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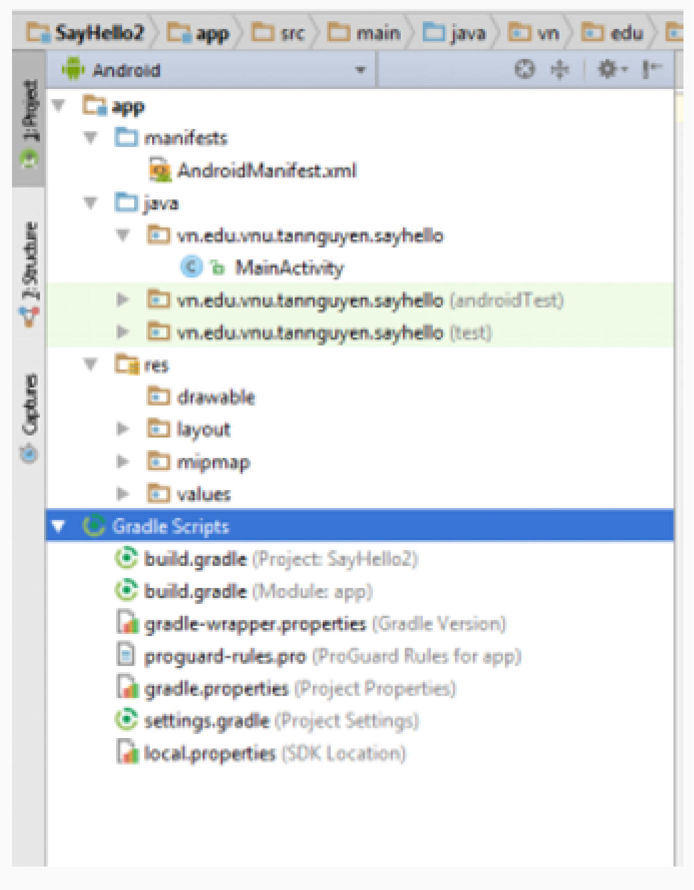
Basic

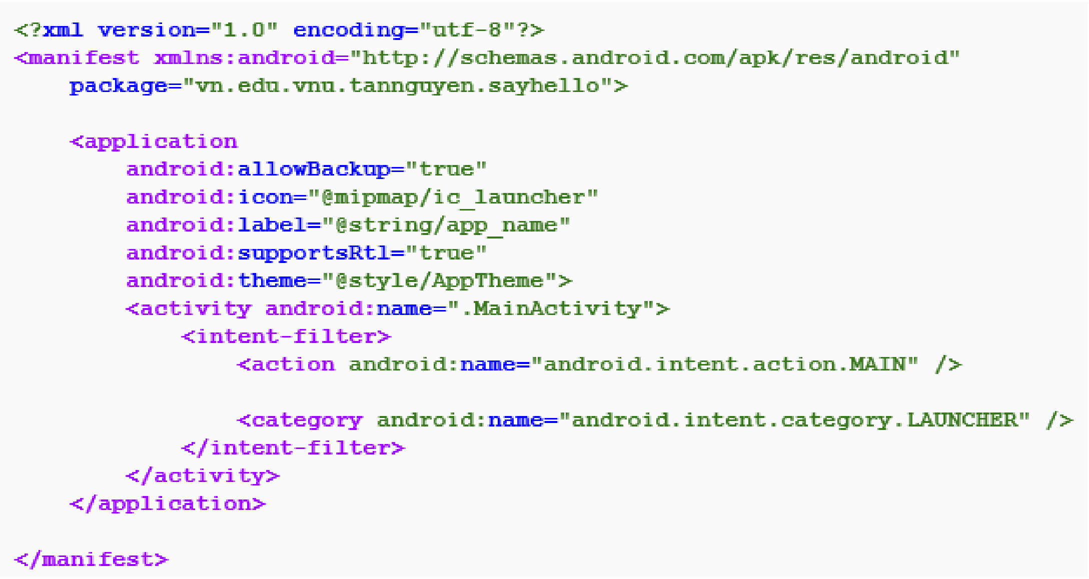
◴ Created	@September 8, 2023 10:20 PM
☰ Tags	

- Project structure



```
▼ app
    ▼ manifests
        AndroidManifest.xml
    ▼ java
        ▼ vn.edu.vnu.tannguyen.sayhello
            MainActivity
        ▶ vn.edu.vnu.tannguyen.sayhello (androidTest)
        ▶ vn.edu.vnu.tannguyen.sayhello (test)
    ▼ res
        drawable
        ▶ layout
        ▶ mipmap
        ▶ values
▼ Gradle Scripts
    build.gradle (Project: SayHello2)
    build.gradle (Module: app)
    gradle-wrapper.properties (Gradle Version)
    proguard-rules.pro (ProGuard Rules for app)
    gradle.properties (Project Properties)
    settings.gradle (Project Settings)
    local.properties (SDK Location)
```

