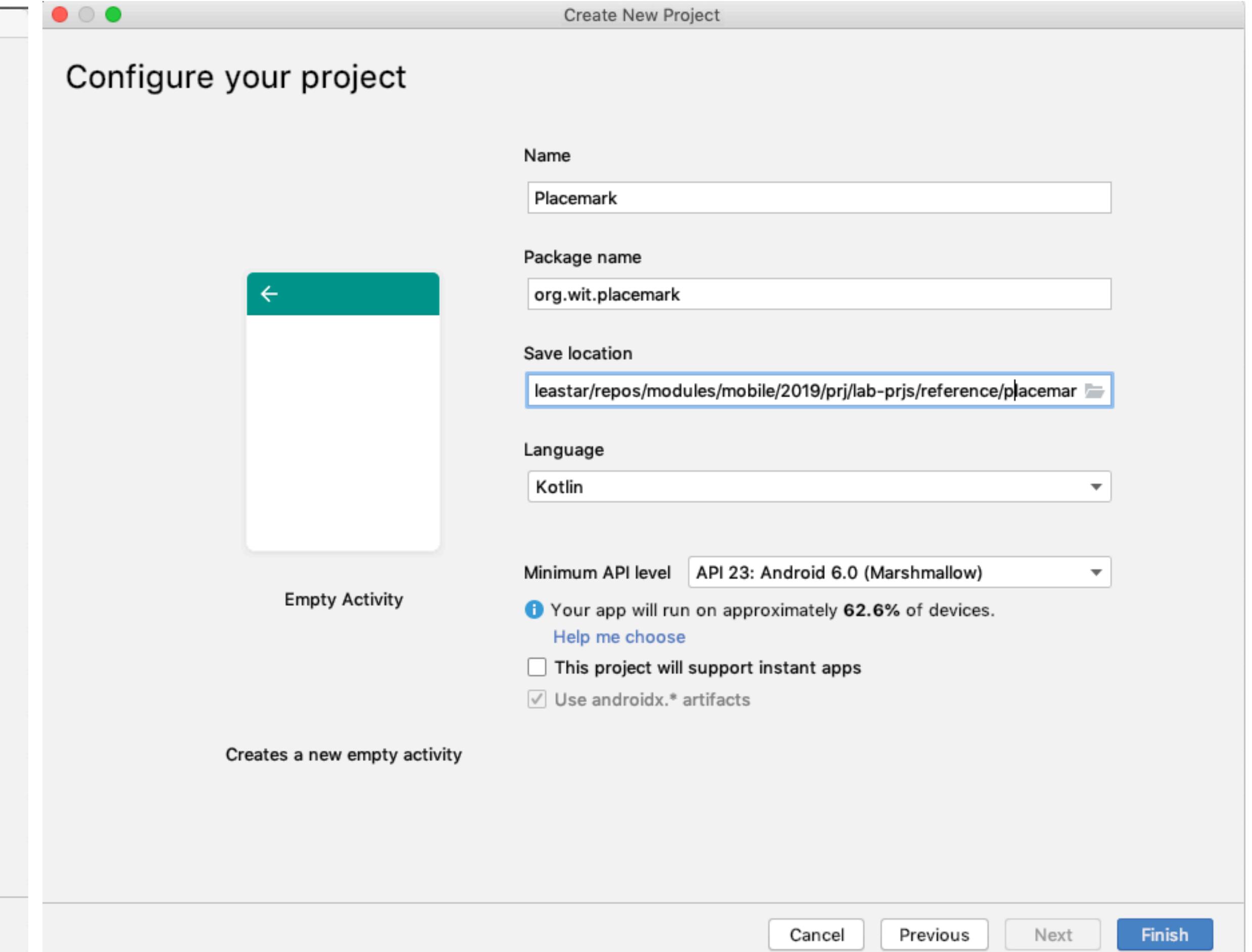
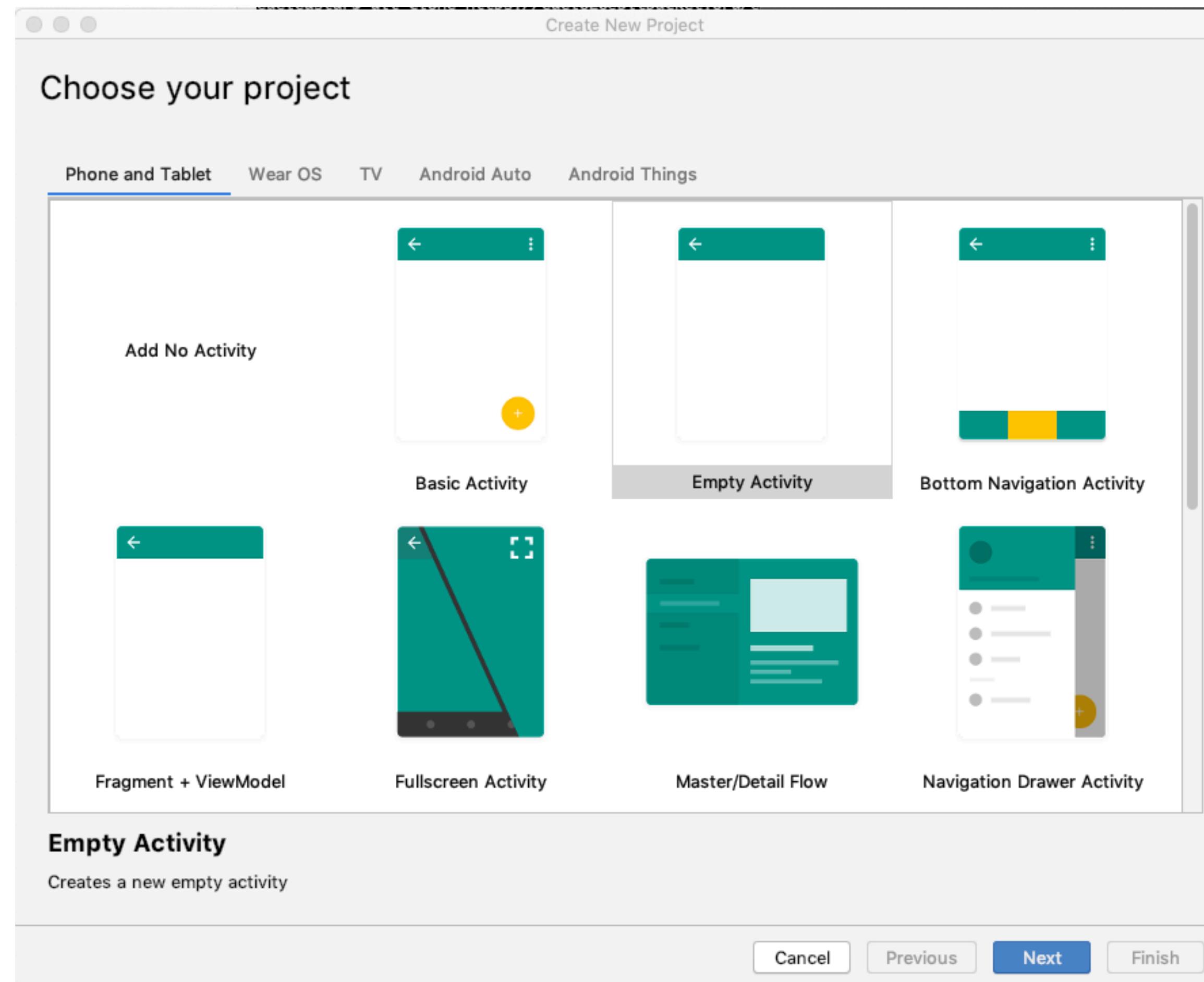
