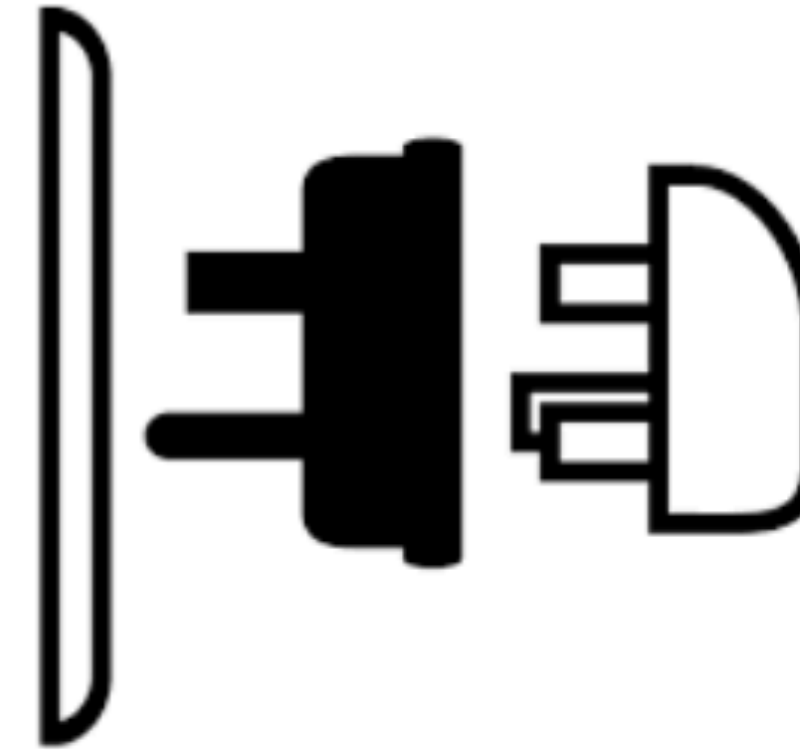
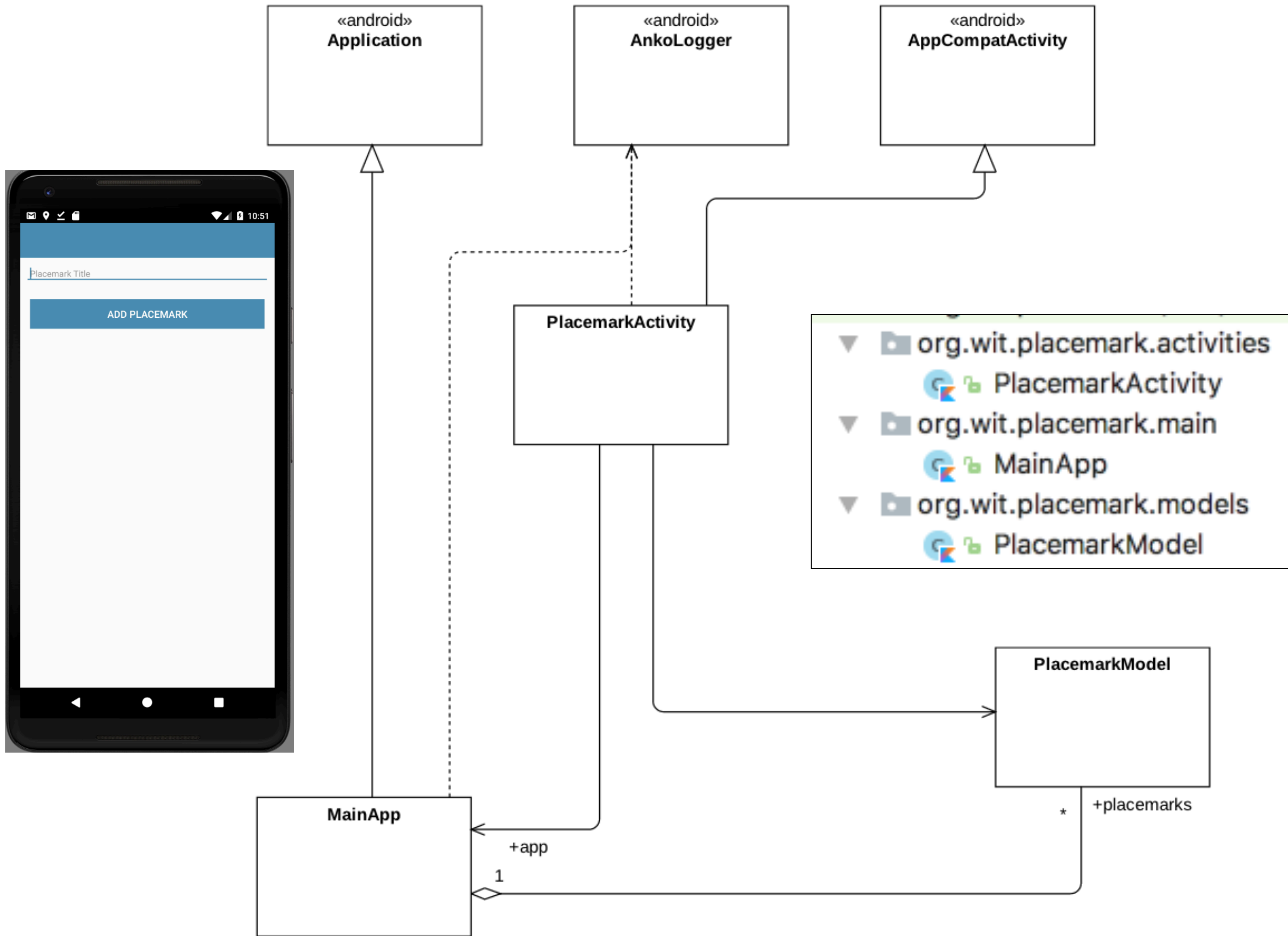


