

## ICS 26011: APPLICATIONS DEVELOPMENT AND EMERGING TECHNOLOGIES 3 (MOBILE PROGRAMMING)

# LAYOUTS INTENTS

**ALMA PEROL**

Instructor

[avperol@ust.edu.ph](mailto:avperol@ust.edu.ph)

## Module Outline

- What is Intent?
- Implicit Intents
- Explicit Intents
- Intent Filters

## App Component

### Activities

An activity represents a single screen with a user interface, in-short Activity performs actions on the screen.

### Broadcast Recievers

Broadcast Receivers simply respond to broadcast messages from other applications or from the system.

### Services

A service is a component that runs in the background to perform long-running operations.

### Content Providers

A content provider component supplies data from one application to others on request.



## Intents

- In android, **Intent** is a messaging object which is used to **request an action** from another app component such as activities, services, broadcast receivers, and content providers.
- Generally, in android, Intents will help us to maintain the **communication** between app components from the same application as well as with the components of other applications.

## Intents

- In android, Intents are the objects of **android.content.Intent** types and intents are mainly useful to perform the following things.

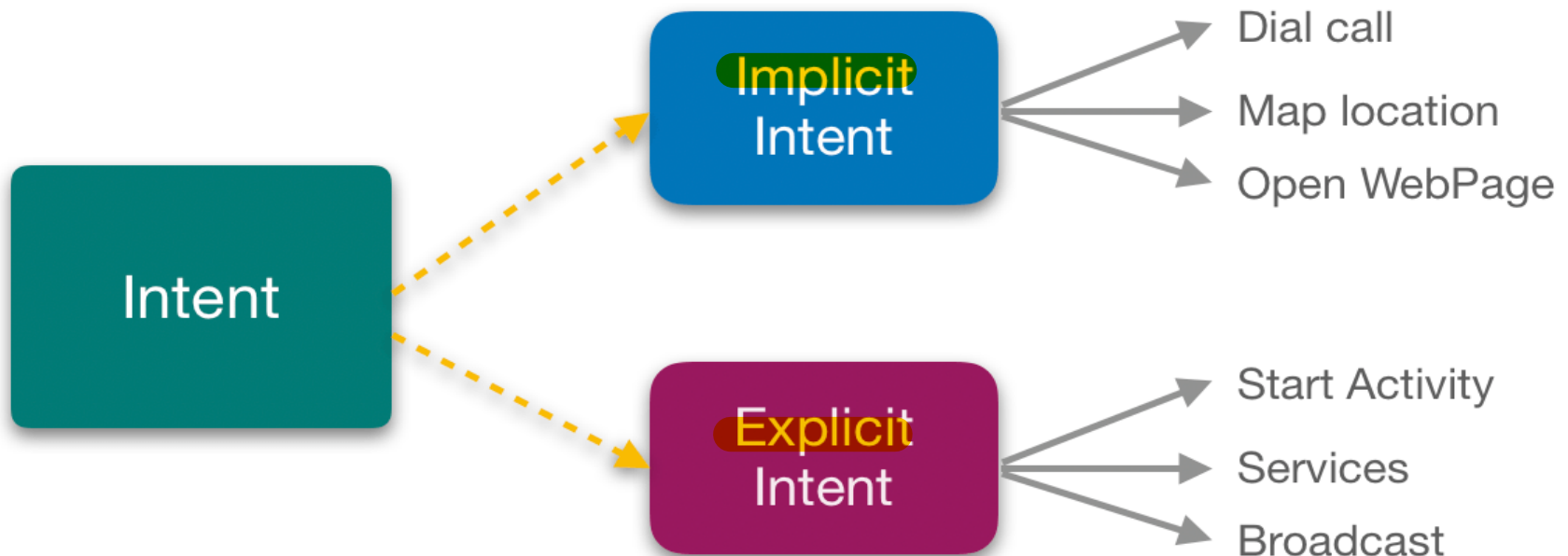
Component	Description
Starting an Activity	By sending an <b>Intent</b> object to <b>startActivity()</b> method we can start a new Activity or existing Activity to perform required things.
Starting a Service	By sending an <b>Intent</b> object to <b>startService()</b> method we can start a new Service or send required instructions to an existing Service.
Delivering a Broadcast	By sending an <b>Intent</b> object to <b>sendBroadcast()</b> method we can deliver our messages to other app broadcast receivers.