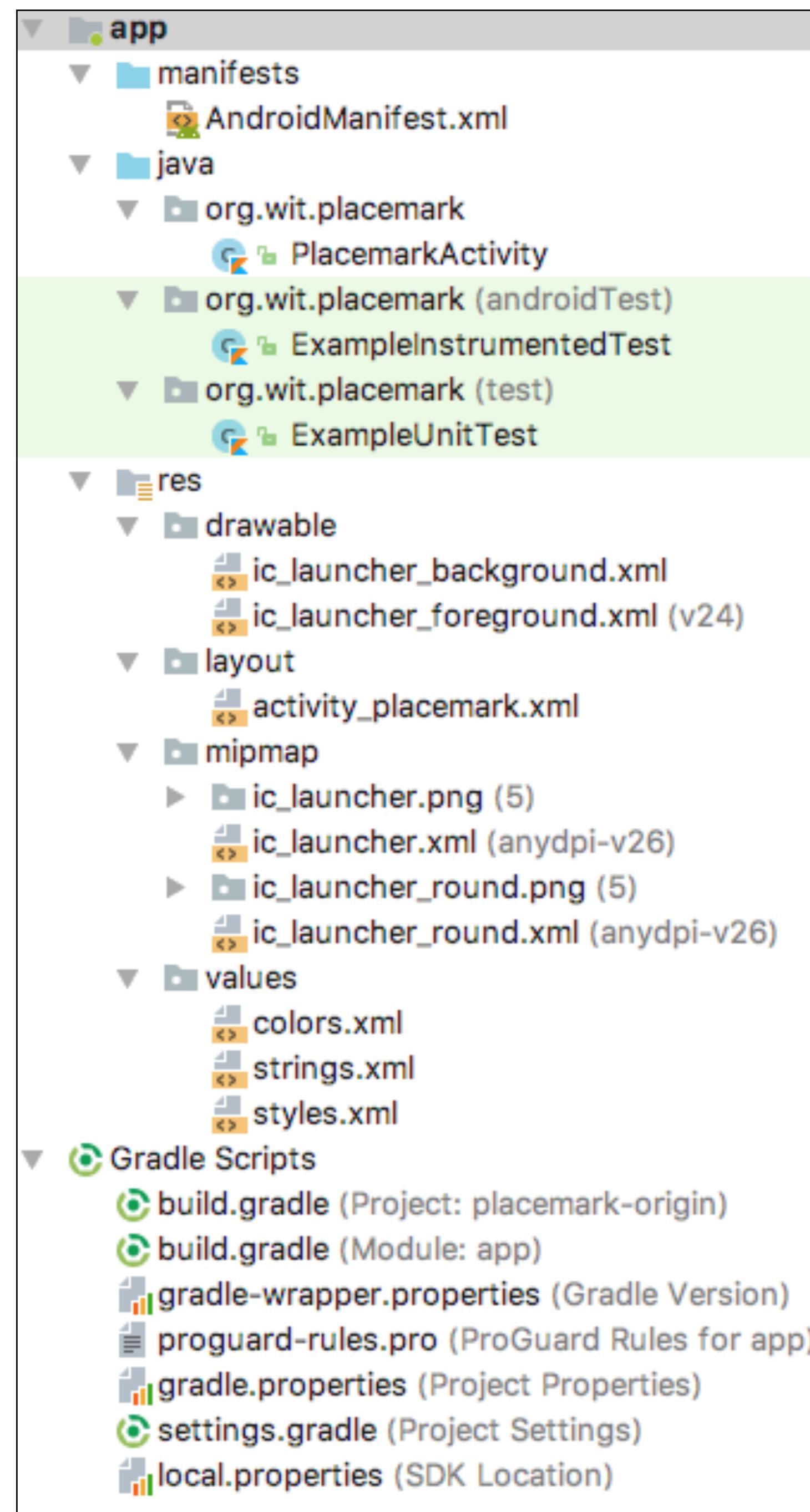
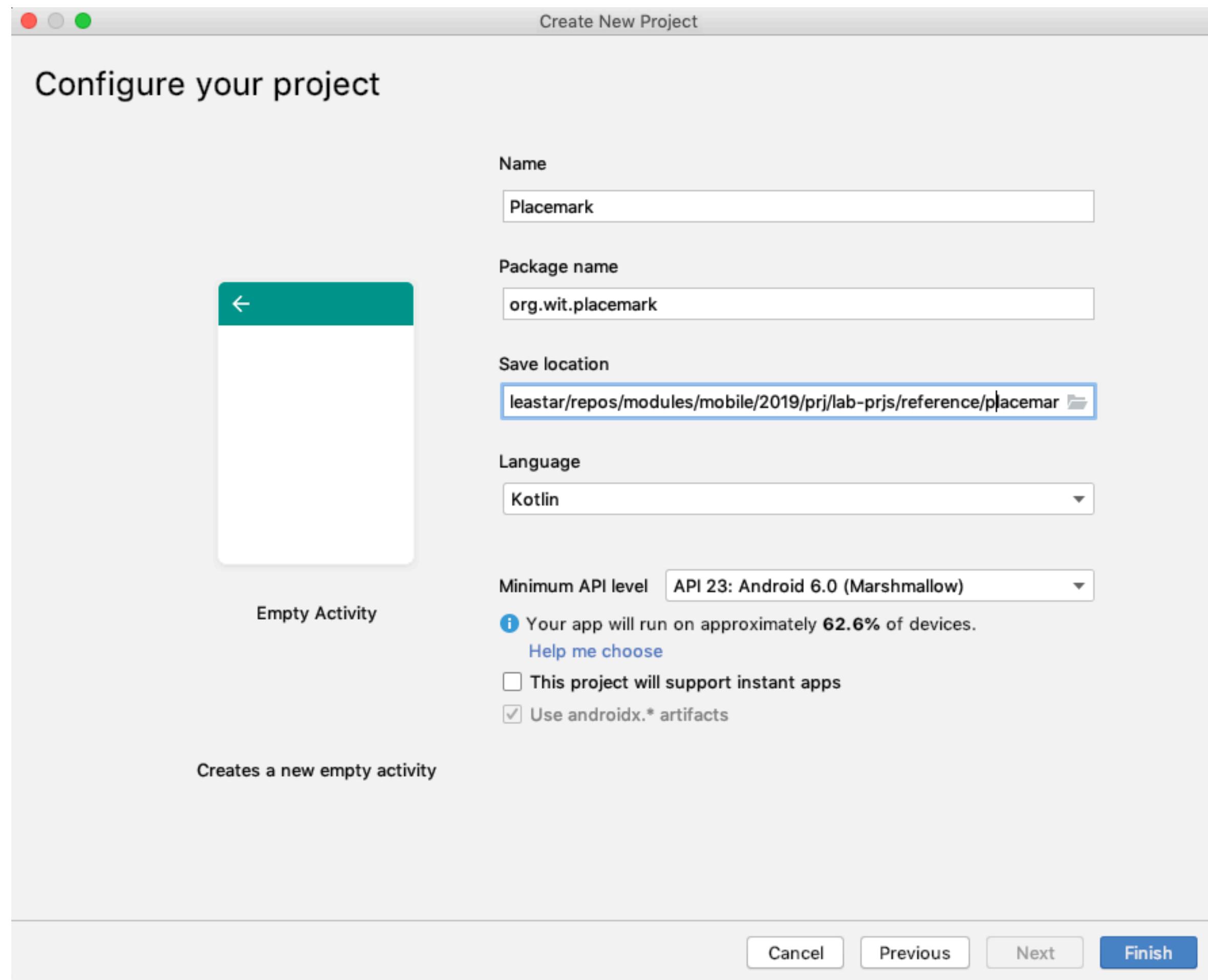