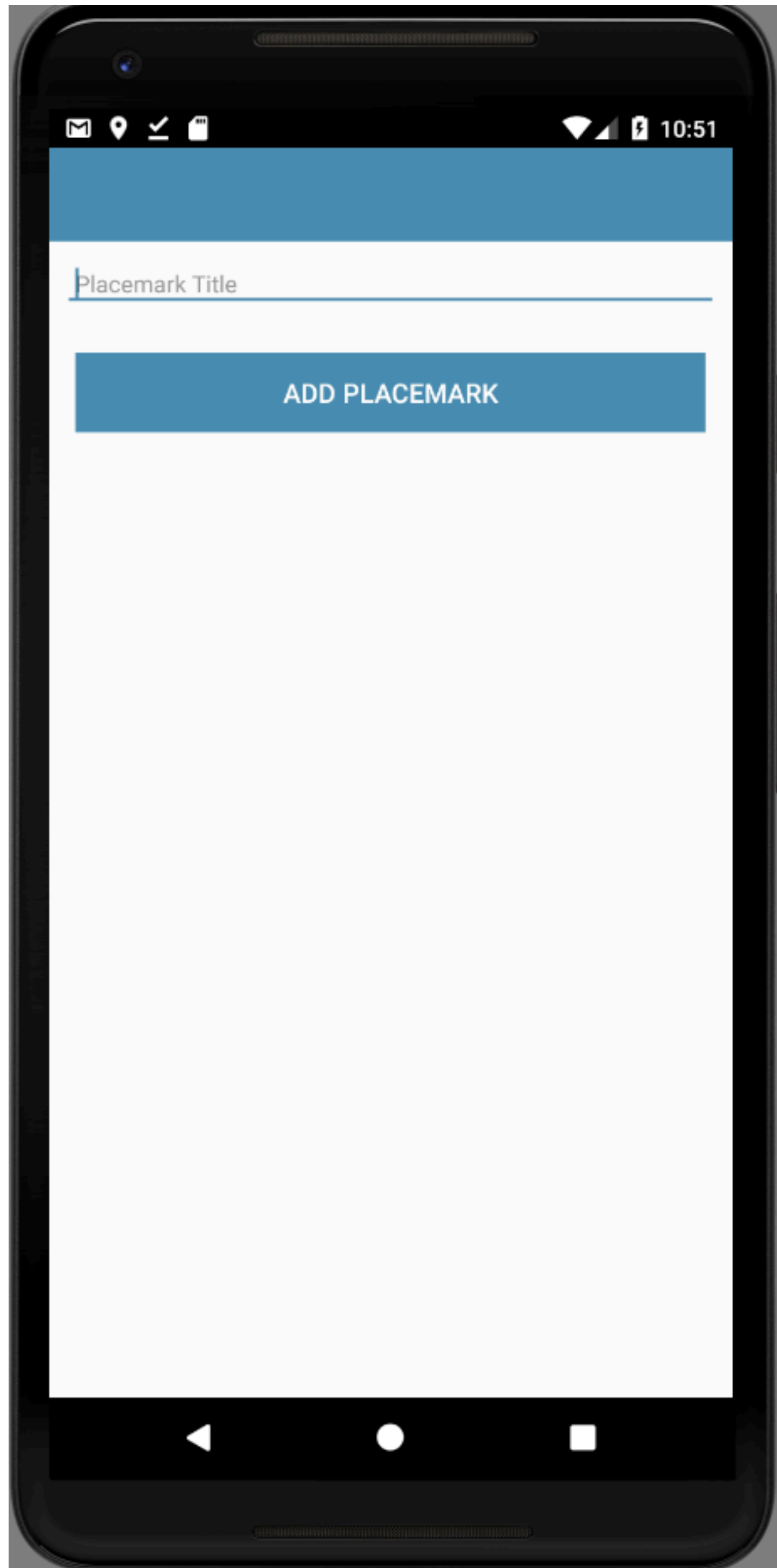
## Lab-A02 Adapters



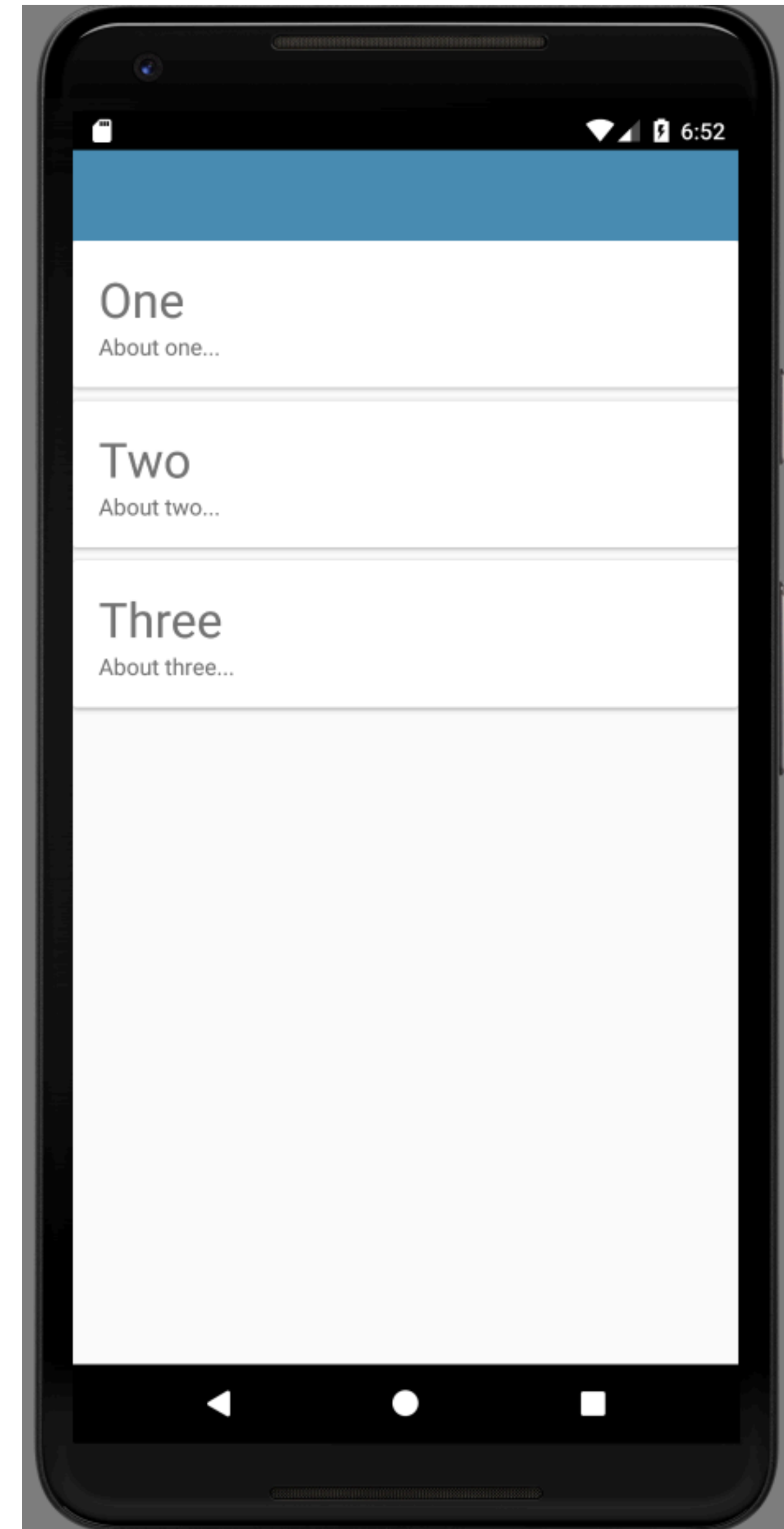
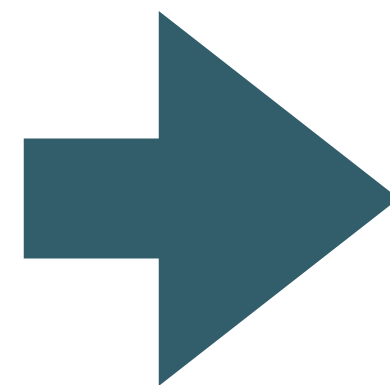
---

Introduce new activity to  
display a list of  
placemarks. Support  
adding to this list.





