

FRAGMENTS

WHAT ARE FRAGMENTS?

- » Encapsulate a behavior or portion of User Interface
- » Must be embedded in an Activity
- » Fragment lifecycle relies upon the parent Activity's lifecycle
- » Fragment Manager provides for a way to interact with fragments from the Activity
- » You can kinda think of them as Activities inside of Activities... kinda

WHY ARE FRAGMENTS?

COULDN'T WE JUST USE ACTIVITIES FOR EVERYTHING?

- » Sure, before API 11 AKA Android 3.0 Fragments didn't exist
- » But around that time tons of new device form factors were gaining traction
 - *Tablets
 - *Wearables
 - *TV
 - *Car

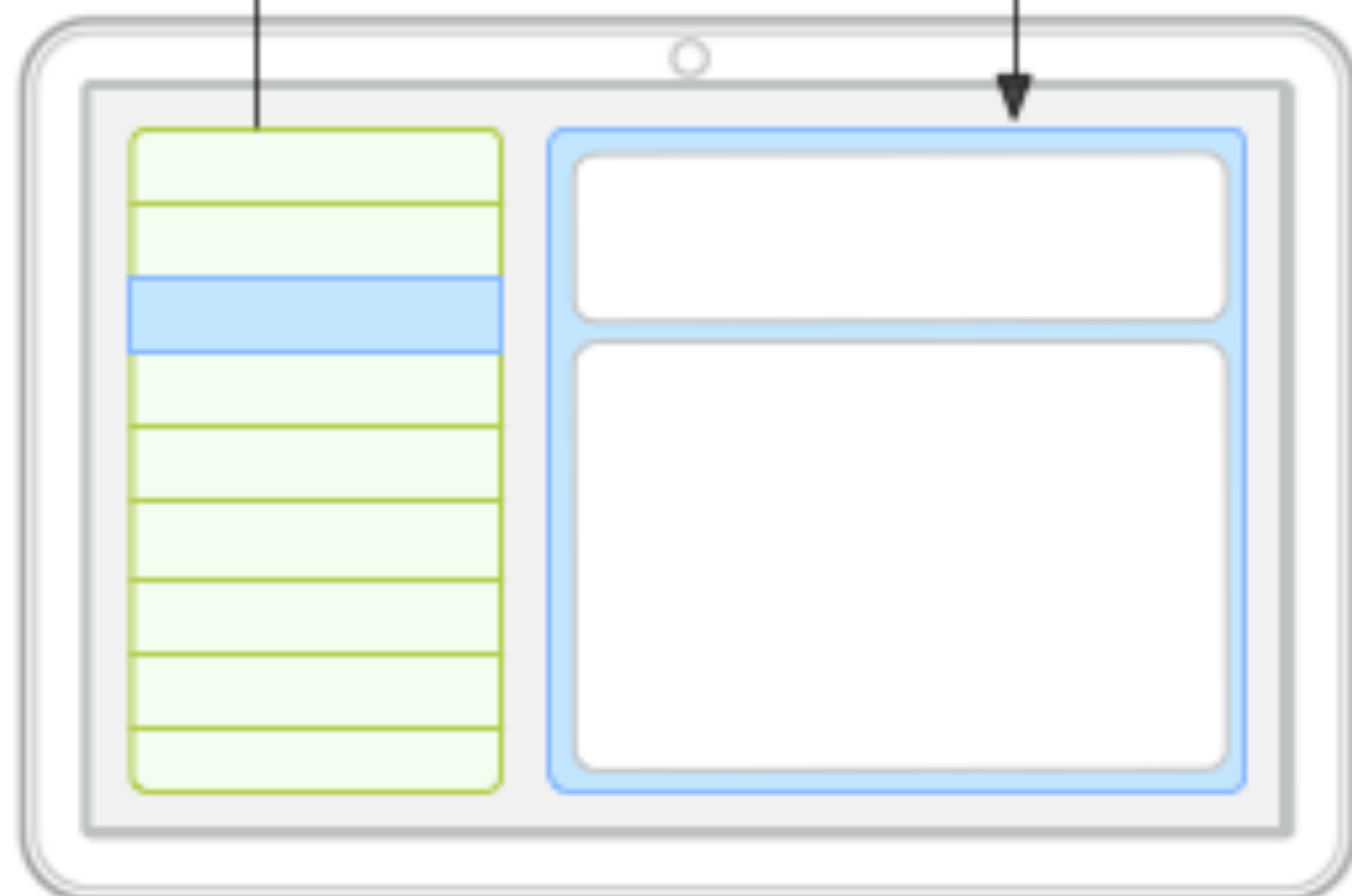
STILL WE COULD JUST USE ACTIVITIES FOR EVERYTHING

BUT

- *Fragments allow for UI to be reused
- *Fragments allow for UI to be dynamic (design for tablet and phone)
- *Largely, the logic doesn't change between a tablet and phone app but the UI does
- *Fragments allow for modularity and decoupling of elements

