# CS 402: Mobile Development

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# Review

## Activities, Layouts

# Intents for Activities

Intents are the objects that can launch additional Activities (plus a lot more).

Create them, load them up with data and have them launch new Activities.

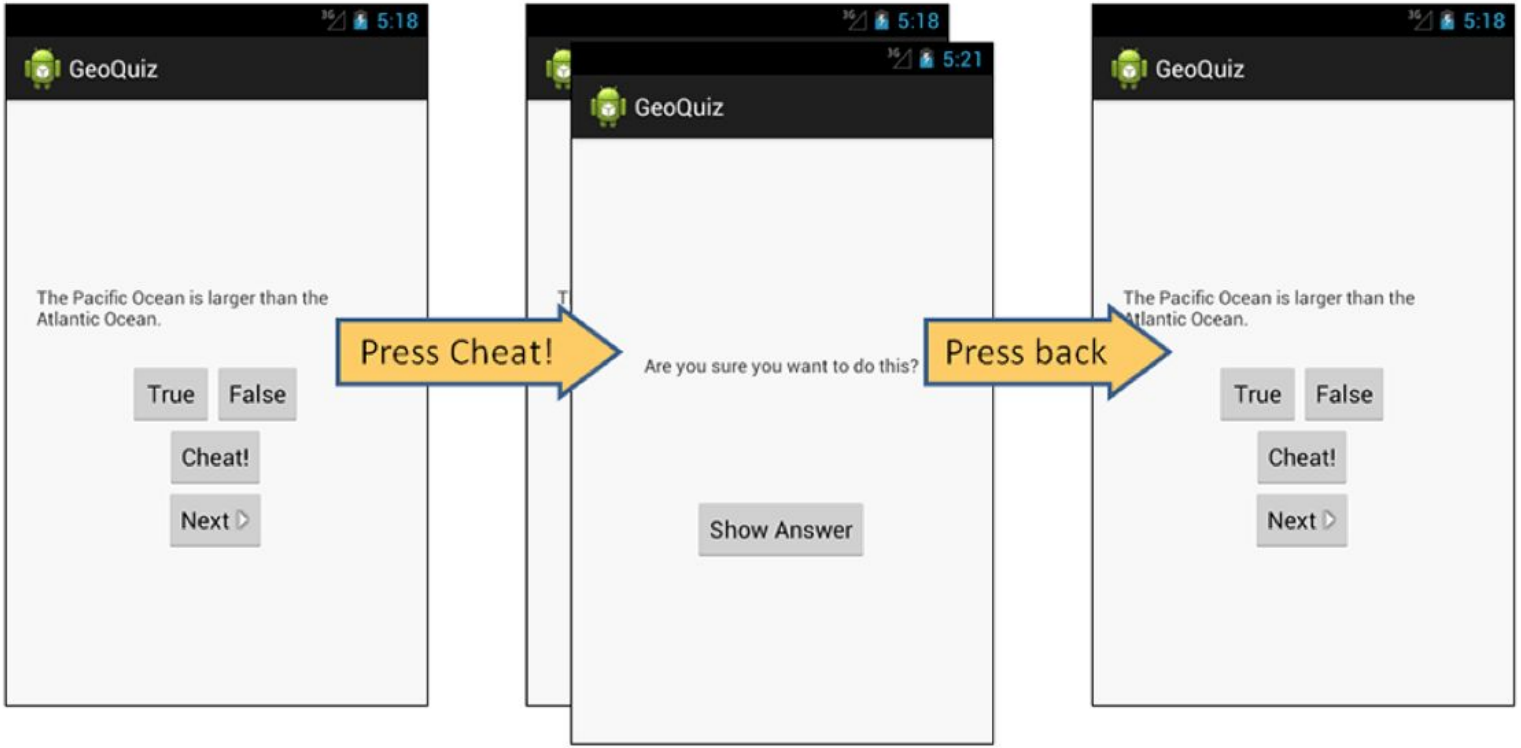
Once created, use a new Intent to return data back.