Introduce new  
Activity to  
manage List of  
Placemarks

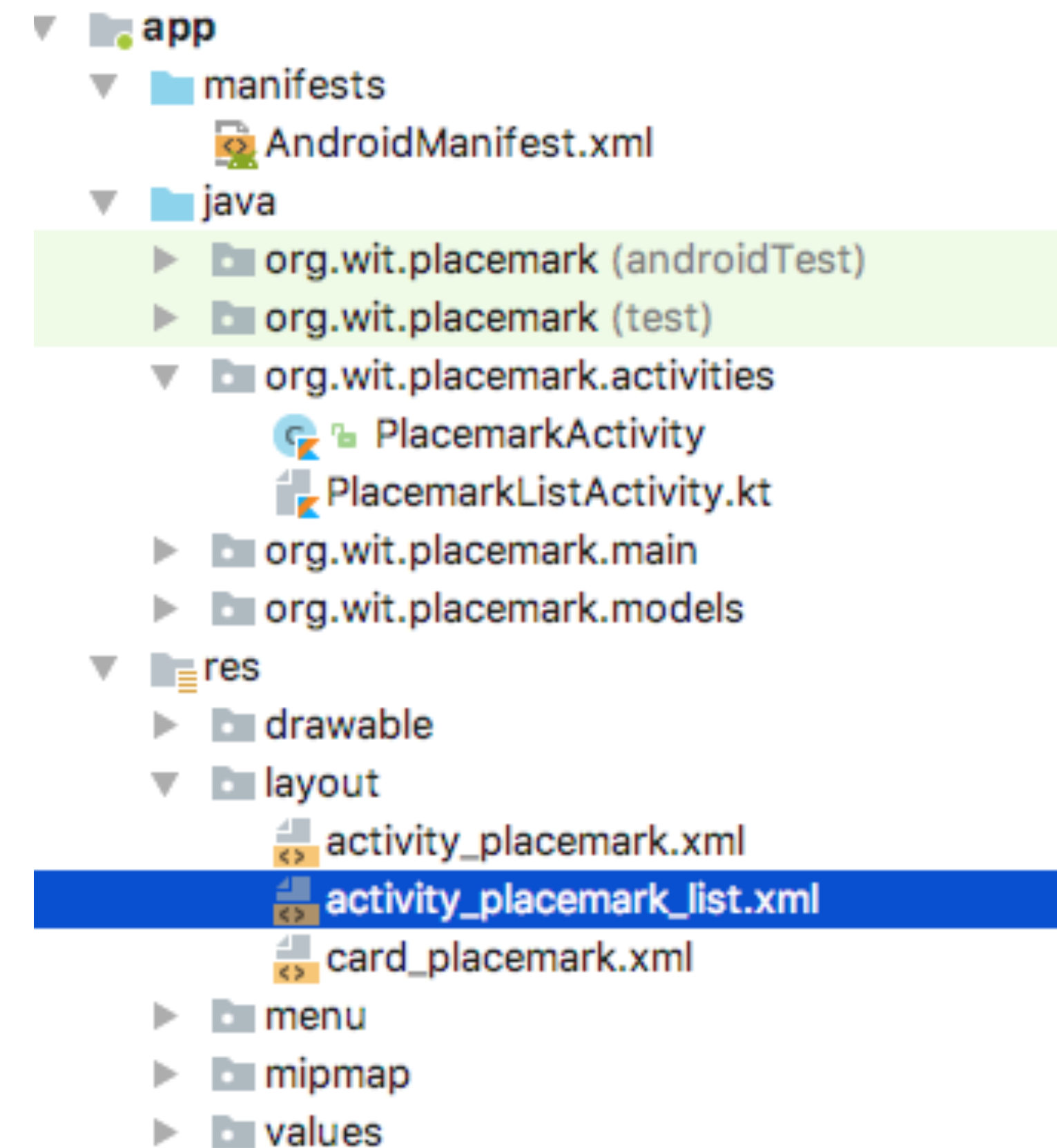


New artefacts:

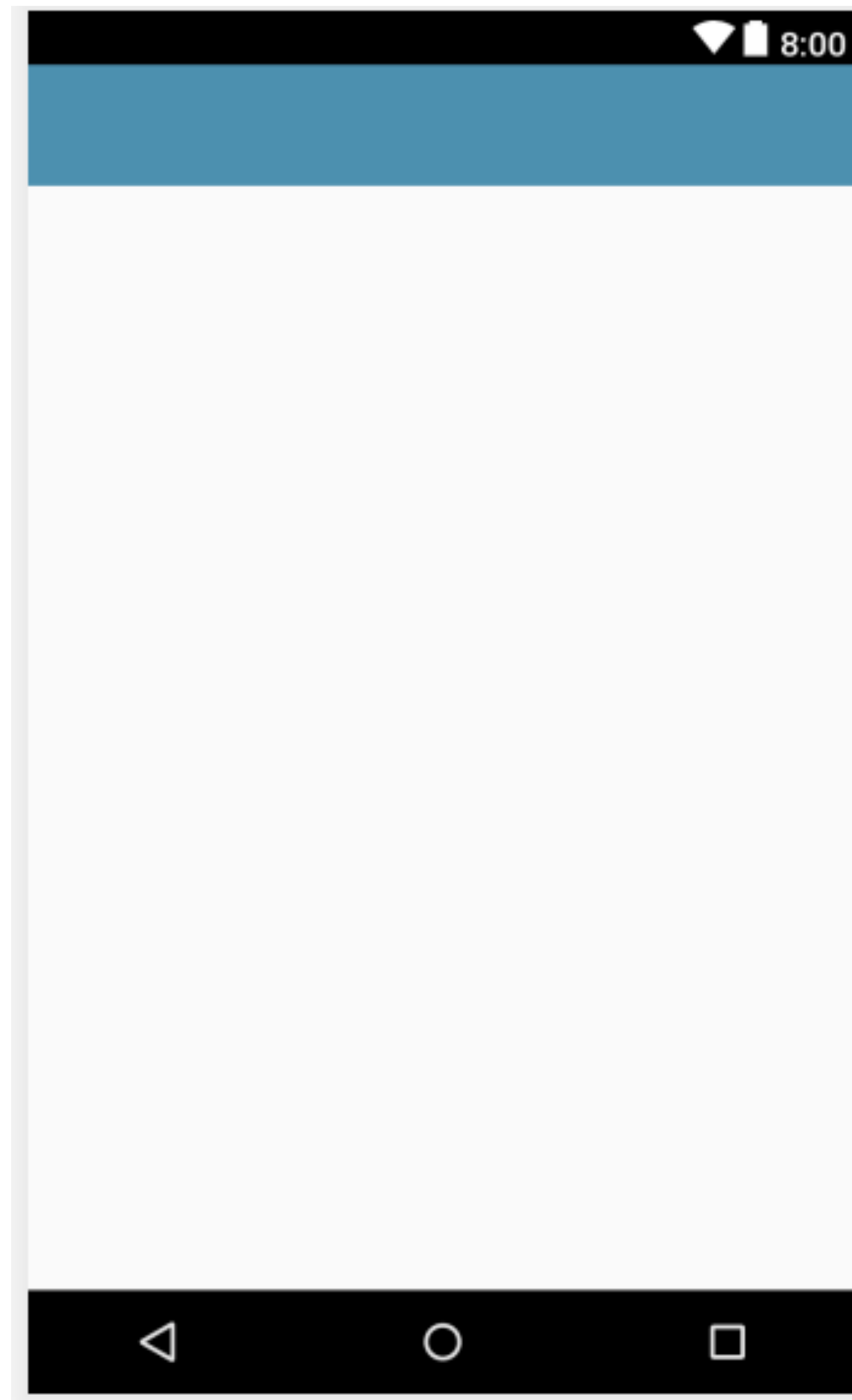
- PlacemarkActivityList.kt
- activity\_placemark\_list.xml
- card\_placemark.xml

Edits:

- AndroidManifest.xml



# PlacemarkActivityList.kt



activity\_placemark\_list.xml

```
package org.wit.placemark.activities

import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
import org.wit.placemark.R
import org.wit.placemark.main.MainApp

class PlacemarkListActivity : AppCompatActivity() {

    lateinit var app: MainApp

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark_list)
        app = application as MainApp
    }
}
```

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.coordinatorlayout.widget.CoordinatorLayout 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.activities.PlacemarkListActivity">

    <com.google.android.material.appbar.AppBarLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/colorAccent"
        android:fitsSystemWindows="true"
        app:elevation="0dip"
        app:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

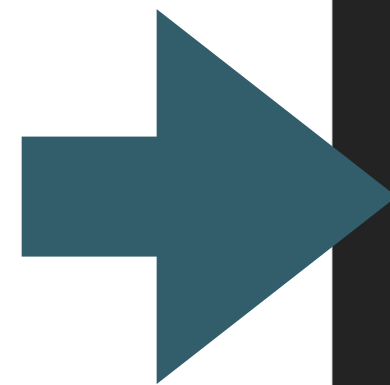
        <androidx.appcompat.widget.Toolbar
            android:id="@+id/toolbar"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            app:titleTextColor="@color/colorPrimary" />
        </com.google.android.material.appbar.AppBarLayout>

</androidx.coordinatorlayout.widget.CoordinatorLayout>
```



# AndroidManifest.xml

New  
Activity  
Entry



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

    <application
        android:name=".main.MainApp"
        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=".activities.PlacemarkActivity">
        </activity>
        <activity android:name=".activities.PlacemarkListActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN"/>
                <category android:name="android.intent.category.LAUNCHER"/>
            </intent-filter>
        </activity>
    </application>

</manifest>
```