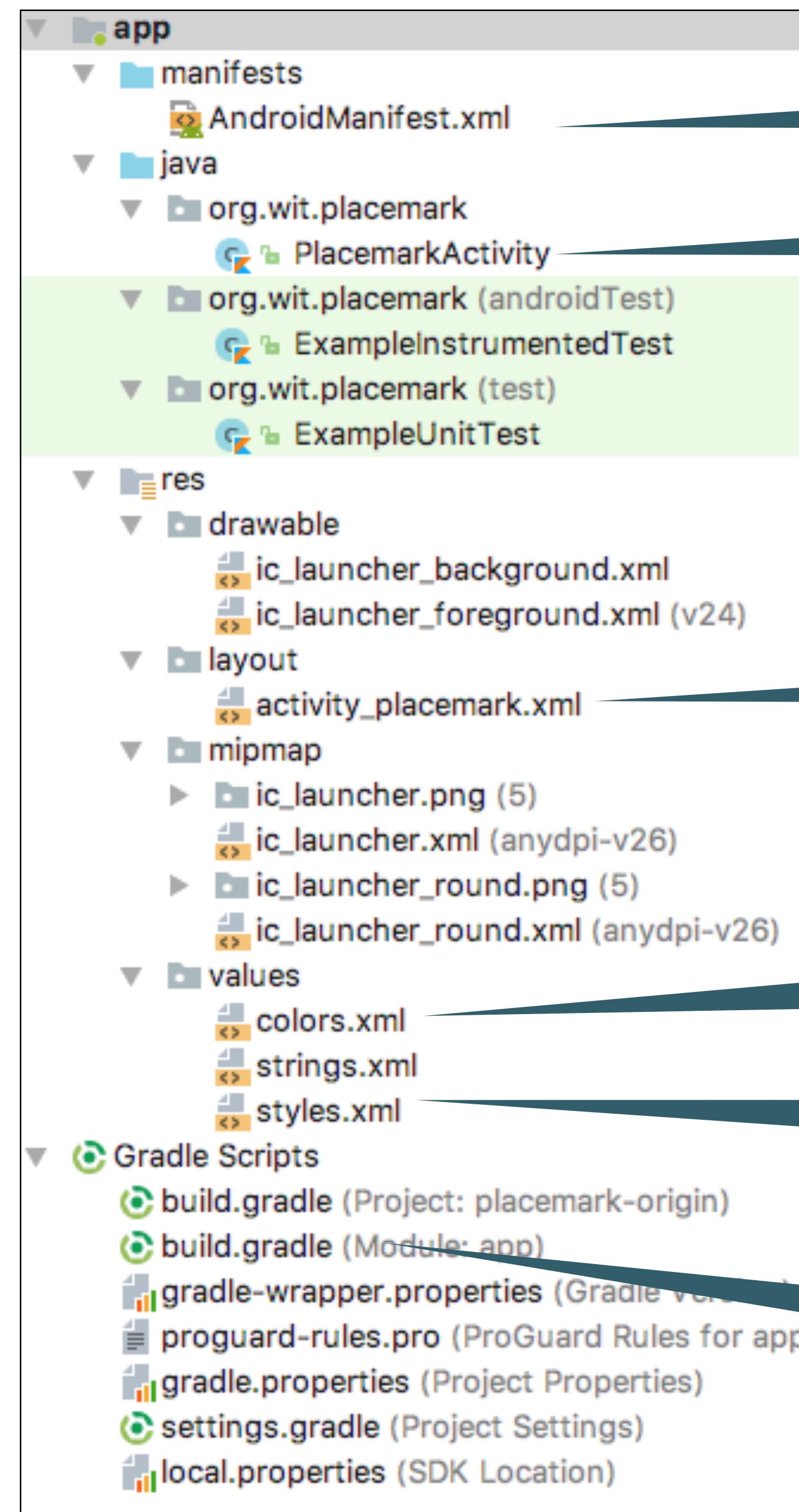
App Activities



A first look at the structure
of an Activity in an Android
application.







AndroidManifest.xml

PlacemarkActivity.kt

activity_placemark.xml

colors.xml

strings.xml

build.gradle

PlacemarkActivity.kt

```
package org.wit.placemark

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class PlacemarkActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)
    }
}
```

Class Diagram

```
package org.wit.placemark

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class PlacemarkActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)
    }
}
```

PlacemarkActivity

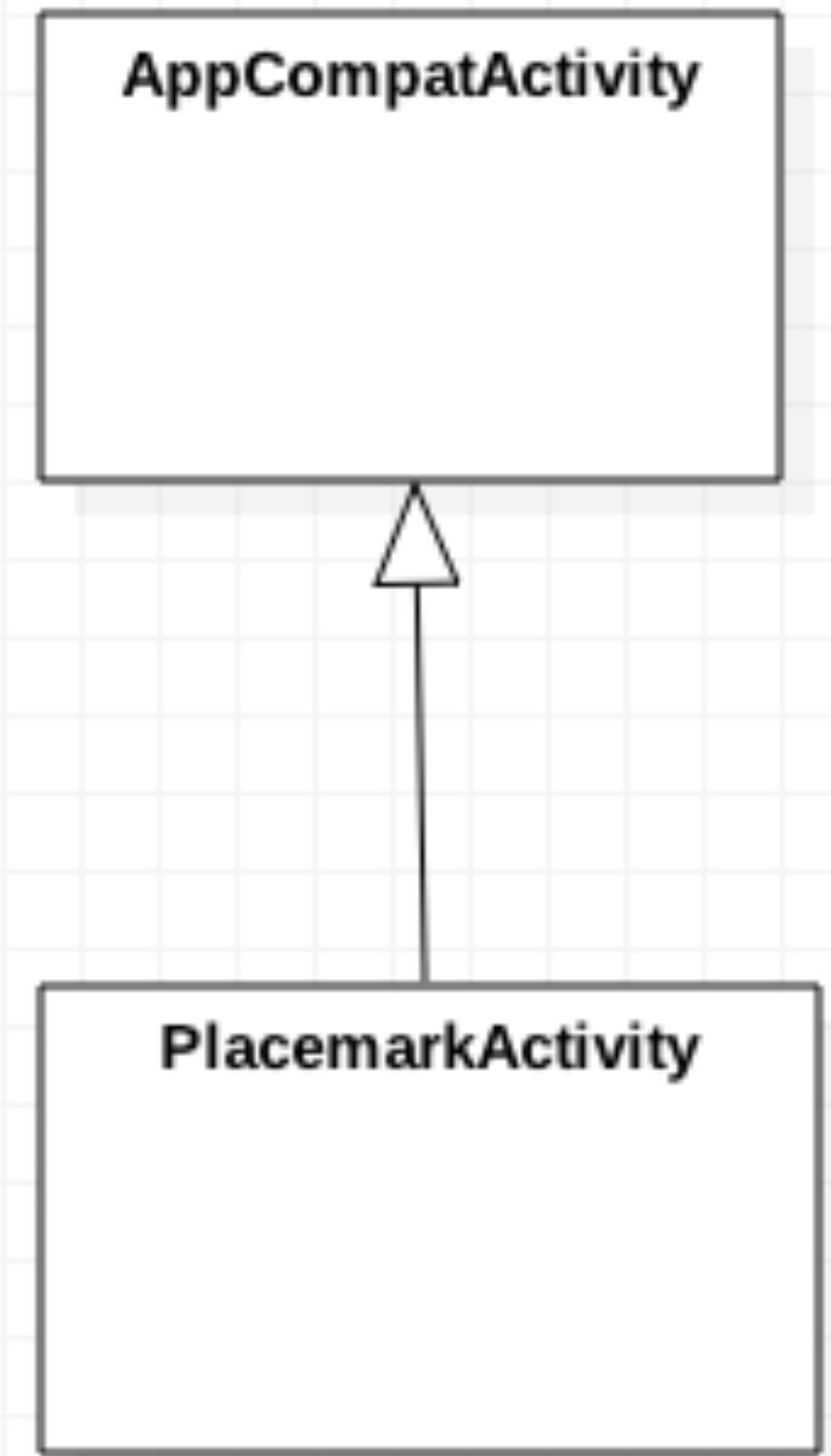
Class Diagram: showing base class

```
package org.wit.placemark

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class PlacemarkActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)
    }
}
```



Class Diagram: showing all base class

```
package org.wit.placemark

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

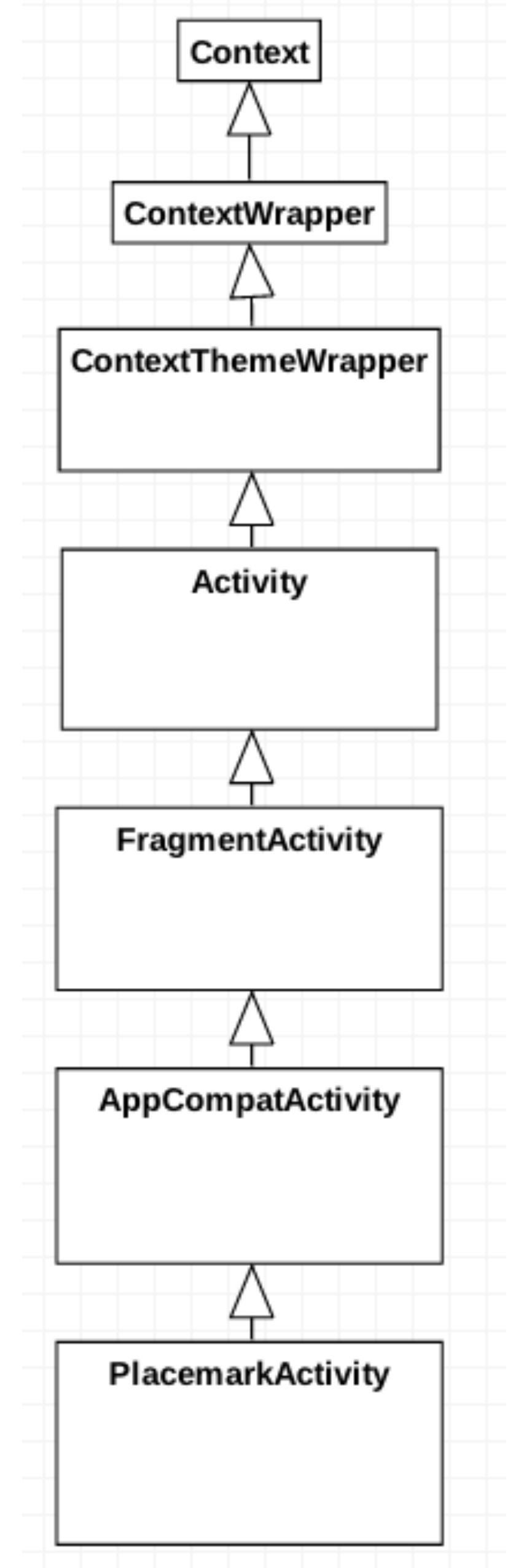
class PlacemarkActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)
    }
}
```

AppCompatActivity

```
public class AppCompatActivity
extends FragmentActivity implements AppCompatCallback,
TaskStackBuilder.SupportParentable, ActionBarDrawerToggle.DelegateProvider

java.lang.Object
↳ android.content.Context
    ↳ android.content.ContextWrapper
        ↳ android.view.ContextThemeWrapper
            ↳ android.app.Activity
                ↳ android.support.v4.app.FragmentActivity
                    ↳ android.support.v7.app.AppCompatActivity
```



AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="org.wit.placemark">

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

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

</manifest>
```

```
apply plugin: 'com.android.application'

apply plugin: 'kotlin-android'

apply plugin: 'kotlin-android-extensions'

android {
    compileSdkVersion 28
    defaultConfig {
        applicationId "org.wit.placemark"
        minSdkVersion 23
        targetSdkVersion 28
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "android.support.test.runner.AndroidJUnitRunner"
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
}

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    implementation "org.jetbrains.kotlin:kotlin-stdlib-jdk7:$kotlin_version"
    implementation 'com.android.support:appcompat-v7:28.0.0'
    implementation 'com.android.support.constraint:constraint-layout:1.1.3'
    testImplementation 'junit:junit:4.12'
    androidTestImplementation 'com.android.support.test:runner:1.0.2'
    androidTestImplementation 'com.android.support.test.espresso:espresso-core:3.0.2'
}
```

build.gradle

activity_placemark.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="org.wit.placemark.PlacemarkActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>

</android.support.constraint.ConstraintLayout>
```

strings.xml

```
<resources>
    <string name="app_name">Placemark</string>
</resources>
```

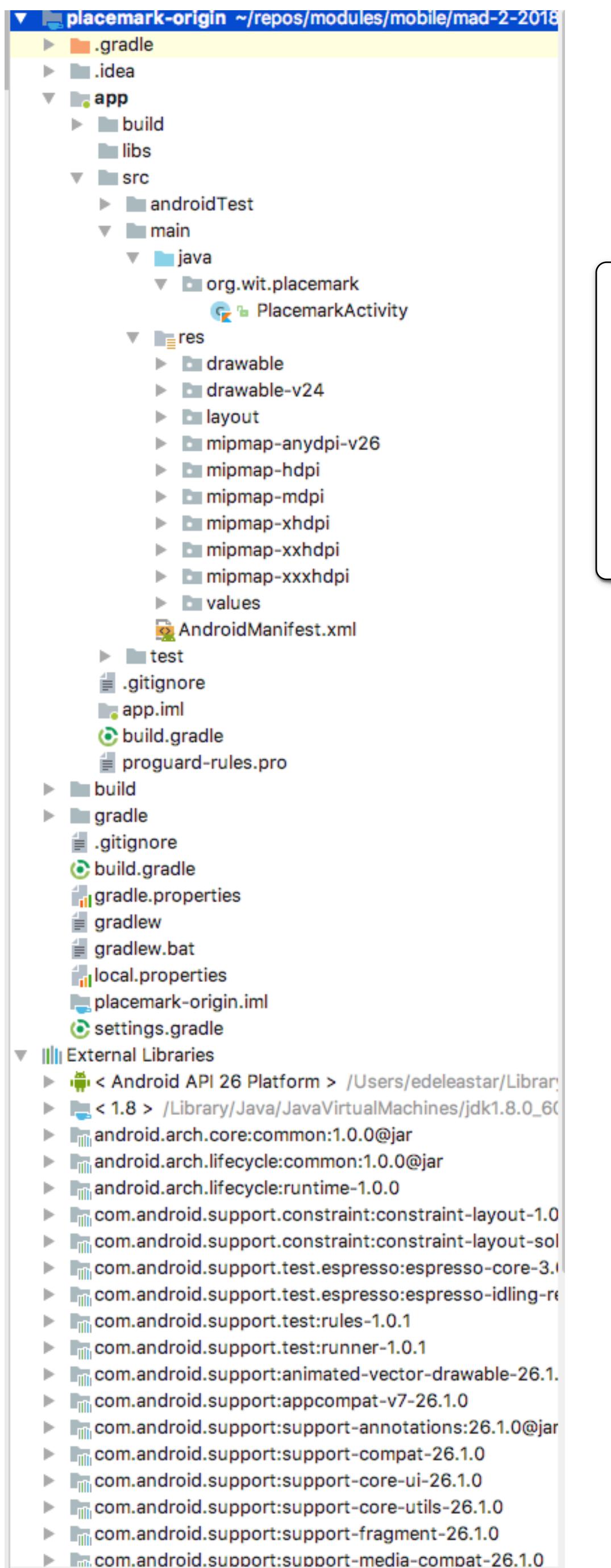
styles.xml

```
<resources>

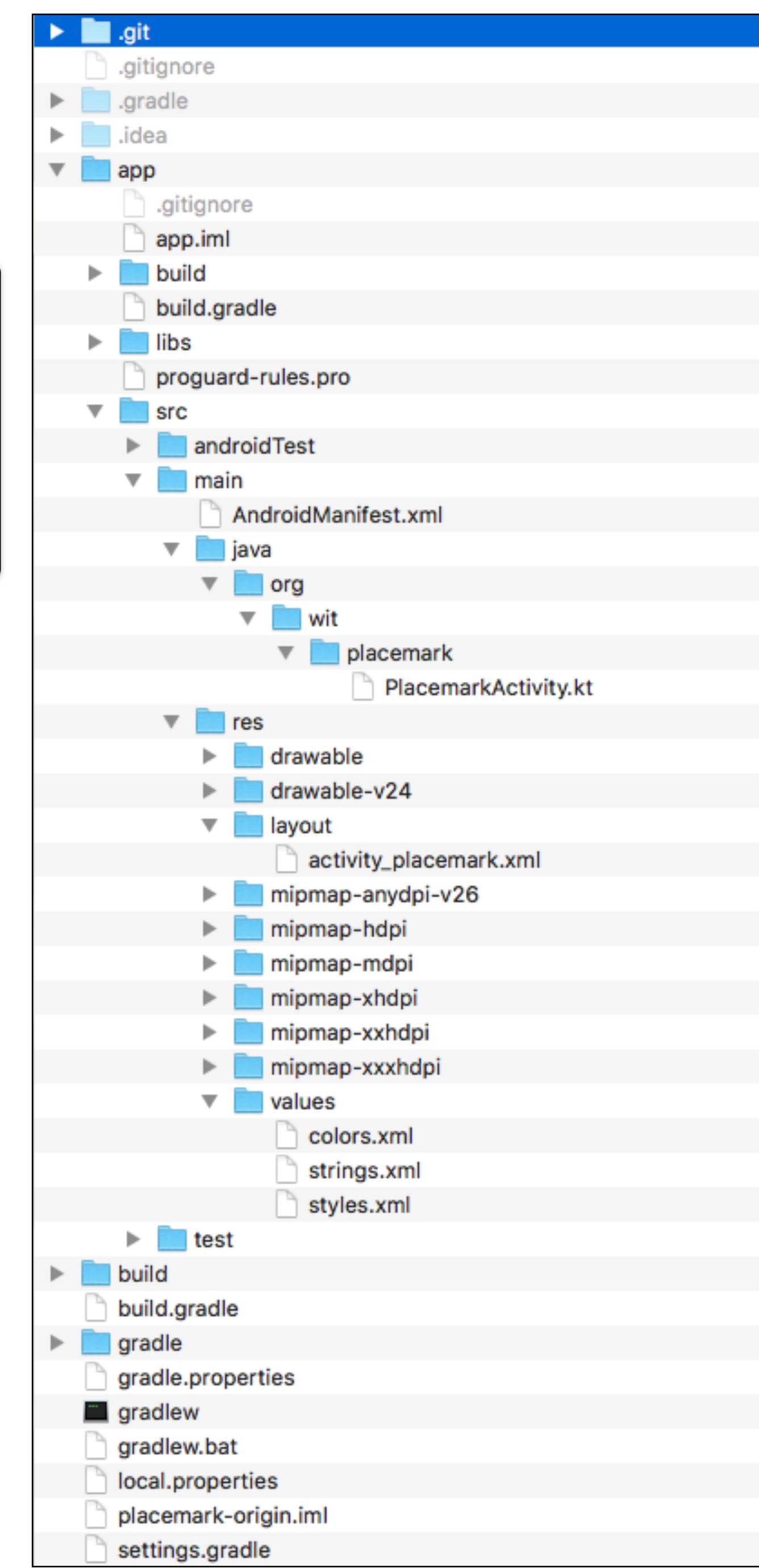
    <!-- Base application theme. -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>

</resources>
```