  - java → source code (packages, classes…)
  - res (aka resources) → images, layouts, colors, menus,…
  - manifest → AndroidManifest.xml for specifications (config, components, security…) Component



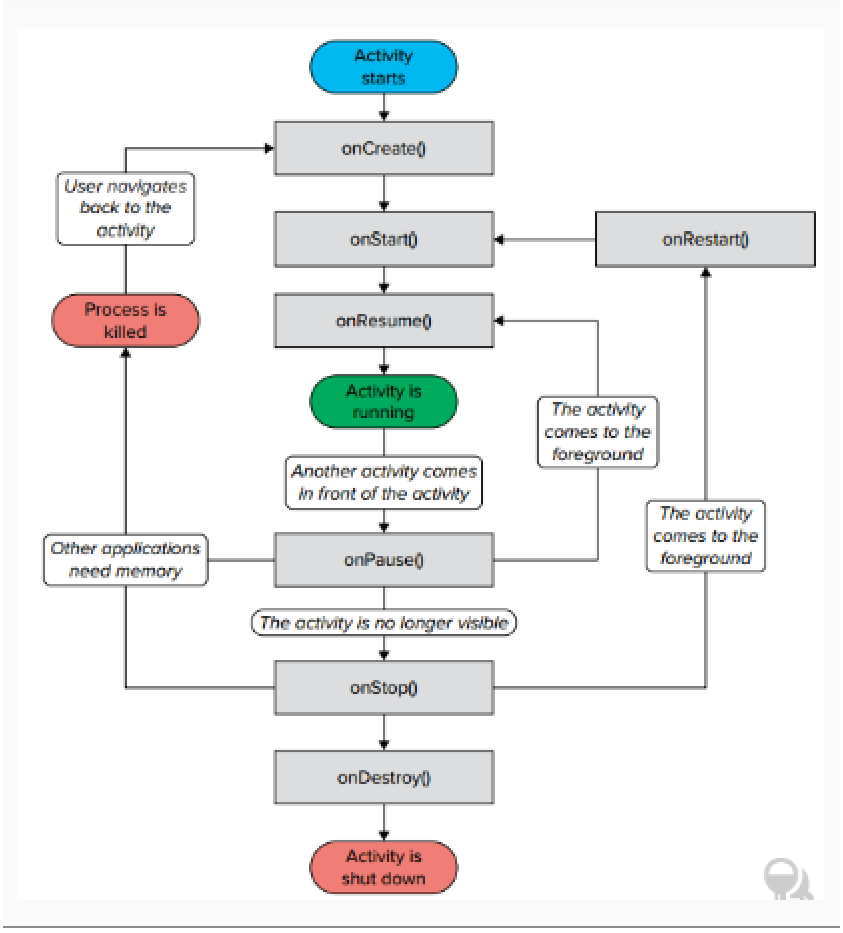
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="vn.edu.vnu.tannguyen.sayhello">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

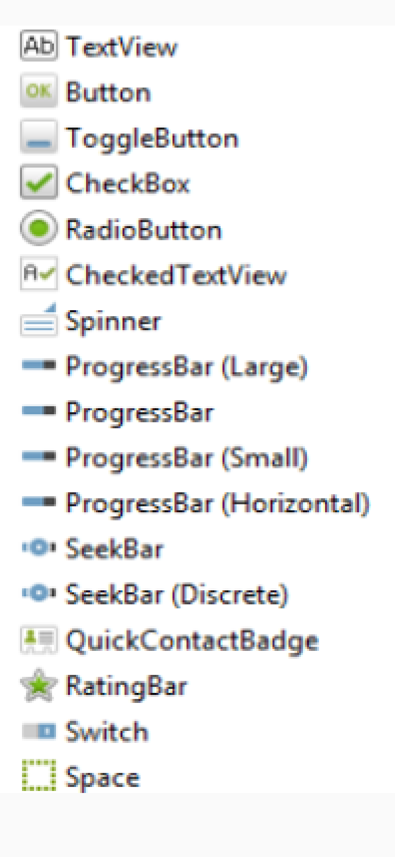
- Activity
    - just like a window
    - let users interact with the app certain size / full screen
    - single/multiple in app, starting with MainActivity
    - interact with other Activities
    - life cycle methods