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.cardview.widget.CardView
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="8dp"
    android:elevation="24dp">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:padding="16dp">

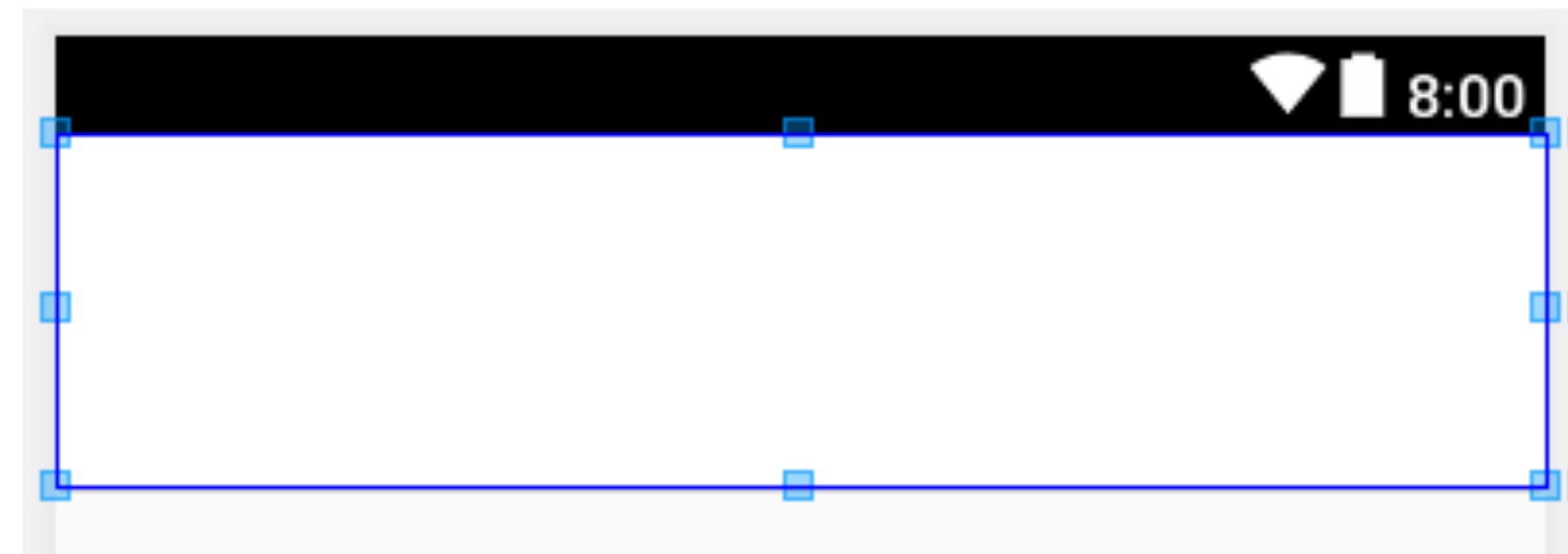
        <TextView
            android:id="@+id/placemarkTitle"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentTop="true"
            android:textSize="30sp" />

        <TextView
            android:id="@+id/description"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@id/placemarkTitle" />

    </RelativeLayout>
</androidx.cardview.widget.CardView>

```

card\_placemark.xml



# activity\_placemark\_list.xml

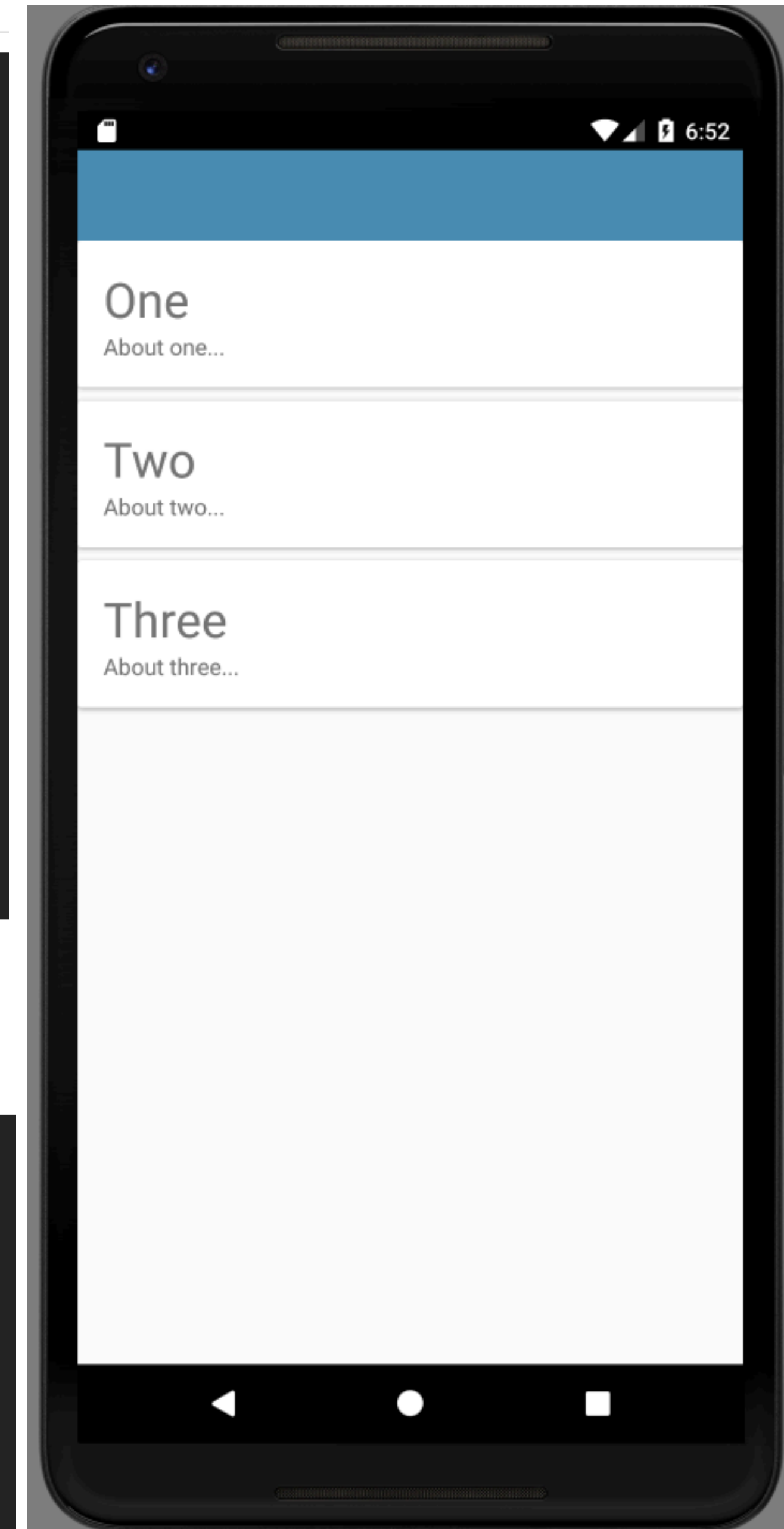
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.coordinatorlayout.widget.CoordinatorLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="org.wit.placemark.activities.PlacemarkListActivity">

    <com.google.android.material.appbar.AppBarLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/colorAccent"
        android:fitsSystemWindows="true"
        app:elevation="0dip"
        app:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

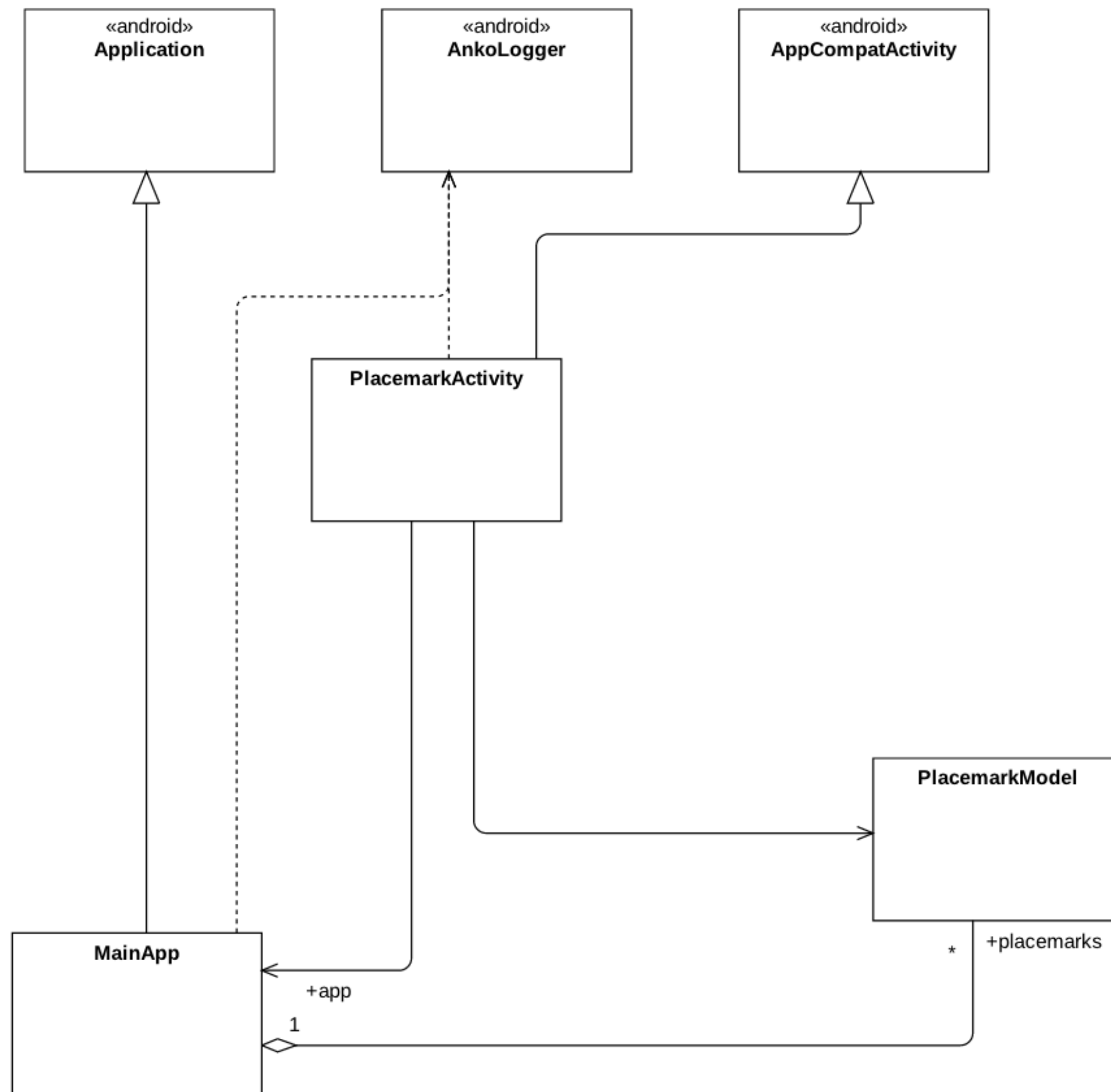
        <androidx.appcompat.widget.Toolbar
            android:id="@+id/toolbar"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            app:titleTextColor="@color/colorPrimary" />
    </com.google.android.material.appbar.AppBarLayout>

</androidx.coordinatorlayout.widget.CoordinatorLayout>
```

