Software Engineering Project

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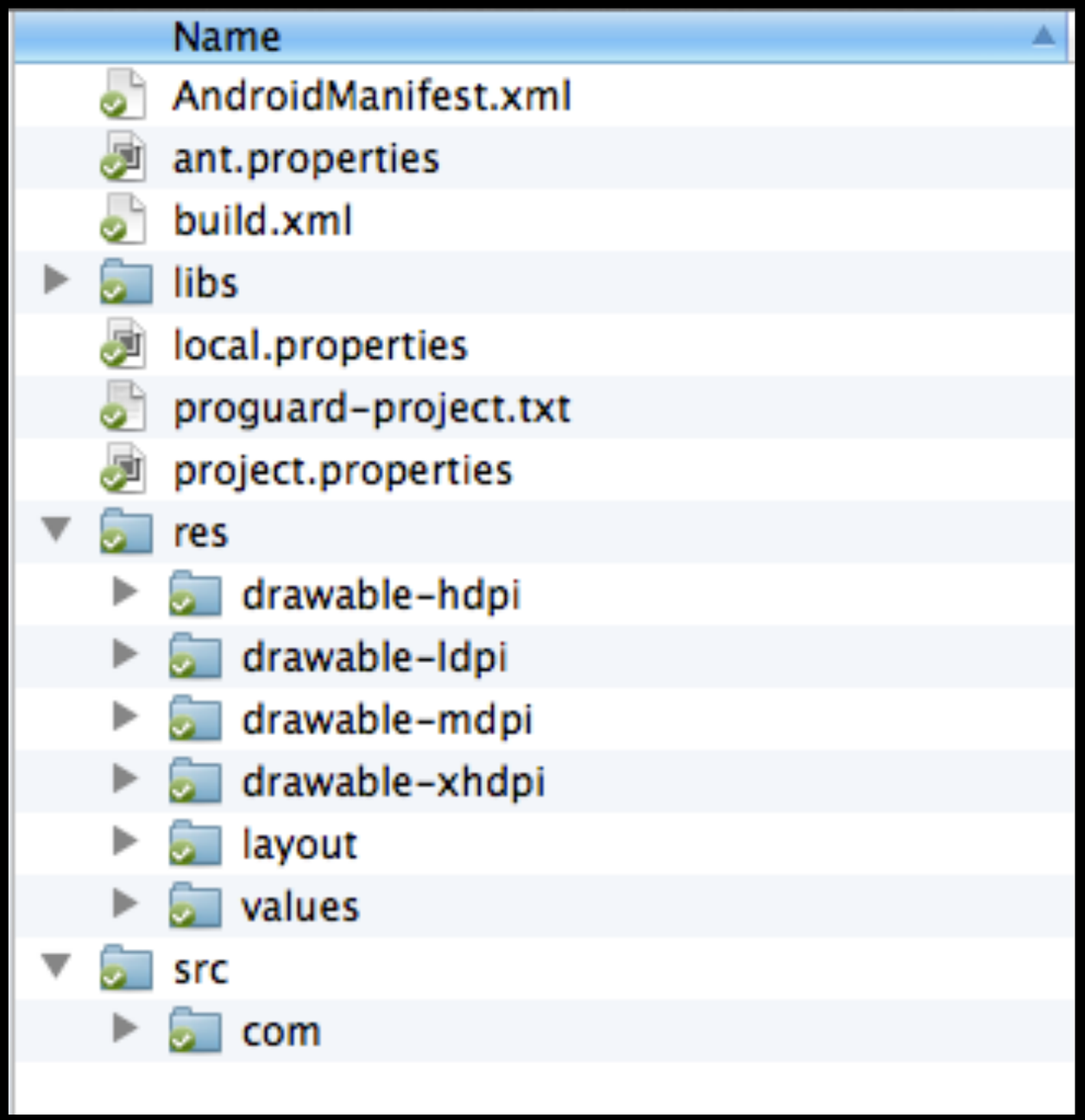
Android SDK

- From our perspective
- Java-based API
- XML-based layout
- tools to build/install/simulate

Structure of a project



First example

```
package com.example.helloandroid;

import android.app.Activity;
import android.os.Bundle;

public class MainActivity extends Activity
{
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
    }
}
```