Activity starts
onCreate()
User navigates back to the activity
onStart()
onRestart()
Process is killed
onResume()
Activity is running
The activity comes to the foreground
Another activity comes in front of the activity
The activity comes to the foreground
Other applications need memory
onPause()
The activity is no longer visible
onStop()
onDestroy()
Activity is shut down

  - onCreate() → activity is created
  - onStart() → activity becomes visible
  - onResume() → activity is in foreground, ready to receive user input
  - onPause() → activity loses focus, still visible
  - onStop() → activity is no longer visible
  - onDestroy() → activity is destroyed
  - onRestart() → stopped activity comes to foreground
  - paused → comes to foreground → resumed
  - paused/stopped → need memory → killed → when in need → created
- how to create
  - make a child class of AppCompatActivity | Activity | FragmentActivity

    - build layout in res/layout
    - add activity in AndroidManifest.xml
    - …

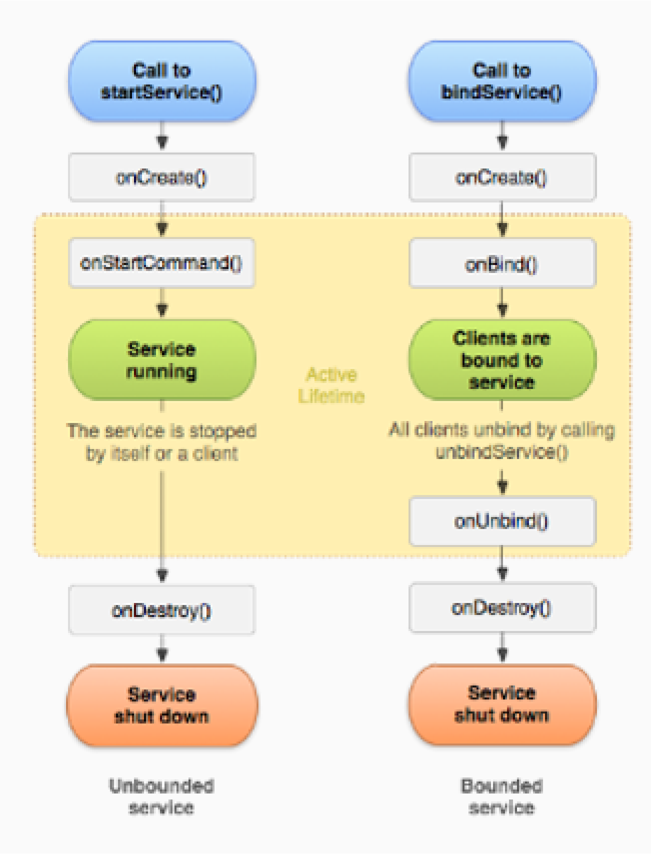
- View → basic “ingredient” of an Activity (TextView, Button, CheckBox, ProgressBar, SeekBar, Switch, EditText…)



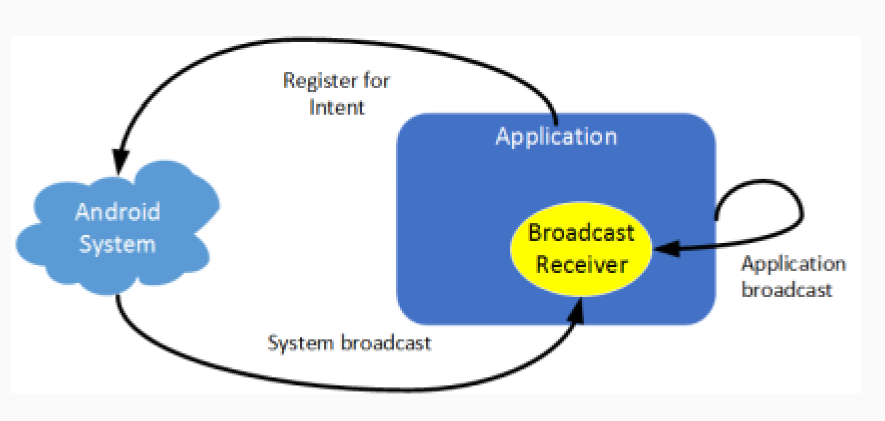
TextView
Button
ToggleButton
CheckBox
RadioButton
CheckedTextView
Spinner
ProgressBar (Large)
ProgressBar
ProgressBar (Small)
ProgressBar (Horizontal)
SeekBar
SeekBar (Discrete)
QuickContactBadge
RatingBar
Switch
Space

- ViewGroup → a group of Views, even ViewGroups (ConstraintLayout, LinearLayout, RelativeLayout, GridLayout, FrameLayout…)

