Lambda

Android Intents

Upon completion of this module, a student will be able to

- understand the basics of Android Intents
- use an intent to start an activity
- understand Manifest Intent filters
- Deep-link into an Android app

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Project

- Task
  - For this project, you will be creating a multi page app using different types of intents.
- Repo
  - https://github.com/LambdaSchool/Android_Intents
- Submission
  - GitHub

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A Student Can

understand the basics of Android Intents

Android Intents

- Represents the "intent" to do something in Android
- You might "intend" to:
  - Open the photo gallery
  - Open the camera
  - Open another application
  - Open another Activity
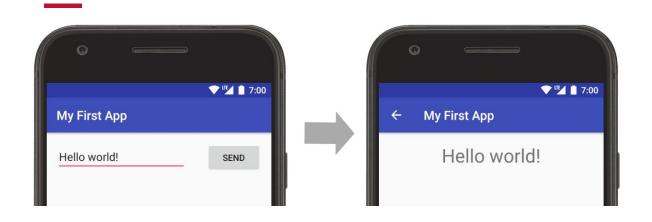 - Share some content
  - Etc...

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Android Intents cont'd

- Sometimes Intents will return a result to you (IE: open the camera, take a photo, respond to your app with the picture that was taken)
- Intents can be complex, and you'll use them a lot throughout this course

Intent Examples

Intent Examples

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understand Manifest Intent filters

Intent Filters

- Main Activity
  - action - MAIN
  - category - LAUNCHER
- Share Activity
  - first intent
    - action - SEND
    - data - plain text
  - second intent
    - action - SEND, SEND_MULTIPLE
    - data - panorama, image, video

```xml
<activity android:name="MainActivity">
    <!-- This activity is the main entry, should appear in app launcher -->
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>

<activity android:name="ShareActivity">
    <!-- This activity handles "SEND" actions with text data -->
    <intent-filter>
        <action android:name="android.intent.action.SEND"/>
        <category android:name="android.intent.category.DEFAULT"/>
        <data android:mimeType="text/plain"/>
    </intent-filter>
    <!-- This activity also handles "SEND" and "SEND_MULTIPLE" with media data -->
    <intent-filter>
        <action android:name="android.intent.action.SEND"/>
        <action android:name="android.intent.action.SEND_MULTIPLE"/>
        <category android:name="android.intent.category.DEFAULT"/>
        <data android:mimeType="application/vnd.google.panorama360+jpg"/>
        <data android:mimeType="image/*"/>
        <data android:mimeType="video/*"/>
    </intent-filter>
</activity>
```

Starting a new Activity

- Activities can launch other Activities
- Master-detail flow
- Settings screens in apps like Twitter or Gmail are usually separate Settings Activities

Starting a new Activity cont'd

- There are a lot of options for starting new Activities
  - Should the current Activity be dismissed?
  - Do we want to pass some data into the new Activity?
  - Do we want to maintain a "back stack" for when the user presses the back button?

Building the Intent

- Component Name
  - Makes intent explicit
- Data
  - Data to be acted on
  - Put with unique key
- Extras
  - key value pairs
  - https://developer.android.com/guide/components/intents-common

```kotlin
view.setOnClickListener {
    val intent = Intent(this, EditActivity::class.java)
    intent.putExtra("EDIT_NOTE_KEY", data)

    this.startActivity(intent)
}
```

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Getting Data from Intents

- Get a handle to the intent
- get*TYPE*Extra
  - Pass key

```
val data =

intent.getStringExtra("EDIT_NOTE_KEY");
```

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Challenge

1. Add a second Activity to your project (right click on the top-level project in your project in Android Studio, New Activity, Basic Activity)
2. Add a button to the first Activity and wire up a click listener to launch the second Activity
3. Try some different options for intent flags and see how they behave https://developer.android.com/reference/android/content/Intent.html#setFlags(int)
4. Try to pass an integer from the first to the second Activity

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deep-link into an Android app

Intent for Filter

- Action
- Type
- Look for Activity candidate(s)

- Result "Callback"
- Check code and result
- Pull Data

```kotlin
val intent = Intent(Intent.ACTION_GET_CONTENT)
intent.type = "image/*"
if (intent.resolveActivity(packageManager) != null) {
    startActivityForResult(intent, REQUEST_IMAGE_GET)
}
...


override fun onActivityResult(requestCode: Int,
resultCode: Int, data: Intent?) {
    if (requestCode == REQUEST_IMAGE_GET
            && resultCode == RESULT_OK) {
        val fullPhotoUri = data!!.data
        if (fullPhotoUri != null) {
            imageList.add(ImageData(fullPhotoUri))
        }
    }
}
```

https://developer.android.com/guide/components/intents-common

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Challenge

- Create a button that will retrieve a contact from the user's contacts

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Solution

```kotlin
fun selectContact() {
    val intent = Intent(Intent.ACTION_PICK).apply {
        type = ContactsContract.Contacts.CONTENT_TYPE
    }
    if (intent.resolveActivity(packageManager) != null) {
        startActivityForResult(intent, REQUEST_SELECT_CONTACT)
    }
}


override fun onActivityResult(requestCode: Int, resultCode: Int, data: Intent?)
{
    if (requestCode == REQUEST_SELECT_CONTACT && resultCode == RESULT_OK) {
        val contactUri: Uri? = data?.data
        // Handle Contact
    }
    super.onActivityResult(requestCode, resultCode, data)
}
```

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