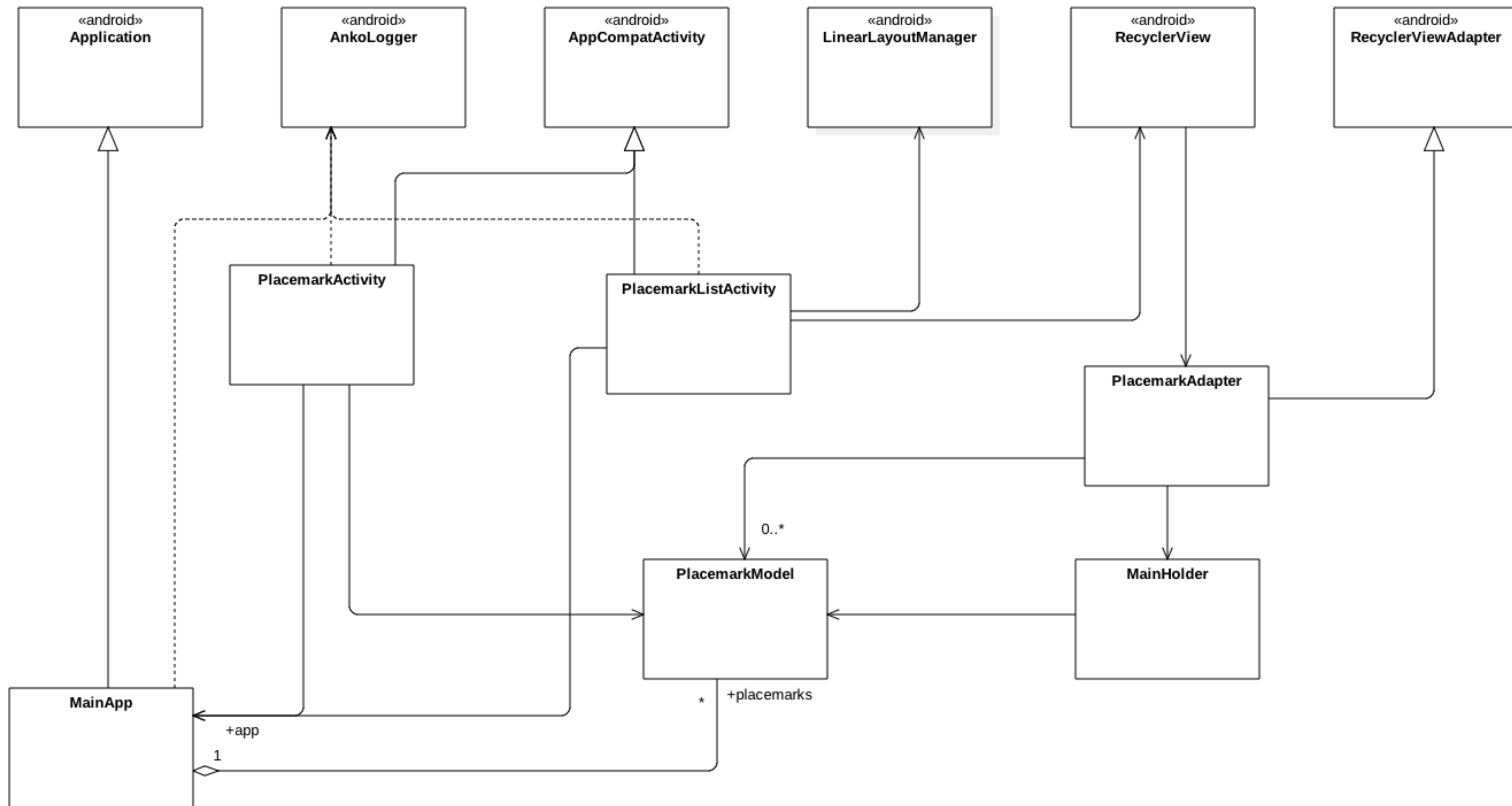
```
...
<androidx.recyclerview.widget.RecyclerView
    android:id="@+id/recyclerView"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:scrollbars="vertical"
    app:layout_behavior="@string/appbar_scrolling_view_behavior" />
...
```