Logical view



Physical View



Include Design Library

build.gradle

```
...  
implementation 'com.google.android.material:material:1.0.0'  
...
```

styles.xml

```
<style name="AppTheme" parent="Theme.AppCompat.Light.NoActionBar">
```

colours.xml

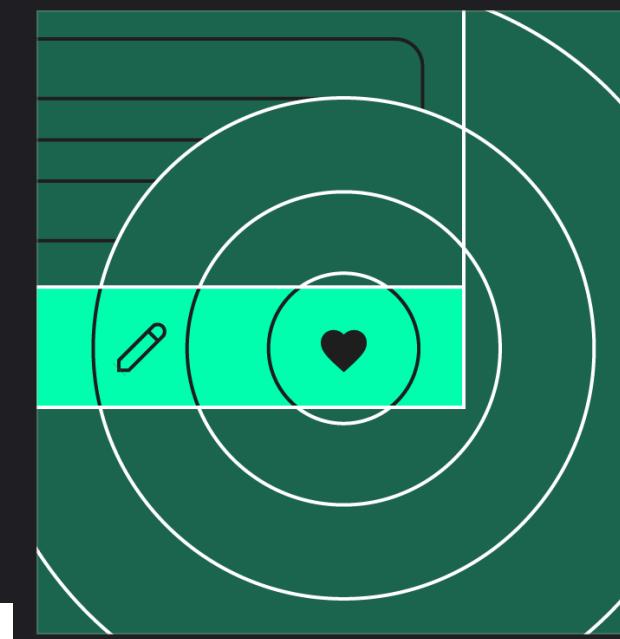
```
<?xml version="1.0" encoding="utf-8"?>  
<resources>  
    <color name="colorPrimary">#FFFFFF</color>  
    <color name="colorPrimaryDark">#000000</color>  
    <color name="colorAccent">#4c90af</color>  
</resources>
```

Android

Build beautiful, usable products using Material Components for Android



```
<color name="colorPrimary">#4c90af</color>  
<color name="colorSecondary">#e91e63</color>  
<color name="colorBackground">#fff</color>  
<color name="colorError">#e57373</color>  
<style name="ShapeAppearanceOverlay">
```

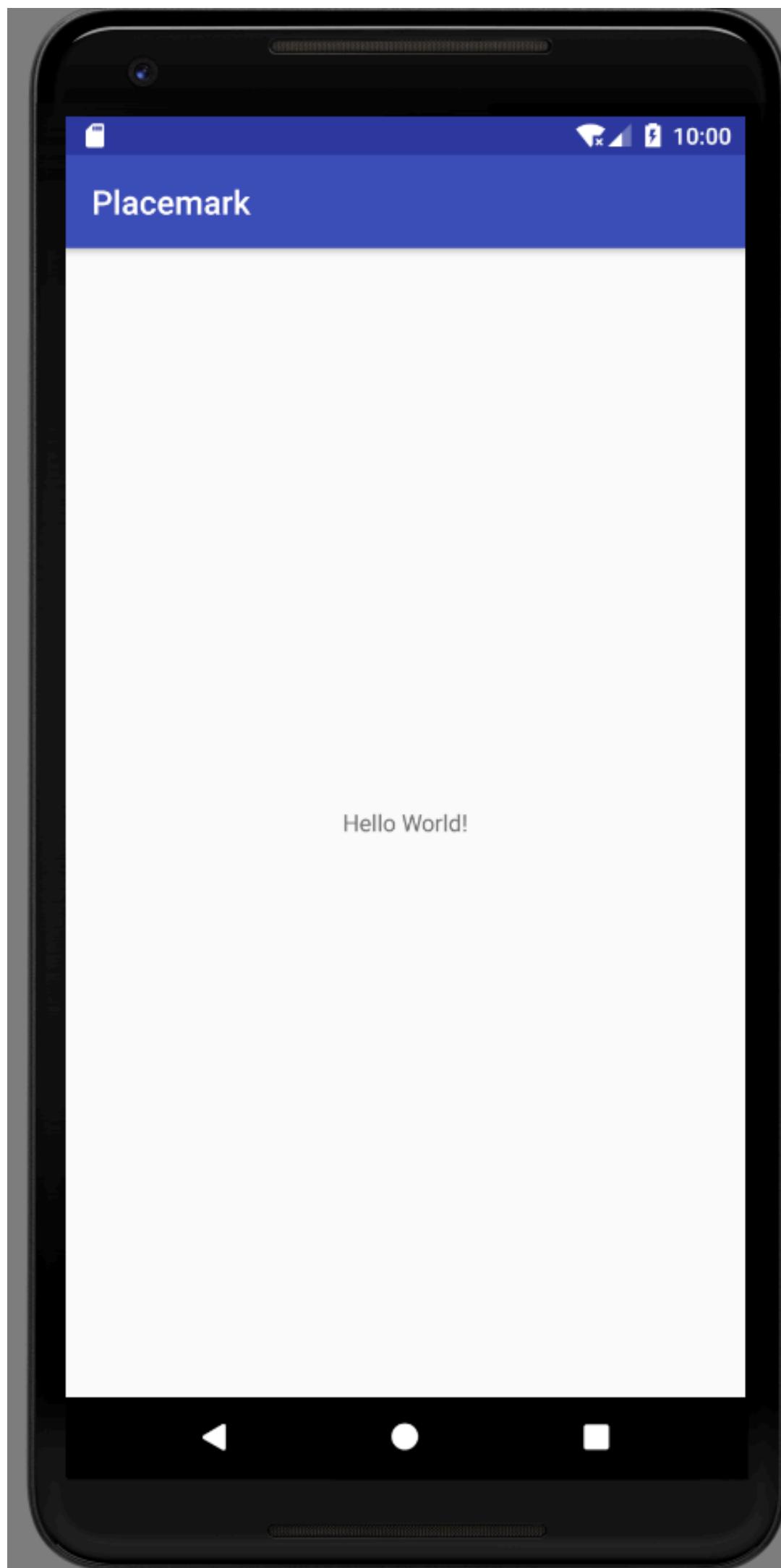


COMPONENTS

Bottom navigation

Bottom navigation bars make it easy to explore and switch between top-level content views

As generated by Android Studio

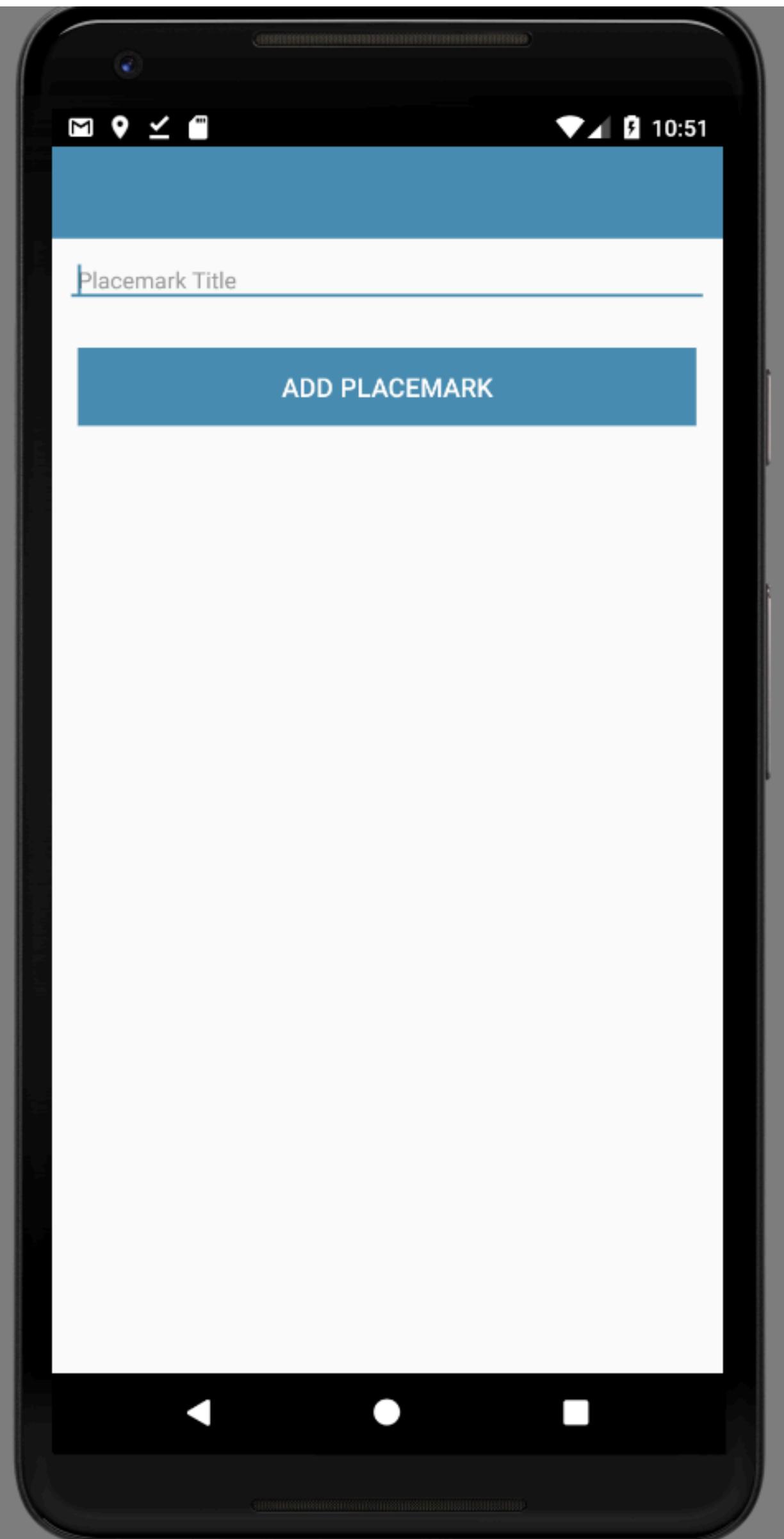


```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="org.wit.placemark.PlacemarkActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>

</android.support.constraint.ConstraintLayout>
```