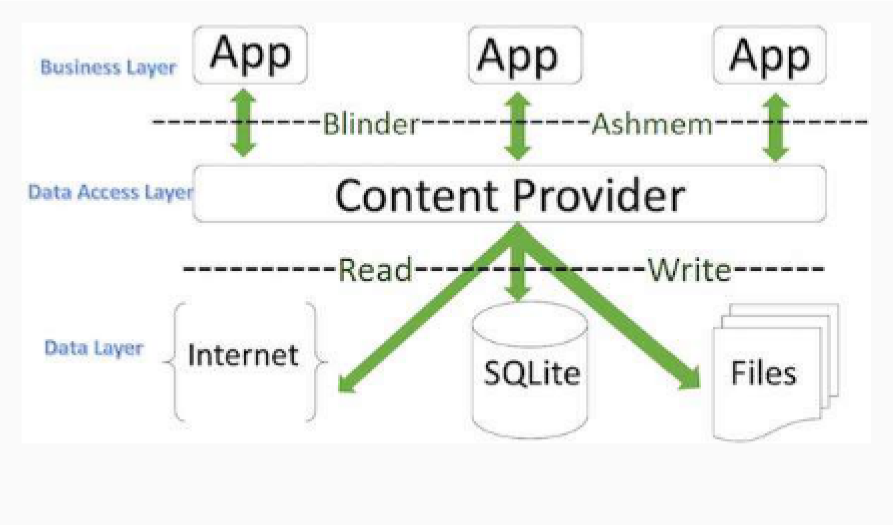
- Service → continuous tasks run in background (playing music, network transaction…)



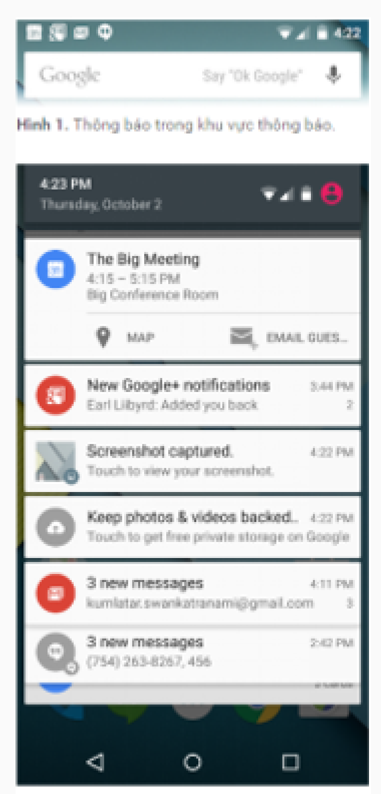
- Broadcast Receiver → listens and responds to system-wide events (low battery, switching connection, download,…)



- Content Provider → give ways to manage data (file, web resource,…)



- Notification → notify users through status bar



Hình 1. Thông báo trong khu vực thông báo.

The Big Meeting
4:15 – 5:15 PM
Big Conference Room

New Google+ notifications 3:44 PM
Earl Lilbyrd: Added you back 2

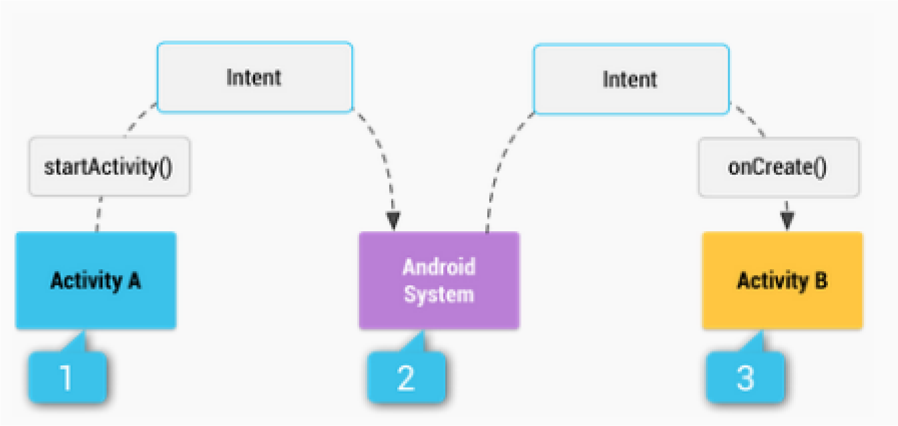
Screenshot captured. 4:22 PM
Touch to view your screenshot.

Keep photos & videos backed.. 4:22 PM
Touch to get free private storage on Google

3 new messages 4:11 PM
kumlatar.swankatranami@gmail.com 3

3 new messages 2:42 PM
(754) 263-8267, 456

- Intent → a carrier of the messages between components/apps


Intent
Intent
startActivity()
onCreate()
Activity A
Android System
Activity B
1
2
3