Tablet

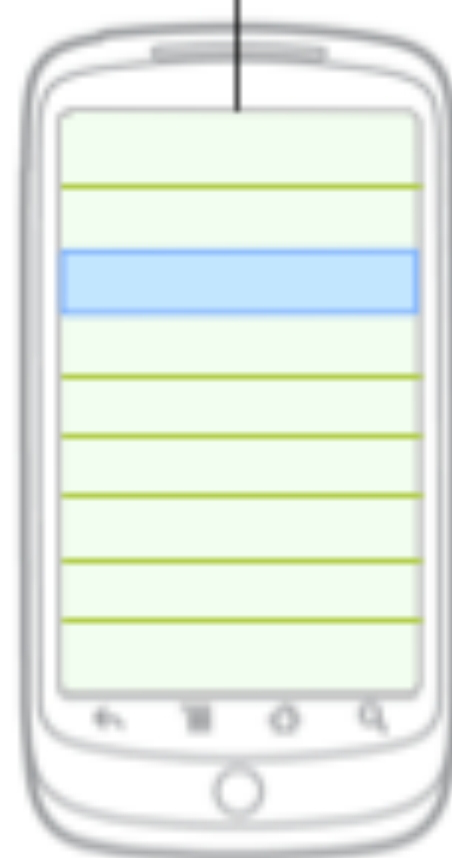
Selecting an item
updates Fragment B



Activity A contains
Fragment A and Fragment B

Handset

Selecting an item
starts Activity B



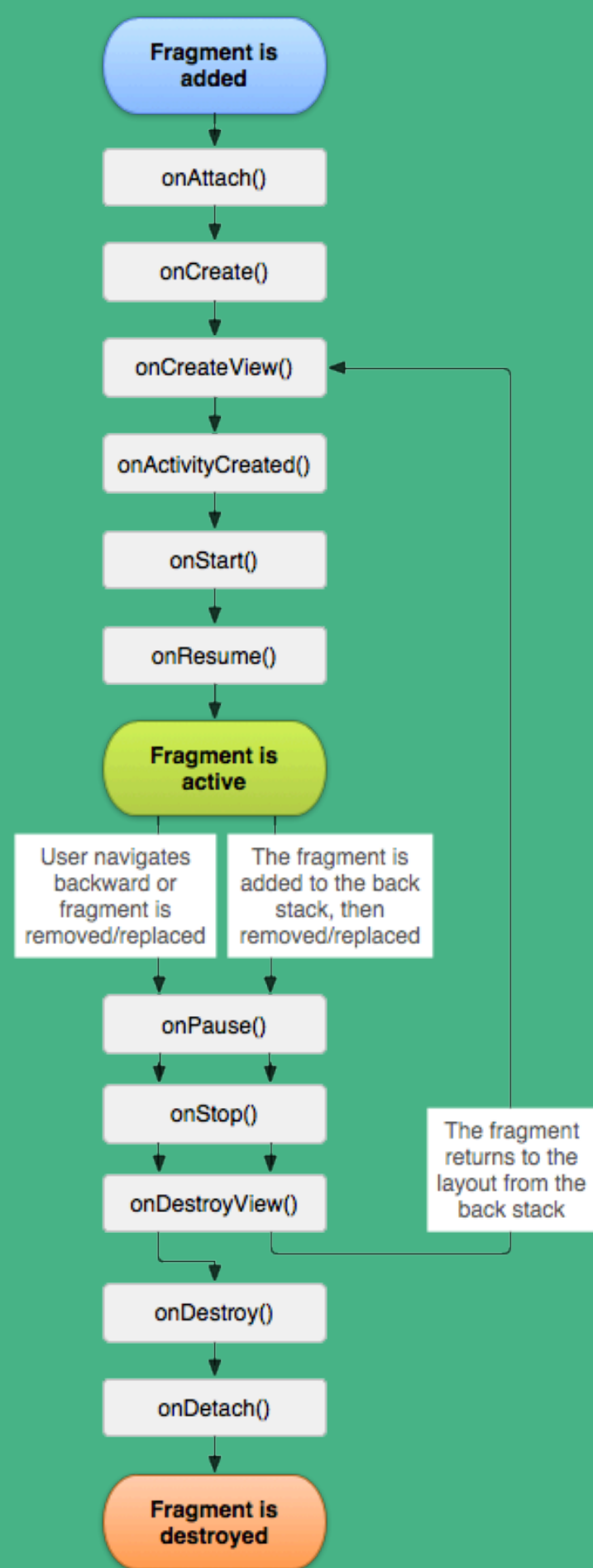
Activity A contains
Fragment A



Activity B contains
Fragment B

**FRAGMENTS HAVE THEIR OWN
LIFECYCLE!**

**BUT YOU ARE ALREADY PRETTY
FAMILIAR WITH IT**



TWO DIFFERENT METHODS TO ADD FRAGMENTS

LAYOUT XML

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/container"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <fragment
        android:id="@+id/left_fragment"
        ....
        android:name="com.flatironschool.back_that_daz_up.DazFragment"
        tools:layout="@layout/fragment_daz"/>

    <fragment
        android:id="@+id/right_fragment"
        ....
        android:name="com.flatironschool.back_that_daz_up.DazDetailFragment"
        tools:layout="@layout/fragment_daz_detail" />

</RelativeLayout>
```

ACTIVITY SUBCLASS

```
public class myActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_my);
        if (savedInstanceState == null) {

            MyFragment fragment = new MyFragment();
            fragment.setArguments(getIntent().getExtras());

            getSupportFragmentManager().beginTransaction()
                .add(R.id.container, fragment)
                .commit();

        }
    }
}
```

FRAGMENT CODE

```
public class MyFragment extends Fragment {  
    public MyFragment() {  
    }  
  
    @Override  
    public View onCreateView(LayoutInflater inflater, ViewGroup container,  
                             Bundle savedInstanceState) {  
        View rootView = inflater.inflate(R.layout.fragment_my, container, false);  
        return rootView;  
    }  
}
```

THE BACKSTACK

- » By Default keeps track of Activities used by the system
- » Fragments can be added to the backstack using the FragmentManager