Revised Layout



```
<android.support.constraint.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="org.wit.placemark.PlacemarkActivity">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <android.support.design.widget.AppBarLayout
            android:id="@+id/appBarLayout"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:background="@color/colorAccent"
            android:fitsSystemWindows="true"
            app:elevation="0dp"
            app:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

            <android.support.v7.widget.Toolbar
                android:id="@+id/toolbarAdd"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:titleTextColor="@color/colorPrimary"/>
        </android.support.design.widget.AppBarLayout>

        <ScrollView
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_below="@+id/appBarLayout"
            android:fillViewport="true">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="vertical">

                <android.support.design.widget.TextInputEditText
                    android:id="@+id/placemarkTitle"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:layout_margin="8dp"
                    android:hint="@string/hint_placemarkTitle"
                    android:inputType="text"
                    android:maxLength="25"
                    android:maxLines="1"
                    android:padding="8dp"
                    android:textColor="@color/colorPrimaryDark"
                    android:textSize="14sp"/>

                <Button
                    android:id="@+id/btnAdd"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:layout_margin="16dp"
                    android:background="@color/colorAccent"
                    android:paddingBottom="8dp"
                    android:paddingTop="8dp"
                    android:stateListAnimator="@null"
                    android:text="@string/button_addPlacemark"
                    android:textColor="@color/colorPrimary"
                    android:textSize="16sp"/>
            </LinearLayout>
        </ScrollView>

    </RelativeLayout>
</android.support.constraint.ConstraintLayout>
```

Anko Commons – Logging

Narbonne edited this page on 26 May 2017 · 4 revisions

Contents

- Using `AnkoLogger` in your project
- Trait-like style
- Logger object style

Using `AnkoLogger` in your project

`AnkoLogger` is inside the `anko-commons` artifact. Add it as a dependency to your `build.gradle`:

```
dependencies {  
    compile "org.jetbrains.anko:anko-commons:$anko_version"  
}
```

Trait-like style

Android SDK provides `android.util.Log` class with some logging methods. Usage is pretty straightforward though the methods require you to pass a `tag` argument. You can eliminate this with using `AnkoLogger` trait-like interface:

```
class SomeActivity : Activity(), AnkoLogger {  
    private fun someMethod() {  
        info("London is the capital of Great Britain")  
        debug(5) // .toString() method will be executed  
        warn(null) // "null" will be printed  
    }  
}
```

Introduce Logging Support

gradle.build

```
implementation 'org.jetbrains.anko:anko-commons:0.10.8'
```

PlacemarkActivity

```
..  
class PlacemarkActivity : AppCompatActivity(), AnkoLogger {  
    ...
```

```
...  
    info("Placemark Activity started..")  
...
```

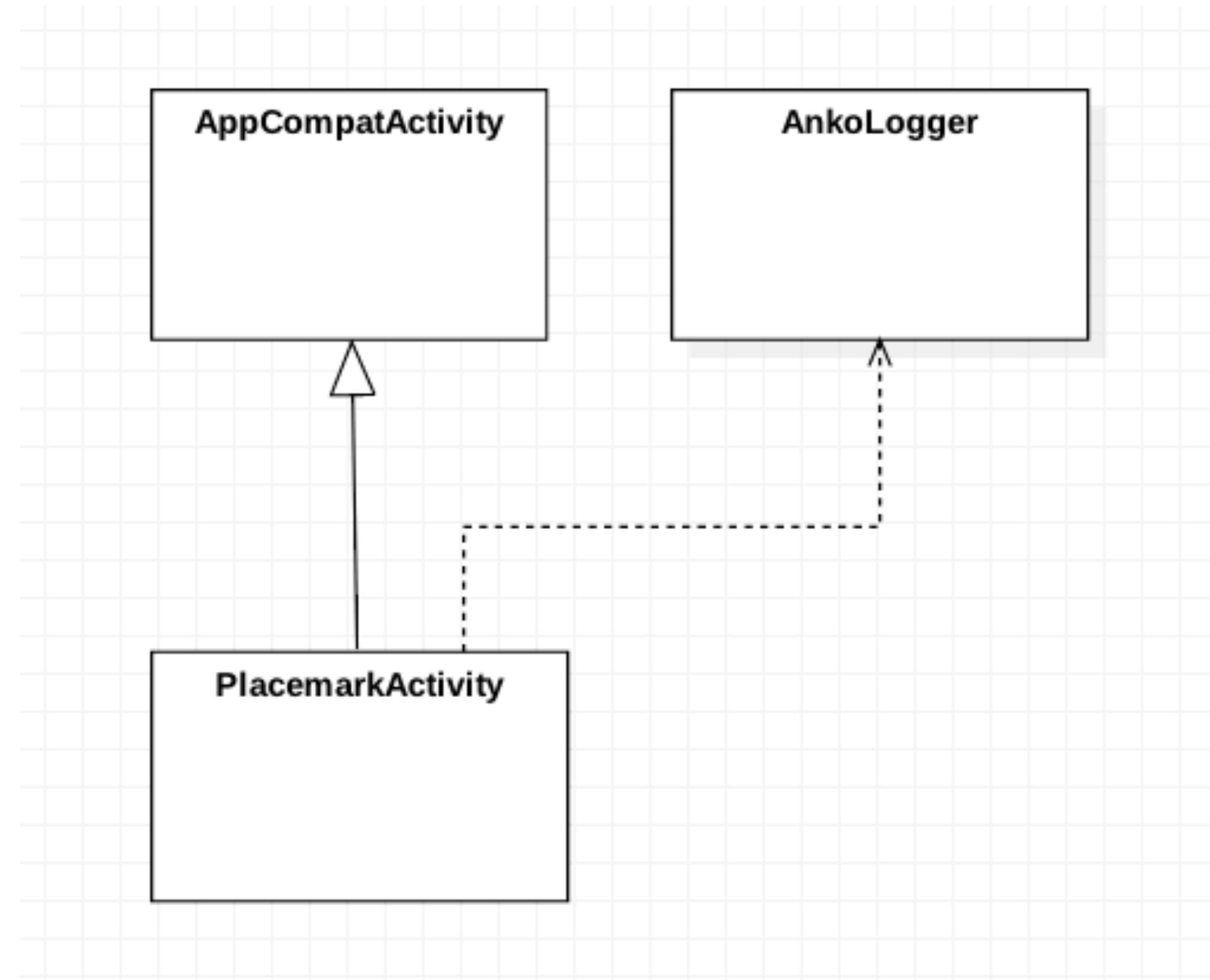
```
12-21 11:07:20.590 21263-21263/org.wit.placemark I/PlacemarkActivi
```

Updated Class Diagram

```
class PlacemarkActivity : AppCompatActivity(), AnkoLogger {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)

        info("Placemark Activity started..")
    }
}
```



Event Handler

PlacemarkActivity

```
btnAdd.setOnClickListener() {  
    info("add Button Pressed")  
}
```

Kotlin Extensions
automatically binds button
widget (in xml) to a class
attribute (btnAdd) of the
same name

activity_placemark.xml

```
<Button  
    android:id="@+id	btnAdd"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_margin="16dp"  
    android:background="@color/colorAccent"  
    android:paddingBottom="8dp"  
    android:paddingTop="8dp"  
    android:stateListAnimator="@null"  
    android:text="@string/button_addPlacemark"  
    android:textColor="@color/colorPrimary"  
    android:textSize="16sp"/>
```

```
class PlacemarkActivity : AppCompatActivity(), AnkoLogger {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)

        info("Placemark Activity started..")

        btnAdd.setOnClickListener() {
            info("add Button Pressed")
        }
    }
}
```