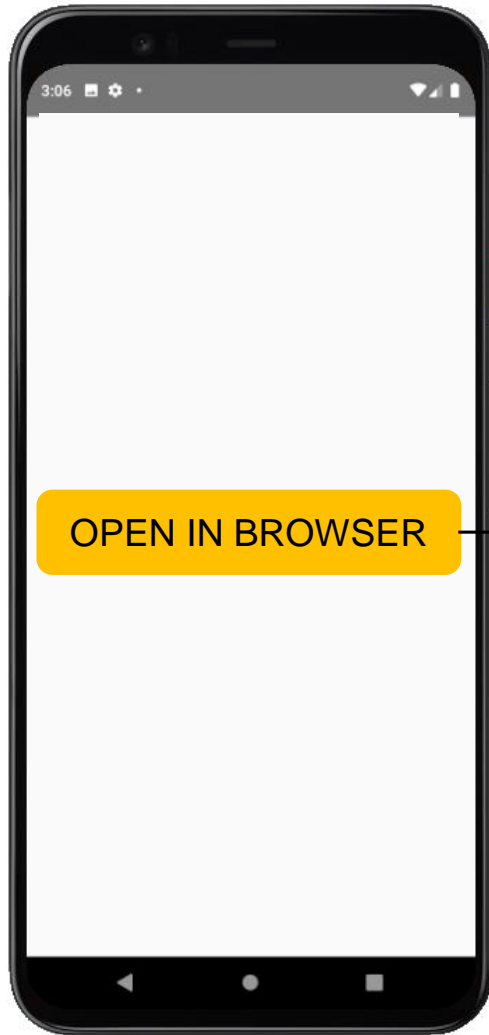
## Intent Use Cases

- Start the service
- Launch an activity
- Display a web page
- Broadcast a message
- Dial a phone call.
- Map GEO location

