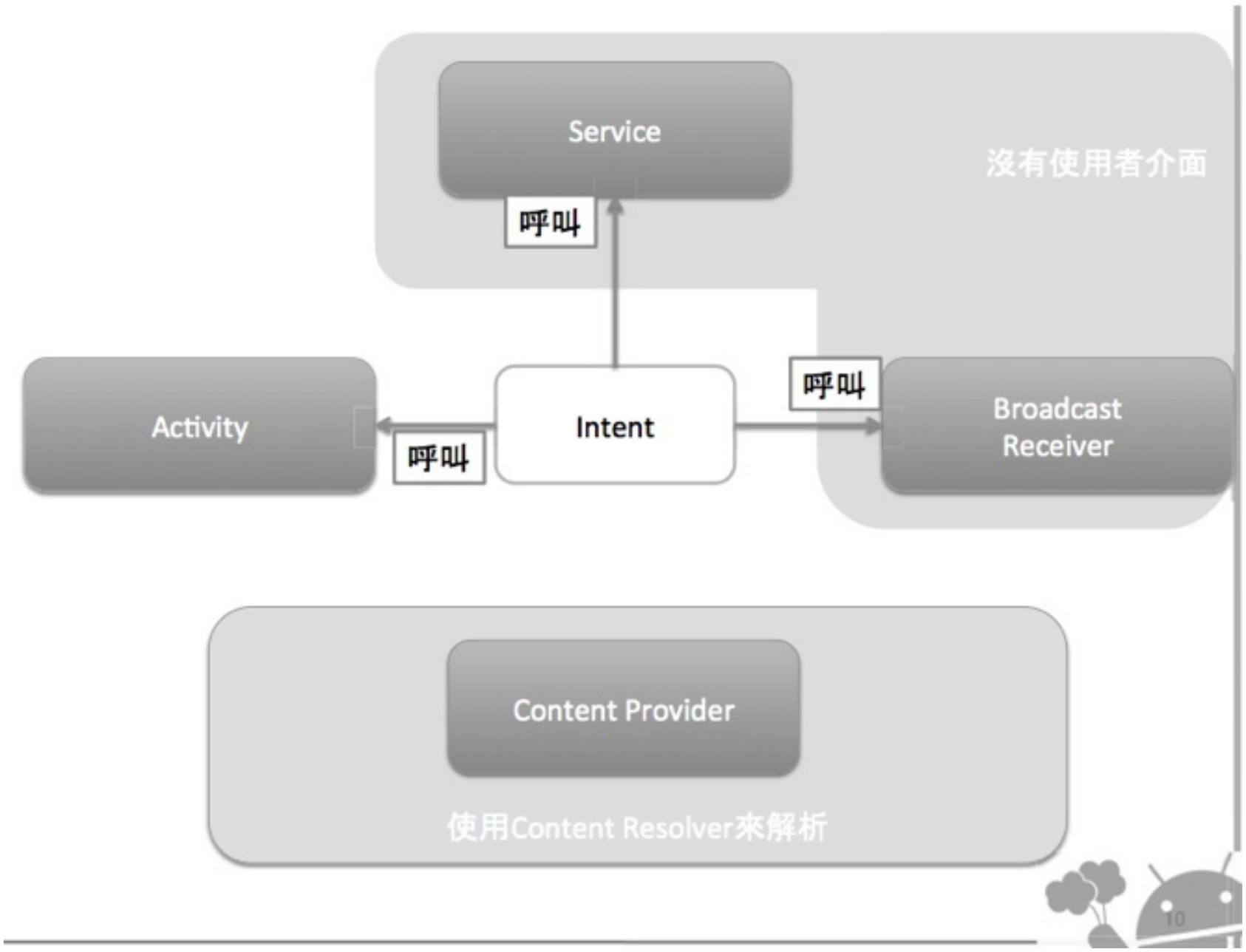
