## Broadcast Notifications and Broadcast Receivers

Broadcasts and Broadcast Receivers are a powerful mechanism in Android for inter-component communication. They allow applications to send system-wide or application-specific messages that other applications can listen to and respond to.

**Broadcasts:**

* Broadcasts are essentially signals or events that can be sent by the system (e.g., Android OS) or applications.
* They contain information about the event, often packaged as an Intent object.
* Intents for broadcasts typically include details like the action being announced (e.g., android.intent.action.BATTERY\_LOW) and any additional data associated with the event.

**Broadcast Receivers:**

* Broadcast Receivers are components within your app that are designed to listen for specific broadcasts.
* They register themselves with the system using an IntentFilter object, specifying the types of broadcasts they are interested in receiving.
* When a matching broadcast is sent, the system delivers it to all registered receivers through the onReceive callback method.

**Common Use Cases:**

* **System Events:** Monitor system-wide events like network connectivity changes (WiFi, mobile data), battery level updates, boot completion, or time zone changes.
* **App-to-App Communication:** Enable communication between your app and other apps. For instance, a music player app can send a broadcast when playback is stopped, which a lyrics app might listen for to update its UI.
* **Local Updates:** Notify different parts within your app about changes or events. This can be useful for coordinating tasks between activities or services.

### Example

A computer screen with white and green text

Description automatically generated**Notification Broadcast (App Sending Broadcast):**

**Broadcast Receiver**

**A screen shot of a computer screen

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**Update Manifests File**

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**Explanation:**

* In MyActivity, we create an Intent with a custom action and a message to be sent.
* sendBroadcast dispatches the Intent as a broadcast message.
* NotificationReceiver is a Broadcast Receiver that listens for the specific action defined in the Intent.
* In onReceive, we extract the message data and perform an action (e.g., displaying a toast).
* The receiver is registered in the AndroidManifest.xml with an IntentFilter specifying the action it listens to.