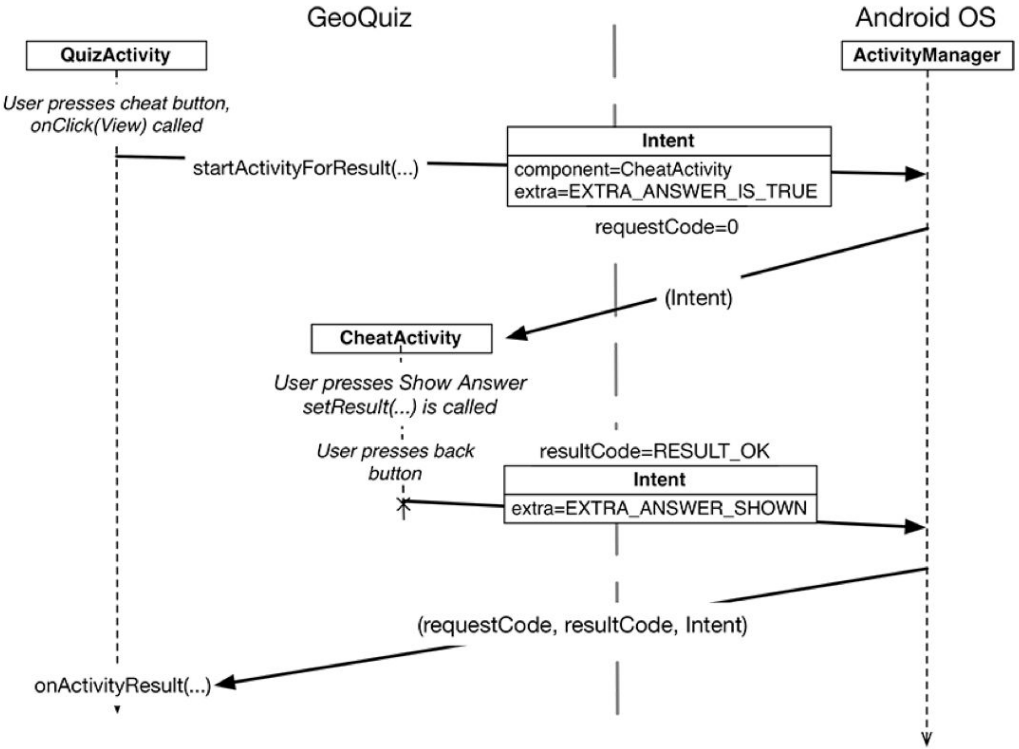
# Intents

From the docs:

An intent is an abstract description of an operation to be performed. It can be used with `startActivity` to launch an `android.app.Activity`, `broadcastIntent` to send it to any interested `BroadcastReceiver` components, and `Context.startService` or `Context.bindService` to communicate with a background `android.app.Service`.

# Activity Stack




GeoQuiz
Android OS
QuizActivity
ActivityManager
User presses cheat button,
onClick(View) called
Intent
component=CheatActivity
extra=EXTRA_ANSWER_IS_TRUE
startActivityForResult(...)
requestCode=0
(Intent)
CheatActivity
User presses Show Answer
setResult(...) is called
User presses back
button
resultCode=RESULT_OK
Intent
extra=EXTRA_ANSWER_SHOWN
(requestCode, resultCode, Intent)
onActivityResult(...)

# Intents

**Explicit**

Defining of a new Intent and passing that to ActivityManager to start the new Activity.

```
val intent = Intent(this, OtherActivity::class.java)

startActivity(intent)
```

**Implicit**

When your app calls another app (map, web browser, email, etc)

# Passing Data Around

```
Intent putExtra( NAME_CONSTANT:String, VALUE);
```

**NAME_CONSTANT** should be namespaced (ex: com.company.appname.name). Define in child activity as public static final so you can access it from parent.

**VALUE** can be any primitive type (int, float, bool, etc), String, Objects with Serializable implemented.

# Retrieving Data from Parent

```
// In child Activity's onCreate
override fun onCreate(savedInstanceState: Bundle?) {

   val stringFromActivity:String = intent.getStringExtra("thekey")
   val person:Person = intent.getSerializableExtra("person") as Person
}
```

# 1 - Retrieving Data from Child

```
// For parents awaiting responses from their children, instead of
//  startActivity we use:
startActivityForResult(intent, 999) // Intent, ID
```

# 2 - Retrieving Data from Child

```
override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main2)

    val stringFromActivity:String = intent.getStringExtra("thekey")
    val person:Person = intent.getSerializableExtra("person") as Person
//..
    setResult(Activity.RESULT_OK)
}
```

# 3 - Retrieving Data from Child

```
// Back in Parent Activity
override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?) {
   super.onActivityResult(requestCode, resultCode, data)
}
```