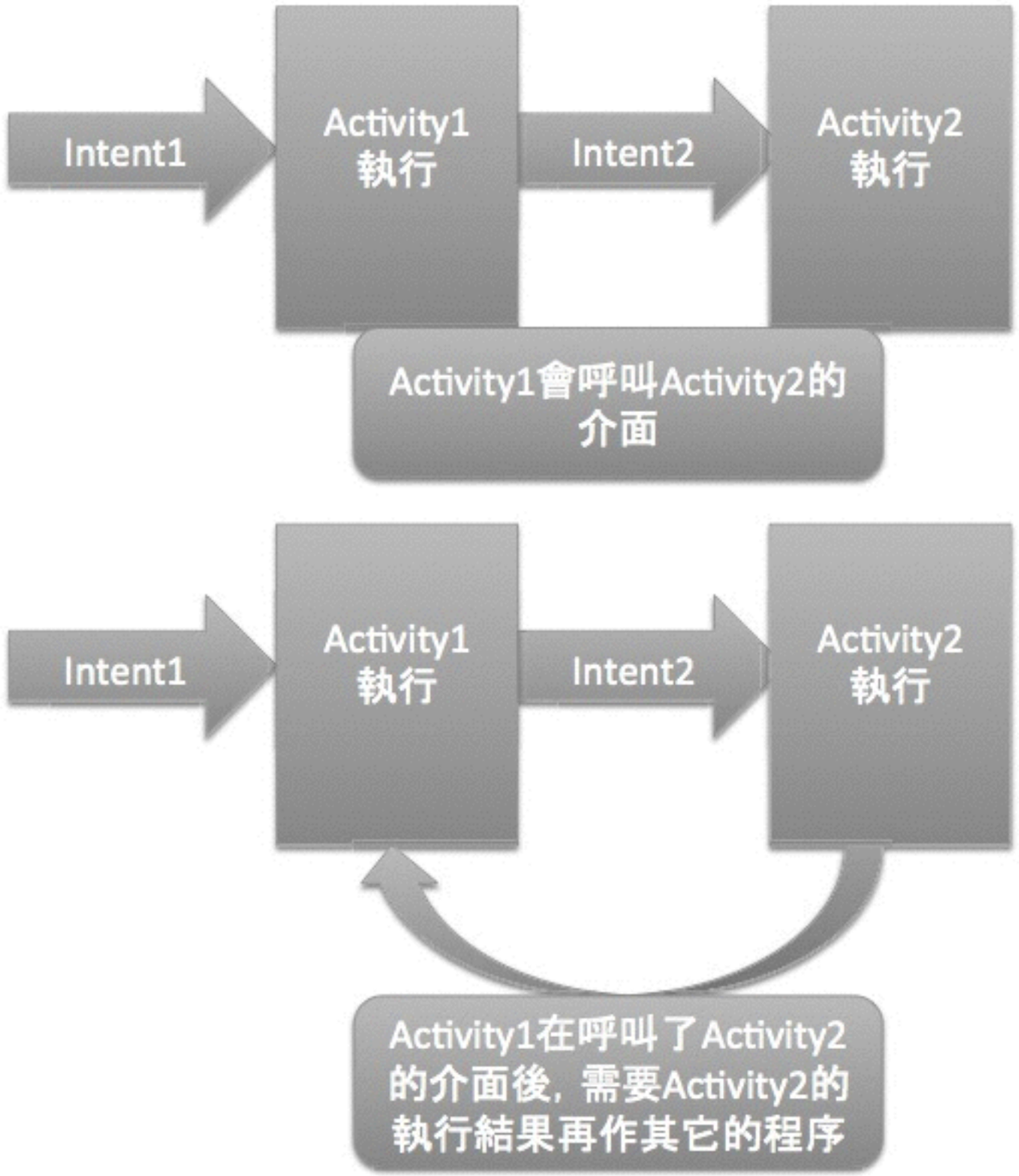
Android Activity Communication