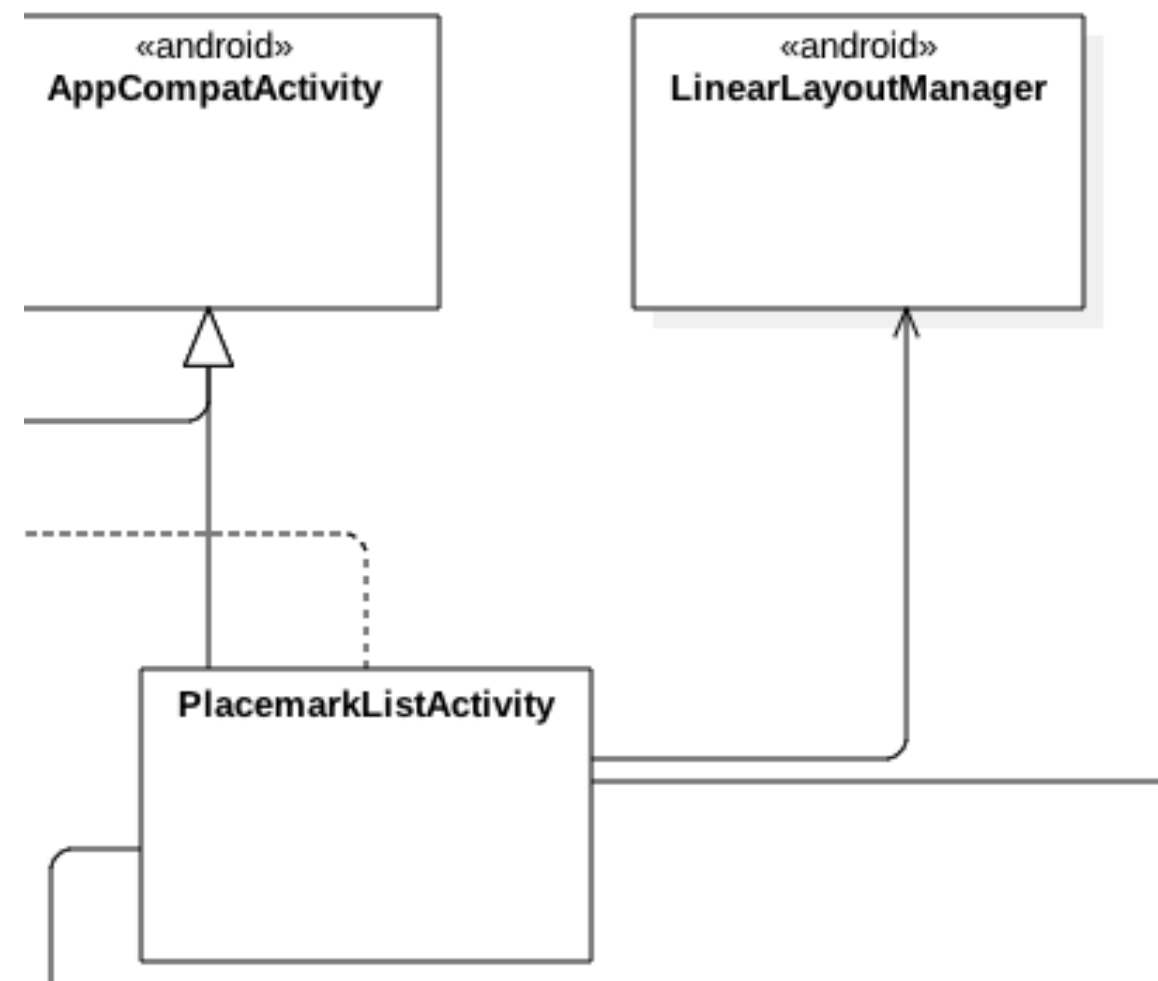




Before  
PlacemarkActivityList  
introduced



After  
PlacemarkActivityList  
introduced



```
class PlacemarkListActivity : AppCompatActivity() {

    lateinit var app: MainApp

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_placemark_list)
        app = application as MainApp

        val layoutManager = LinearLayoutManager(this)
        recyclerView.layoutManager = layoutManager
        recyclerView.adapter = PlacemarkAdapter(app.placemarks)
    }
}
```

```

class PlacemarkAdapter constructor(private var placemarks: List<PlacemarkModel>) : RecyclerView.Adapter<PlacemarkAdapter.MainHolder>() {

    override fun onCreateViewHolder(parent: ViewGroup?, viewType: Int): MainHolder {
        return MainHolder(LayoutInflater.from(parent?.context).inflate(R.layout.card_placemark, parent, false))
    }

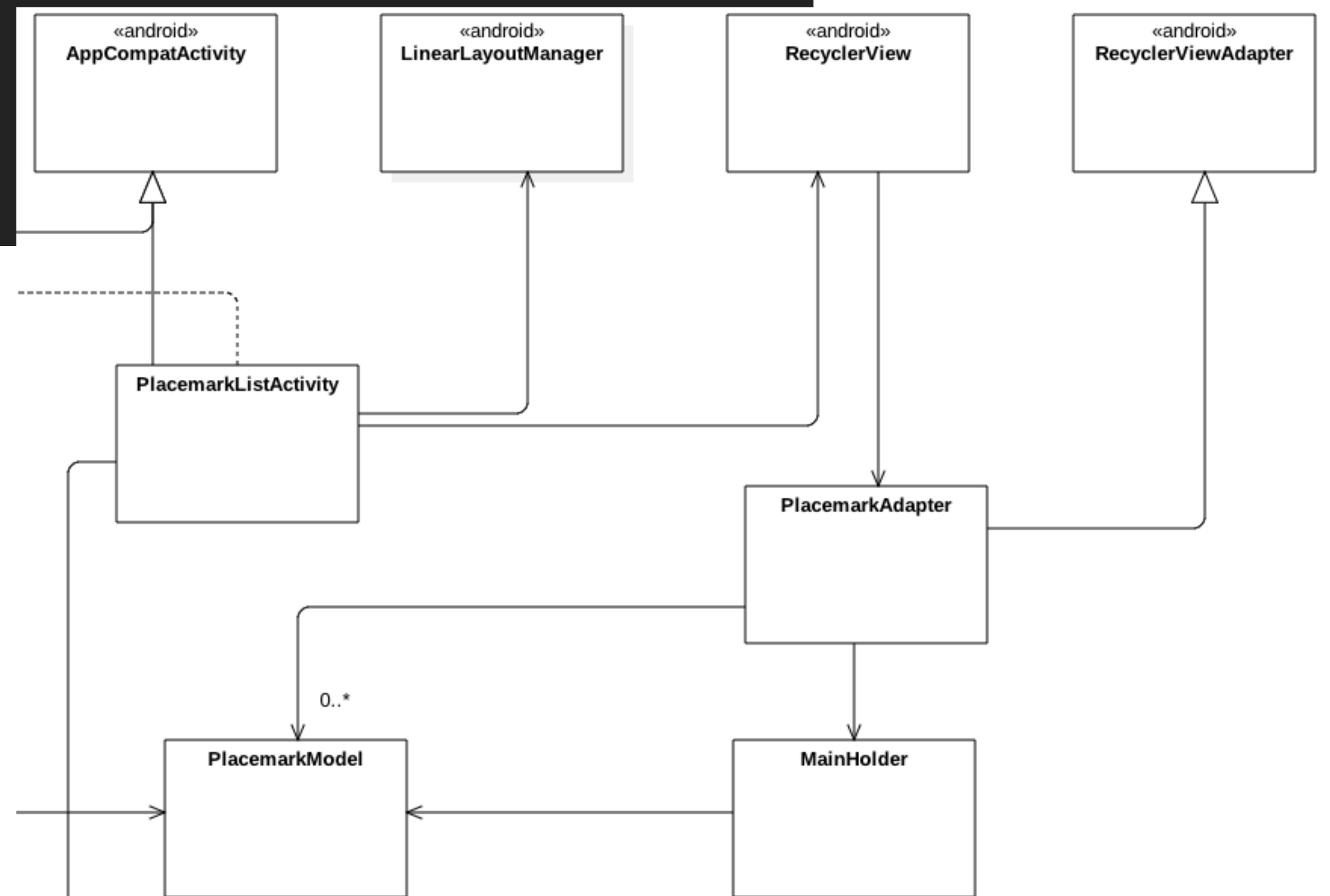