## Intents



Explicit

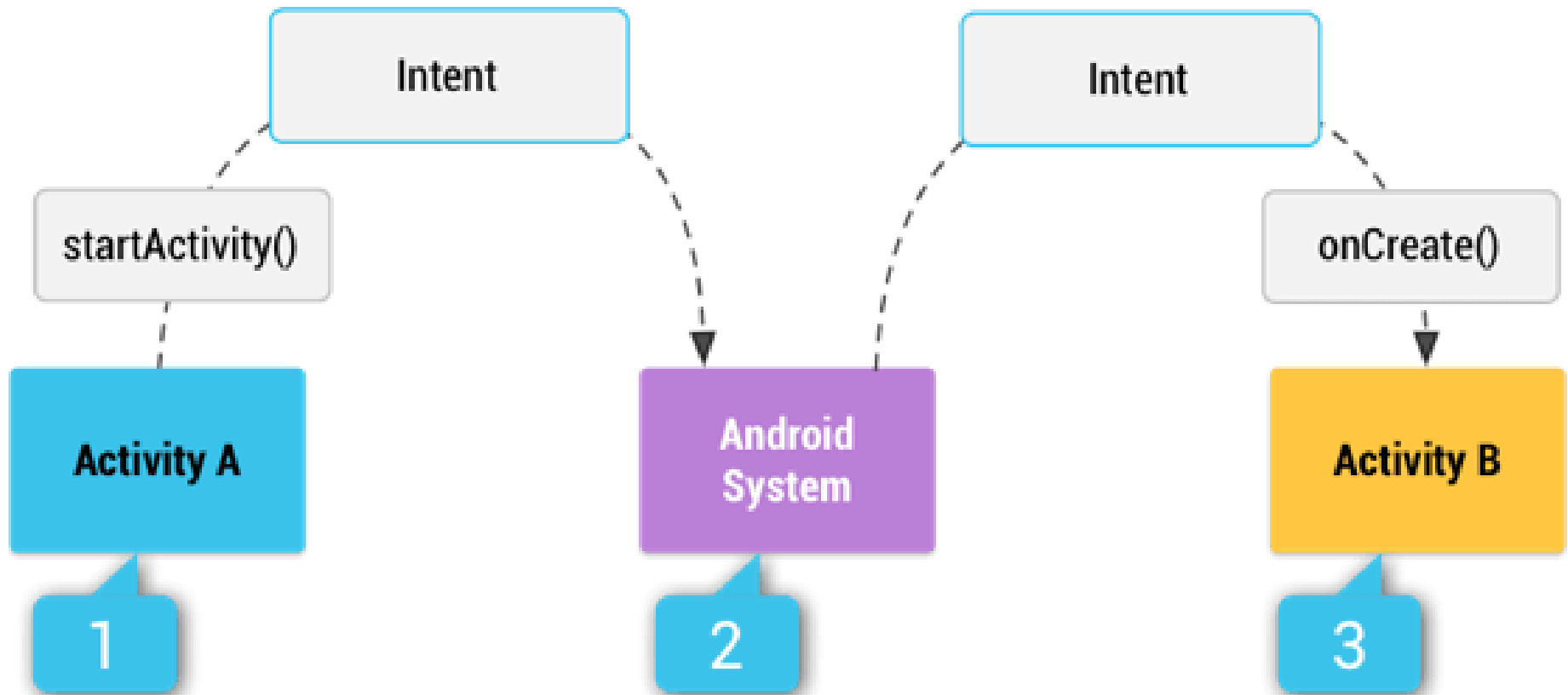




## Intent Types – Implicit Intent

- In android, **Implicit Intents** won't specify any name of the component to start instead, it declare an action to perform and it allows a component from other apps to handle it.
- For example, by using implicit intents we can request another app to show the location details of the user or etc.

## Intent Types – Implicit Intent



## Intent Types – Implicit Intent

- See demos files -- *IntentTypes*

## Intent Types – Explicit Intent

- In android, **Explicit intents** explicitly specify the name of the component to be invoked by activity and we use explicit intents to start a component in our own app.
- For example, we can start a new activity in response to a **user action** using explicit intents.
- By using explicit intents we can send or share data/content from one activity to another activity based on our requirements. To create an Explicit Intent, we need to **define the component name for an Intent object**.

## Intent Types – Explicit Intent

- See demo file video



## Intent Filters

- In android, **Intent Filter** is an expression in the app's **manifest file** (ActivityMainfest.xml) and it is used to specify the type of intents that the component would like to receive.
- In case if we create **Intent Filter** for an activity, there is a possibility for other apps to start our activity by sending a certain type of intent otherwise the activity can be started only by an explicit intent.

## Intent Filters

Elements:

- **<action>**
  - It defines the name of an intended **action** to be accepted and it must be a **literal string** value of an action, not the class constant.
- **<category>**
  - It defines the name of an intent **category** to be accepted and it must be the **literal string** value of an action, not the class constant.
- **<data>**
  - It defines the type of data to be accepted and by using one or more **attributes** we can specify various aspects of the **data URI** (scheme, host, port, path) and MIME type.

## Exercise:

Please do the exercise in the file:

[ICS26011\\_IntentSampleCode.pdf](#)

Thank You!

## Resources and Acknowledgements

- Android Developer Fundamentals. <https://google-developer-training.github.io/android-developer-fundamentals-course-concepts-v2/>
- Tutlane. (n.d.). Android View and ViewGroup. <https://www.tutlane.com/tutorial/android/>