Agenda

- Activity communication types Review
- Intent
- Pass data between activities
- Override back button behavior

Review


Service
呼叫
沒有使用者介面
Activity
呼叫
Intent
呼叫
Broadcast Receiver
Content Provider
使用Content Resolver來解析


Intent1
Activity1
執行
Intent2
Activity2
執行
Activity1會呼叫Activity2的
介面
Intent1
Activity1
執行
Intent2
Activity2
執行
Activity1在呼叫了Activity2
的介面後，需要Activity2的
執行結果再作其它的程序

Intent

- Call another activity
- Make a phone call (System level activity)
- Chap 3-3

Make a call

- Permission Settings in AndroidManifest.xml

- Intent

AndroidManifest.xml

.....

<uses-sdk

android:minSdkVersion="8"

android:targetSdkVersion="17" />

<uses-permission android:name=“android.permission.CALL_PHONE"/>

....

Code

```
Intent it = new Intent();

it.setAction(Intent. ACTION_CALL);

it.setData(Uri.parse("tel:0225149191"));

startActivity(it);
```

Lab : Phone Call

Type 1

- Activity must be declared in AndroidManifest.xml
- Use Intent object to switch activity

AndroidManifest.xml

```
<application
    ……
    <activity
      android:name="com.example.activity_communication.MainActivity"
      android:label="@string/app_name" >
      <intent-filter>
        ……
      </intent-filter>
  </activity>
  <activity
      android:name="com.example.activity_communication.Act2Activity"
      android:label="@string/title_activity_act2" >
  </activity>
```

Intent

```
Intent it = new Intent();
it.setClass(this, Act2Activity.class);

this.startActivity(it);

this.finish();//*
```

Lab : Type 1

Pass data between activities

- Intent

- Bundle

Case 1 : Sender

```
Intent it = new Intent();

it.setClass(this, Act3Activity.class);

//Set Pass Data

Bundle data = new Bundle();

data.putString("Name", "Ken");

data.putString("Age", "40");

it.putExtras(data);

this.startActivity(it);
```

Case 2 : Sender

Intent it = new **Intent**();

it.setClass(this, Act3Activity.class);

//Set Pass Data

it.putExtra("**Name**", "Ken2");

it.putExtra("**Age**", “402");

this.startActivity(it);

Receiver

Intent it = this.getIntent();

Bundle data = **it.getExtras**();

String message = data.getString("**Name**")+" is "+data.getString("**Age**")+" years old.";

Lab : Pass data

Type 2

- Activity must be declared in AndroidManifest.xml
- Use Intent object to switch activity
    - Caller
        - startActivityForResult(….)
        - override onActivityResult(…)
    - Callee
        - setResult(…)
- The first activity can not be finished when go to the next activity

AndroidManifest.xml

```
<application
    ……
    <activity
      android:name="com.example.activity_communication.MainActivity"
      android:label="@string/app_name" >
      <intent-filter>
        ……
      </intent-filter>
  </activity>
  <activity
      android:name="com.example.activity_communication.Act2Activity"
      android:label="@string/title_activity_act2" >
  </activity>
```

Type 2 : Caller -1

```
Intent it = new Intent();

it.setClass(this, Act2Activity.class);

startActivityForResult(it,0);
```

Type 2 : Caller -2

```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        switch(requestCode){
                case 0:
                        Log.i("onActivityResult","onActivityResult");
                        String msg = data.getExtras().getString("Message");
                        break;
                default:
                        break;
        }
}
```

Type 2 : Callee

```
Intent it = new
Intent(Act2Activity.this,MainActivity.class);

it.putExtra(“Message", “OK OK!”);

setResult(RESULT_OK, it);

finish();
```

Lab : Type 2

Type 2 application

- SpeechRecognition

- Internet access permission

AndroidManifest.xml

<uses-permission
android:name="**android.permission.INTERNET**"/>

SpeechRecognition - 1

Intent it = new Intent(**RecognizerIntent.ACTION_RECOGNIZE_SPEECH**);

it.putExtra(**RecognizerIntent.EXTRA_LANGUAGE_MODEL**,**RecognizerIntent.LANGUAGE_MODEL_FREE_FORM**);

it.putExtra(**RecognizerIntent.EXTRA_PROMPT**, “請說欲搜尋之關鍵字”);

startActivityForResult(it, **1**);

SpeechRecognition - 2

```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
        // TODO Auto-generated method stub
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode==1 && resultCode== RESULT_OK){
                ArrayList<String> results = data.getStringArrayListExtra(RecognizerIntent.EXTRA_RESULTS);
                if(results!=null && results.size()>0){
                        input.setText(results.get(0));
                }
        }
}
```

Override back button behavior

- override onBackPressed(…)

Sample 1

```
AlertDialog.Builder dialog = new AlertDialog.Builder(this);

dialog.setTitle("Title");

dialog.setMessage("Are U sure?");

dialog.setPositiveButton("Go", new DialogInterface.OnClickListener() {

        @Override

        public void onClick(DialogInterface dialog, int which) {

                Act2Activity.super.onBackPressed();

        }

});

dialog.setNegativeButton("Cancel",

                new DialogInterface.OnClickListener() {

                        @Override

                        public void onClick(DialogInterface dialog, int which) {

                                //Do NOTHING

                        }

                });

dialog.show();
```

Sample 2

```
new AlertDialog.Builder(this)
.setTitle("Title")
.setMessage("Are U sure?")
.setPositiveButton("Go", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
                Act2Activity.super.onBackPressed();
        }
})
.setNegativeButton(“Cancel", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog,int which) {
                //Do NOTHING
        }
}).show();
```