Event Handler

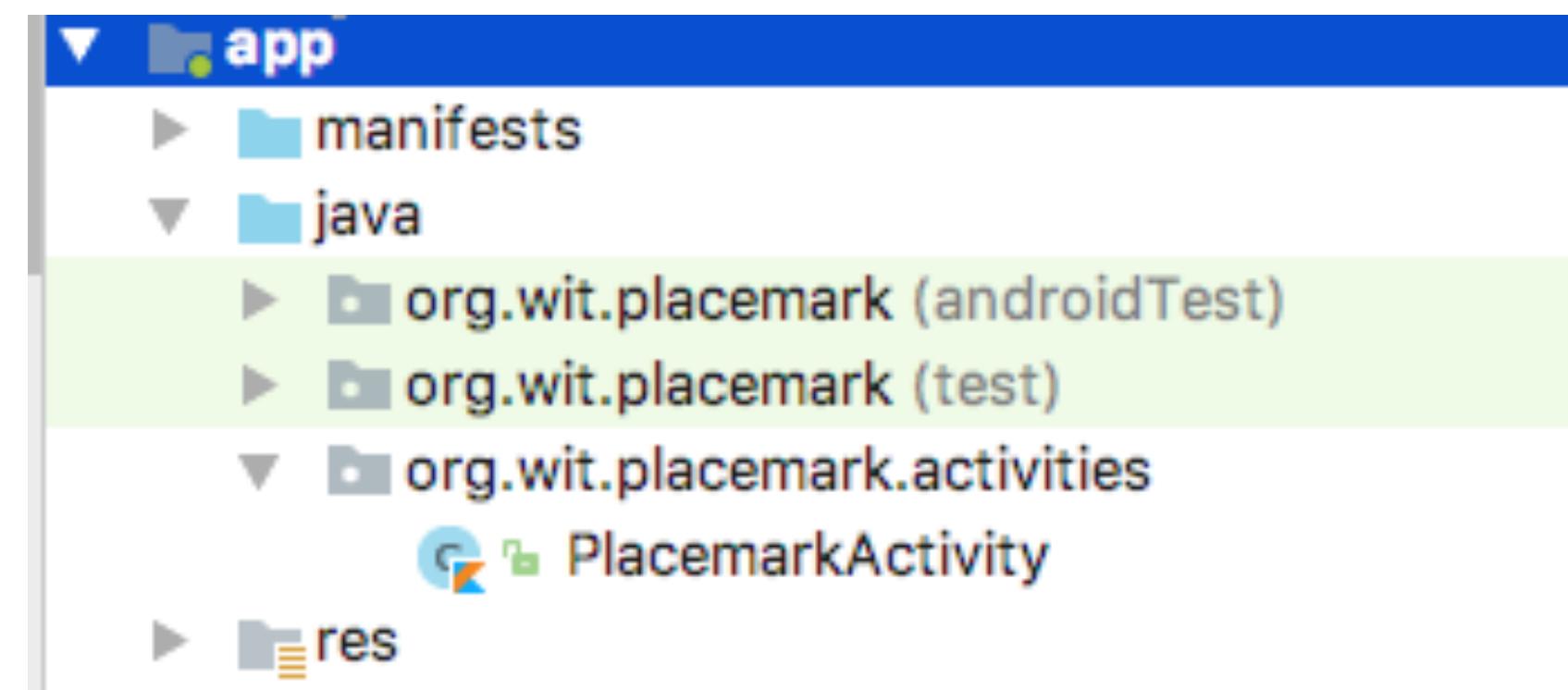
PlacemarkActivity

```
btnAdd.setOnClickListener() {  
    val placemarkTitle = placemarkTitle.text.toString()  
    if (placemarkTitle.isNotEmpty()) {  
        info("add Button Pressed: $placemarkTitle")  
    }  
    else {  
        toast ("Please Enter a title")  
    }  
}
```

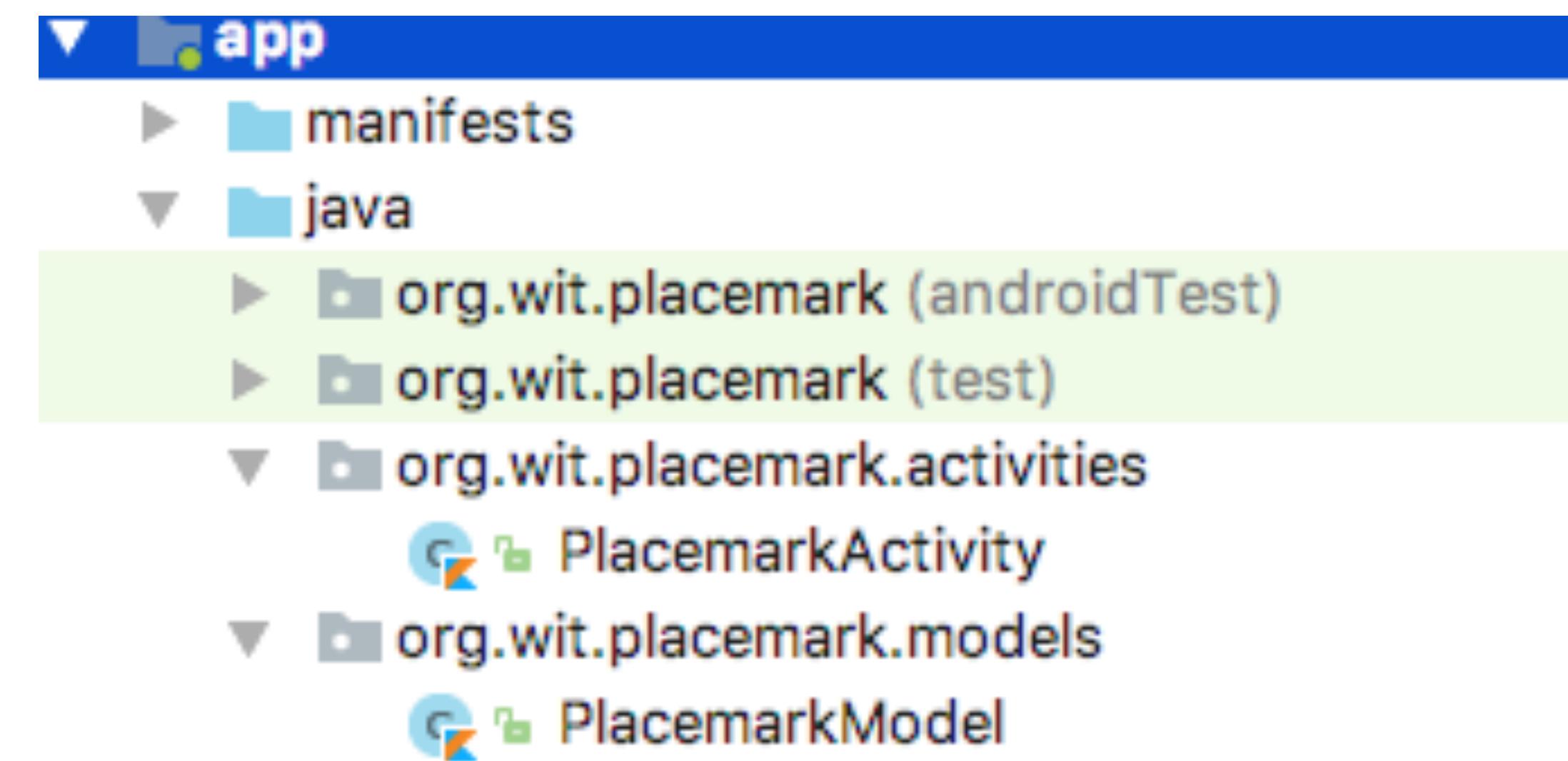
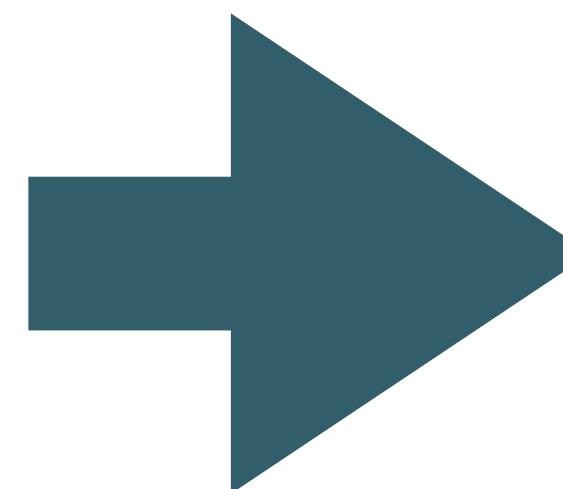
```
<android.support.design.widget.TextInputEditText  
    android:id="@+id/placemarkTitle"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_margin="8dp"  
    android:hint="@string/hint_placemarkTitle"  
    android:inputType="text"  
    android:maxLength="25"  
    android:maxLines="1"  
    android:padding="8dp"  
    android:textColor="@color/colorPrimaryDark"  
    android:textSize="14sp"/>
```

activity_placemark.xml

Kotlin Extensions automatically binds TextInputEditText widget : placemarkTitle to a class of the same name