    override fun onBindViewHolder(holder: MainHolder, position: Int) {
        val placemark = placemarks[holder.adapterPosition]
        holder.bind(placemark)
    }

    override fun getItemCount(): Int = placemarks.size
}

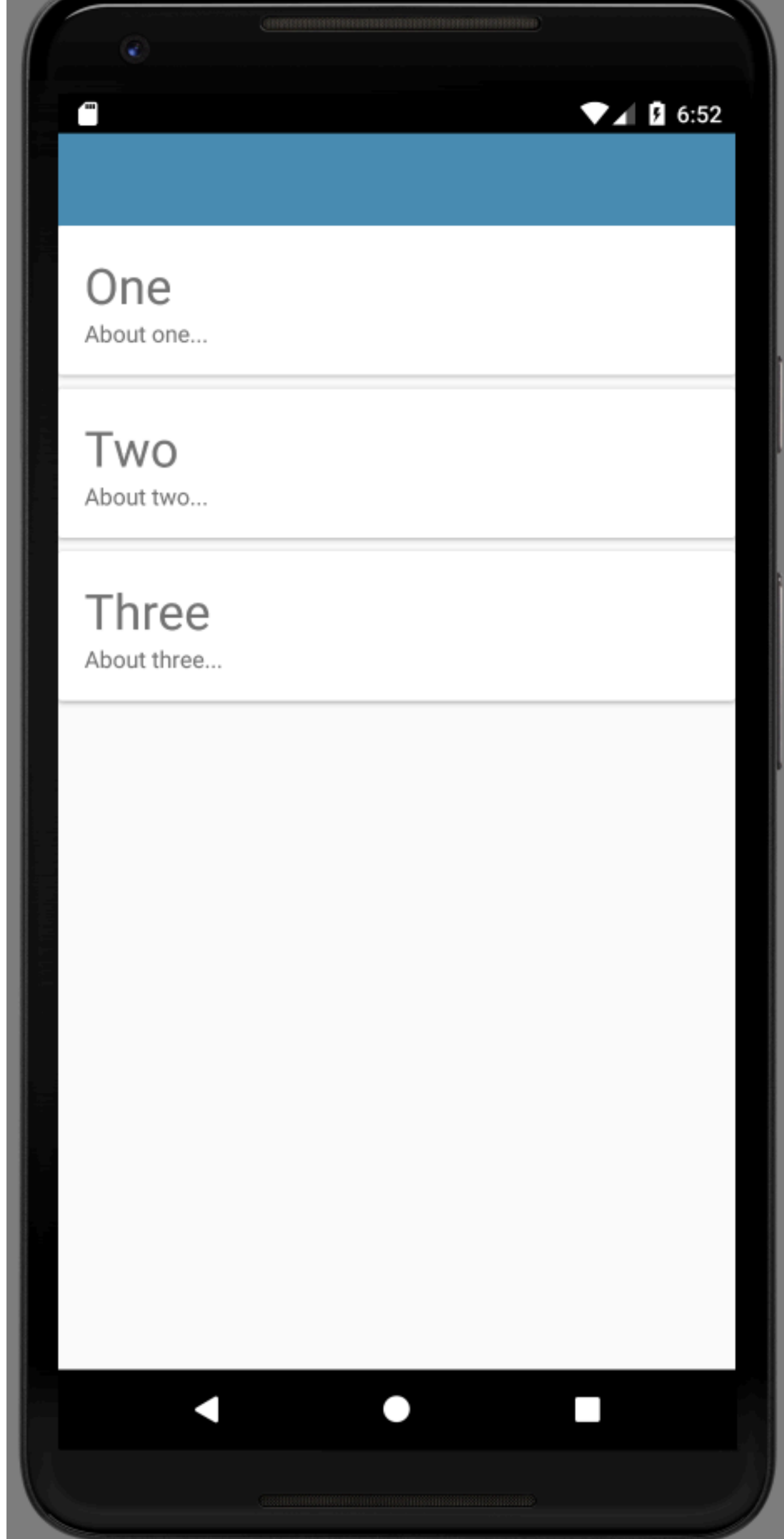
class MainHolder constructor(itemView: View) : RecyclerView.ViewHolder(itemView) {

    fun bind(placemark: PlacemarkModel) {
        itemView.placemarkTitle.text = placemark.title
        itemView.description.text = placemark.description
    }
}

```

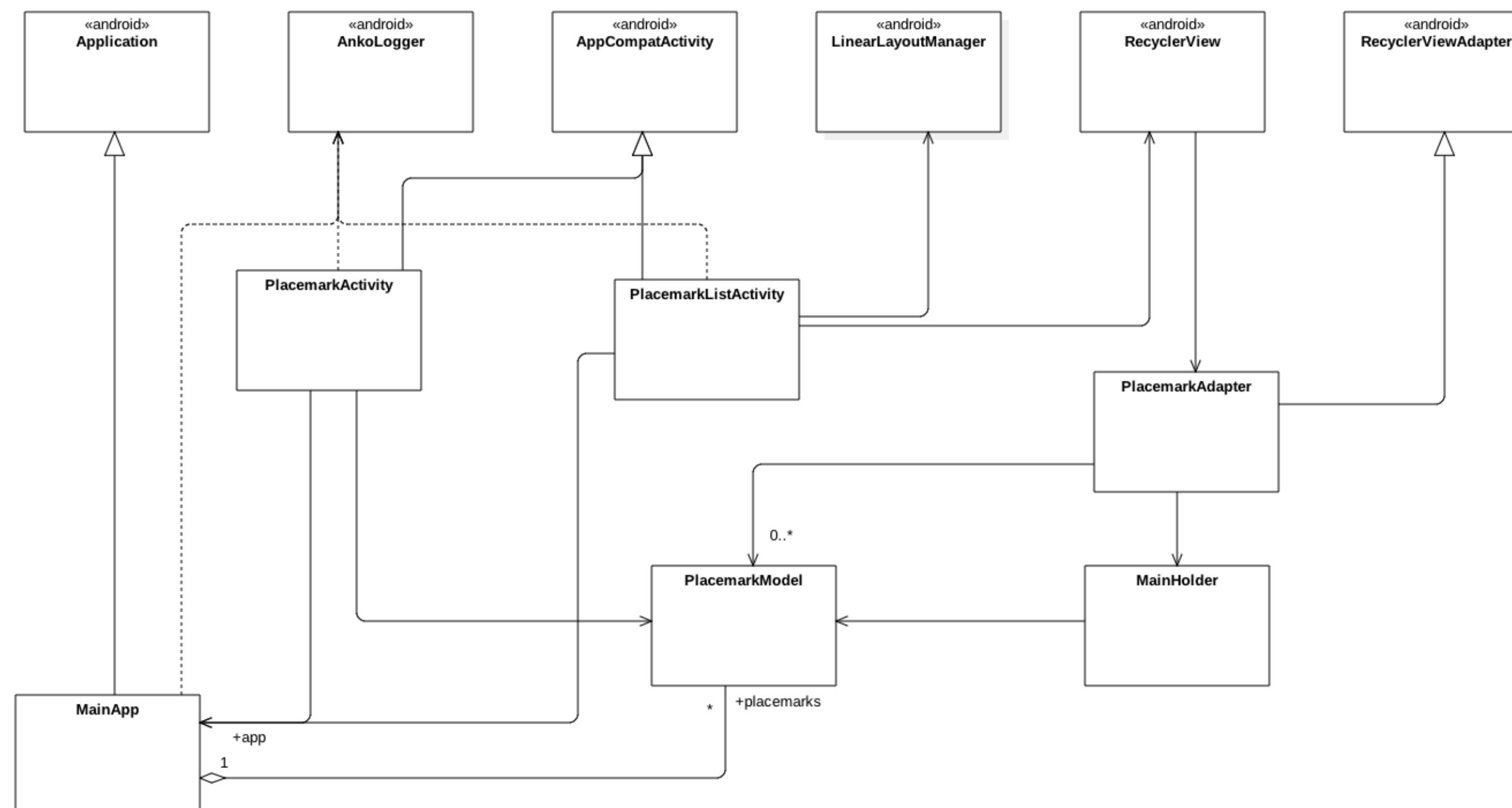






## MainApp

```
...  
override fun onCreate() {  
    super.onCreate()  
    info("Placemark started")  
    placemarks.add(PlacemarkModel("One", "About one..."))  
    placemarks.add(PlacemarkModel("Two", "About two..."))  
    placemarks.add(PlacemarkModel("Three", "About three..."))  
}  
...
```





