



University of Mila
Computer Science Department

Third-year Bachelor
Mobile Applications Course

Chapter 6

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Communication between components

Intents

An **Intent** is a messaging object that you can use to request an action from another application component.

Although intents facilitate communication between **components**, they are commonly used to start an activity, send data, or interact with other applications.

They allow communication between different parts of an application or even between applications.

Explicit Intents

Explicit intents specify the application component that should respond to the intent by providing a complete **ComponentName**.

You generally use an explicit intent to start a component within your **own application** because you know the class name of the activity or service you want to start.

For example, you can start a new activity in your application in response to a user action, or start a service to download a file in the background.

Implicit Intents

Implicit intents do **not name a specific component**, but instead declare a general action to perform, allowing a component from another application to handle it.

For example: opening a web page, calling a phone number, sending an email, etc.

Resolving Implicit Intents

Creation of an implicit intent: you specify an action (e.g., VIEW, DIAL, SEND, SENDTO) and data (tel:, mailto:, http:, etc.).

The Android system searches the manifest (AndroidManifest.xml) of all installed applications for **<intent-filter>** entries matching the intent.

If there is only **one compatible application**, it is launched directly.

If there are **multiple compatible applications**, Android displays a chooser dialog (“Choose an application”).

AndroidManifest.xml file

Each application project must contain an **AndroidManifest.xml** file with exactly this name, located at the root of the project source set.

The manifest file describes essential information about your application to the build tools, the Android operating system, and also to Google Play.

- 1- Application name
- 2- Required permissions (e.g., Internet access, camera)
- 3- Application components:
 - Activity (screens)
 - Service (background tasks)
 - BroadcastReceiver (listens for system events)
 - ContentProvider (data sharing)
- 4- Name of the launcher activity (startup screen)
- 5- Application version
- 6- Target SDK version (API level)

THINK POSITIVELY
NETWORK WELL
EXERCISE DAILY
EAT HEALTHY
WORK HARD
STAY STRONG
BUILD FAITH
WORRY LESS
READ MORE
BE HAPPY
VOLUNTEER FREELY
RELAX OFTEN
LOVE ALWAYS
LIVE FOREVER