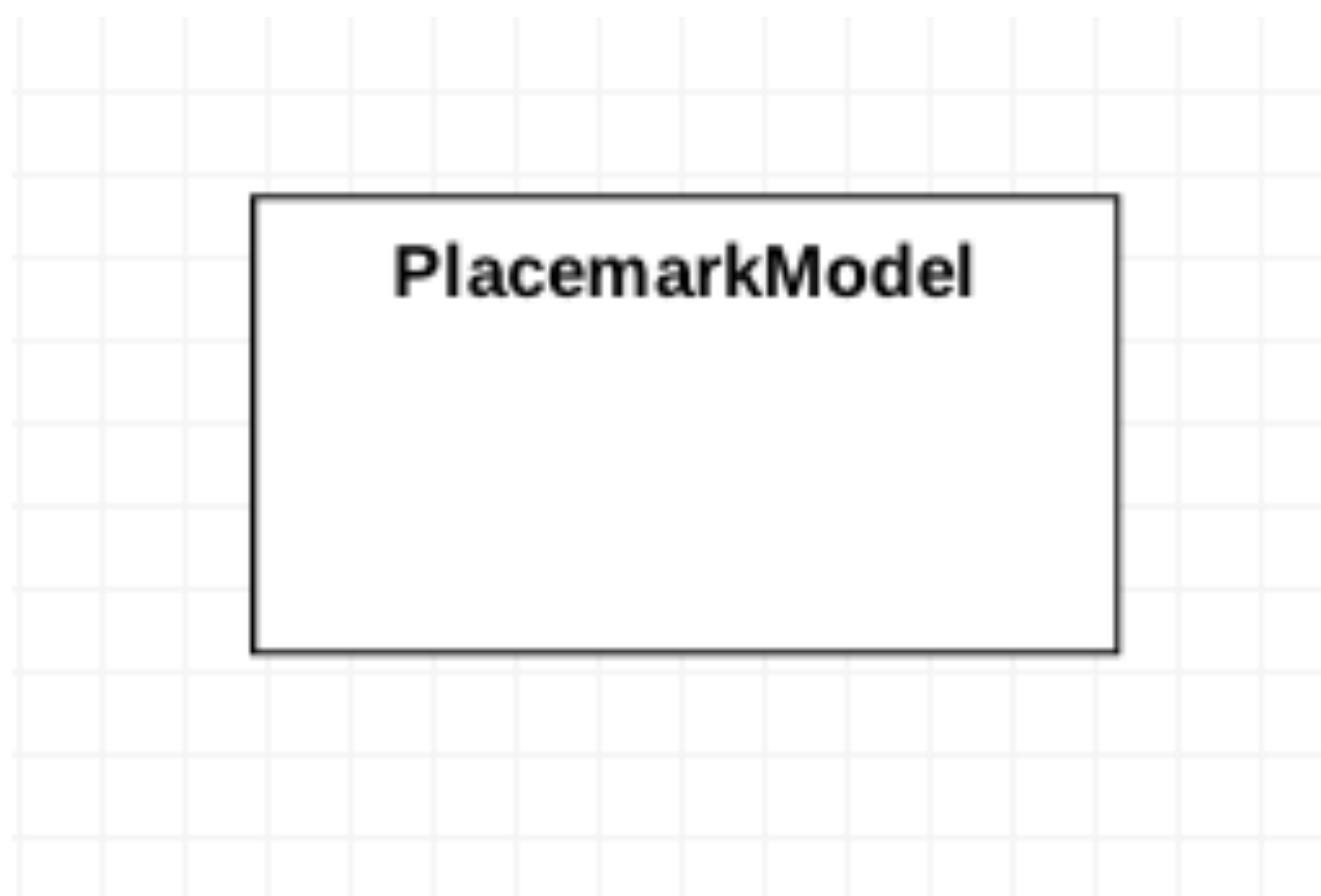
PlacemarkModel



PlacemarkModel

```
package org.wit.placemark.models

data class PlacemarkModel(var title: String = "")
```



```
class PlacemarkActivity : AppCompatActivity(), AnkoLogger {  
  
    var placemark = PlacemarkModel()  
  
    override fun onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(R.layout.activity_placemark)  
  
        btnAdd.setOnClickListener() {  
            placemark.title = placemarkTitle.text.toString()  
            if (placemark.title.isNotEmpty()) {  
                info("add Button Pressed: $placemarkTitle")  
            }  
            else {  
                toast ("Please Enter a title")  
            }  
        }  
    }  
}
```

Placemark V1 Class Diagram

```
class PlacemarkActivity : AppCompatActivity(), AnkoLogger {

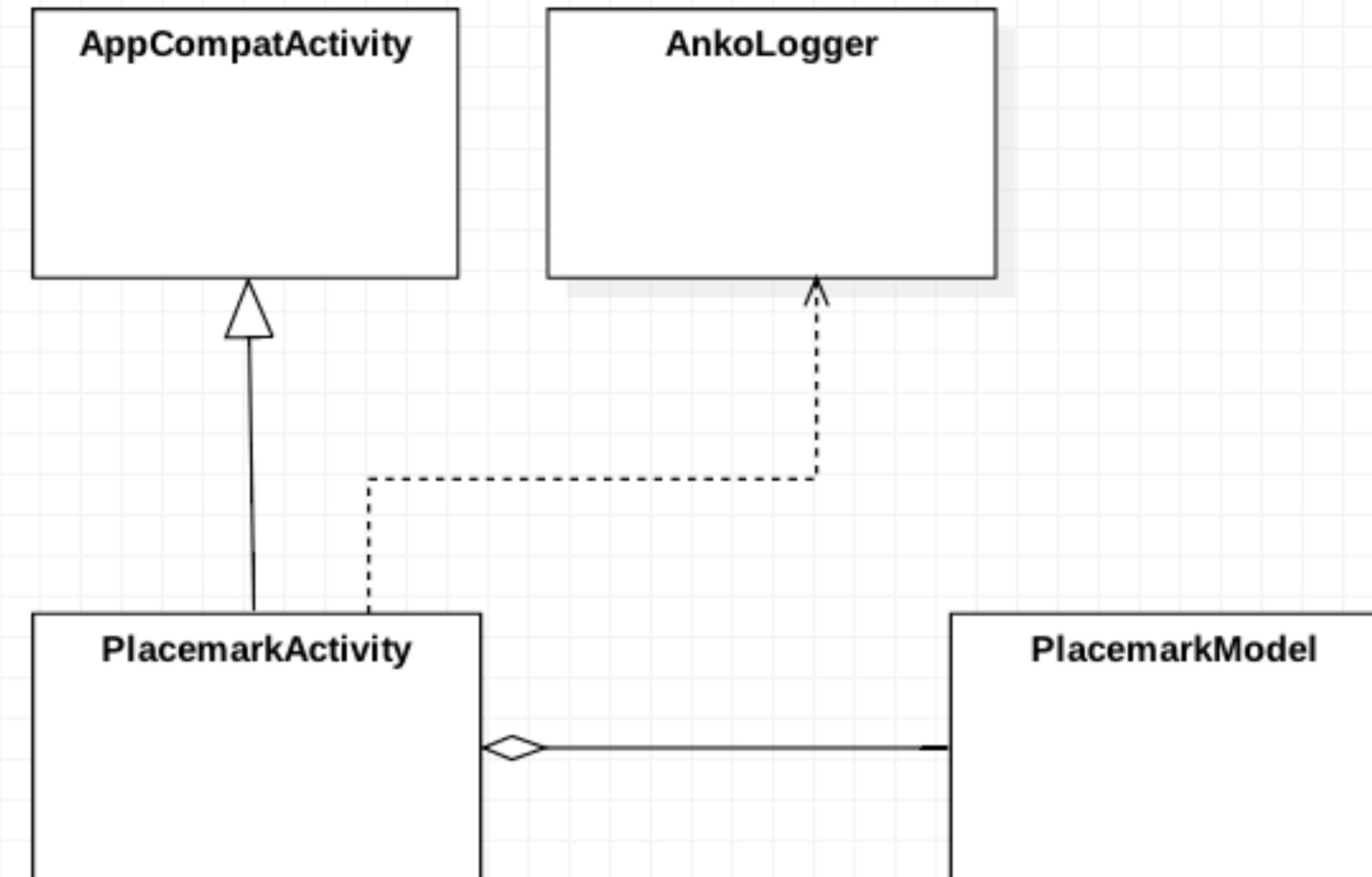
    var placemark = PlacemarkModel()

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark)

        btnAdd.setOnClickListener() {
            placemark.title = placemarkTitle.text.toString()
            if (placemark.title.isNotEmpty()) {
                info("add Button Pressed: $placemarkTitle")
            } else {
                toast ("Please Enter a title")
            }
        }
    }
}
```

```
package org.wit.placemark.models

data class PlacemarkModel(var title: String = "")
```



```
var placemark = PlacemarkModel()
```

```
btnAdd.setOnClickListener() {
    placemark.title = placemarkTitle.text.toString()
    if (placemark.title.isNotEmpty()) {
        info("add Button Pressed: $placemarkTitle")
    }
    else {
        toast ("Please Enter a title")
    }
}
```