New menu option

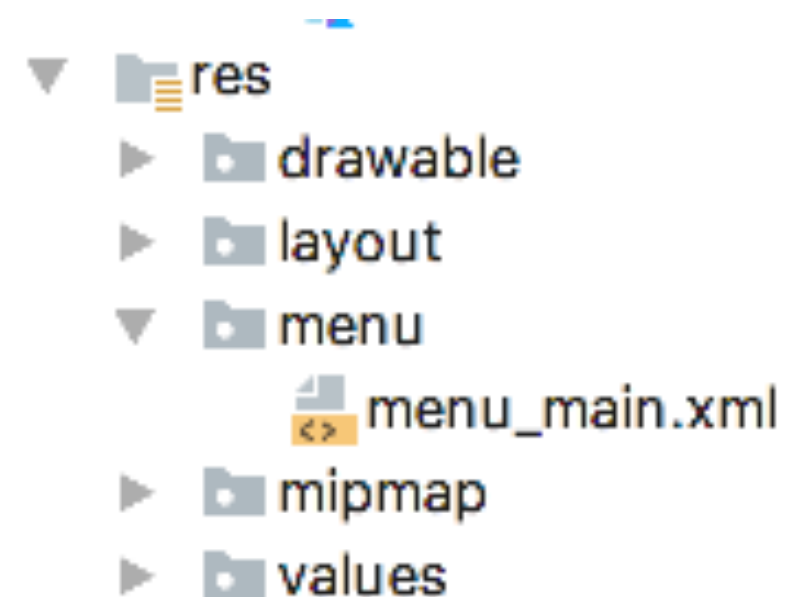
strings.xml

```
<string name="menu_addPlacemark">Add</string>
```

menu\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">

  <item
    android:id="@+id/item_add"
    android:icon="@android:drawable/ic_menu_add"
    android:title="@string/menu_addPlacemark"
    app:showAsAction="always"/>
</menu>
```

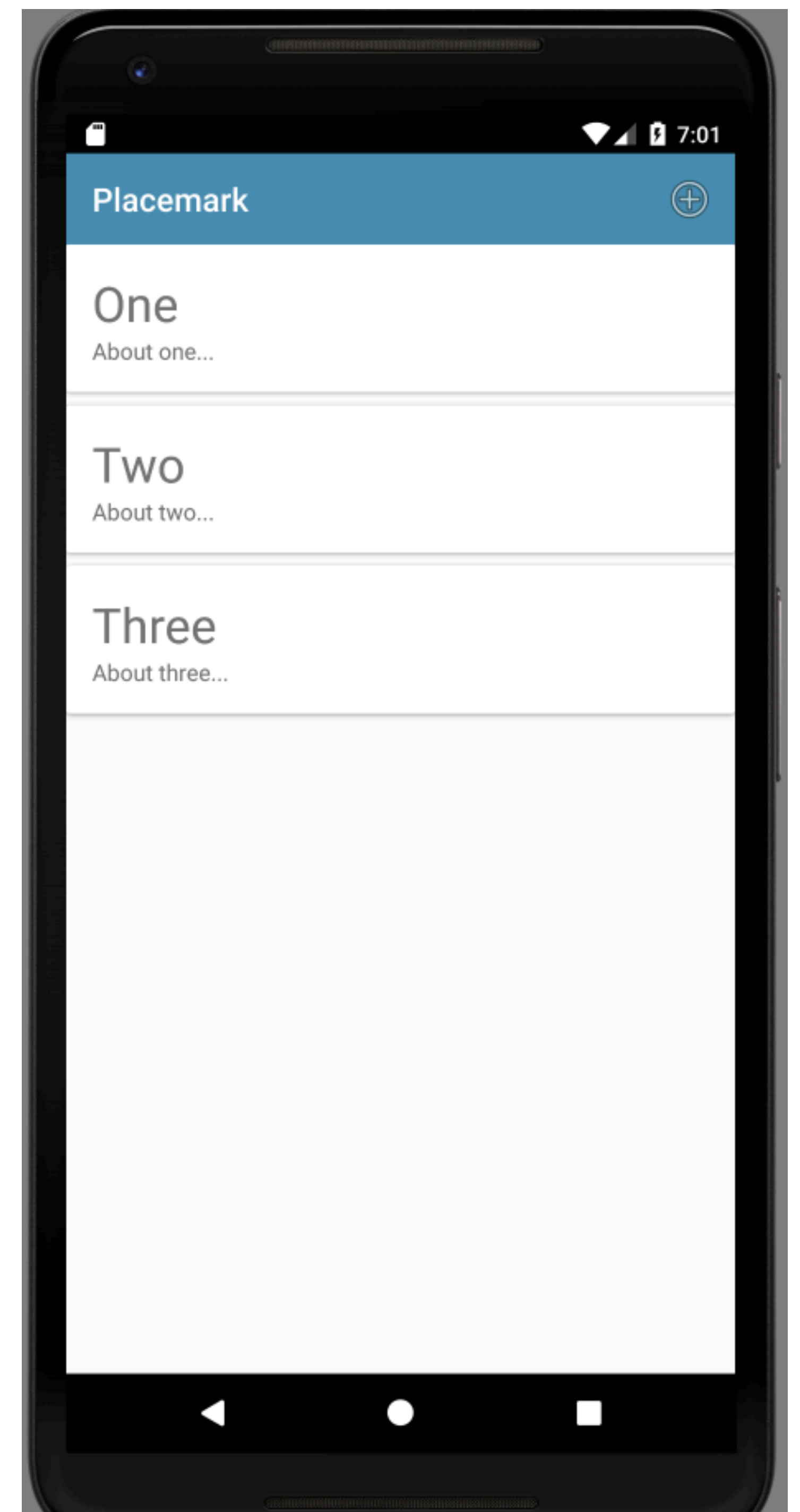


## PlacemarkListActivity

```
...  
toolbar.title = title  
setSupportActionBar(toolbar)  
...
```

... and then override the method to load the menu resource:

```
...  
override fun onCreateOptionsMenu(menu: Menu?): Boolean {  
    menuInflater.inflate(R.menu.menu_main, menu)  
    return super.onCreateOptionsMenu(menu)  
}  
...
```



## PlacemarkListActivity: Menu Click Event Handler:

```
override fun onOptionsItemSelected(item: MenuItem?): Boolean {  
    when (item?.itemId) {  
        R.id.item_add -> startActivityForResult<PlacemarkActivity>(AppCompatActivity.RESULT_OK)  
    }  
    return super.onOptionsItemSelected(item)  
}
```

## PlacemarkActivity: save placemarks to the array in MainApp

```
...  
    if (placemark.title.isNotEmpty()) {  
        app.placemarks.add(placemark.copy())  
        info("add Button Pressed: $placemarkTitle")  
        app.placemarks.forEach { info("add Button Pressed: ${it}")}  
        setResult(AppCompatActivity.RESULT_OK)  
        finish()  
    }  
...  
...
```



