdminActivity.this, TeacherActivity.class);
                    startActivity(intent);
                    dialog.dismiss();
                }
    });
    btnTeacher.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent();
            intent.setClass(AdminActivity.this, Teacher2Activity.class);
            startActivity(intent);
            dialog.dismiss();
        }
    });
}
```

To sum it up, it is actually equivalent to designing this Dialog like writing an interface layout, but its size is relatively small, and attention should be paid to the matching of its content, components and Alert Dialog. You can't design it as you want. What kind, follow the method of Alert Dialog