First Example

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://
schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
<TextView
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Hello World, MainActivity"
    />
</LinearLayout>
```

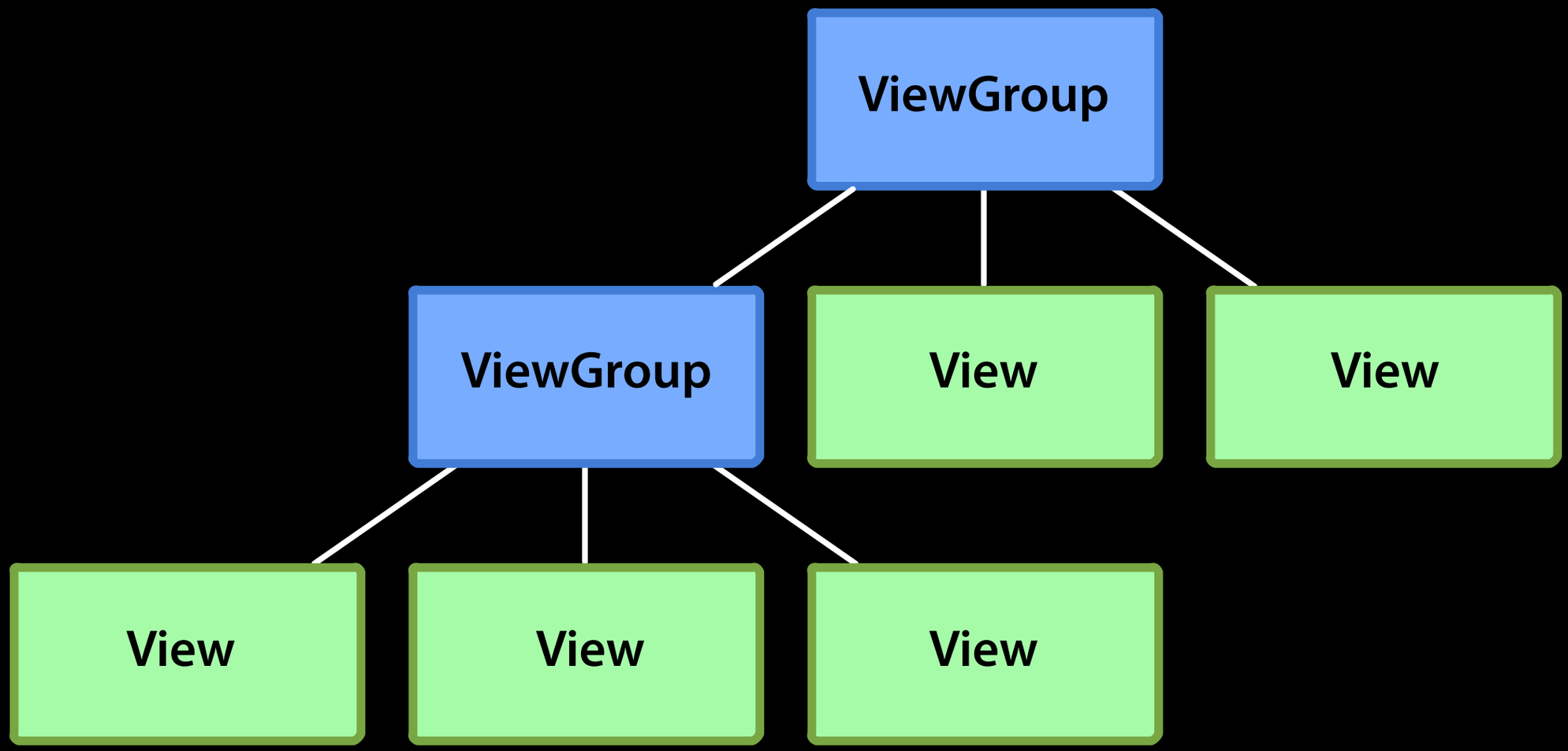
Add User Input

```
package com.example.helloname;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.EditText;

public class MainActivity extends Activity {
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
    }

    public void sendName(View view) {
      TextView dn = (TextView)findViewById(R.id.displayName);
      dn.setText("Hello "+
((EditText)findViewById(R.id.enteredName)).getText().toString());
    }
}
```

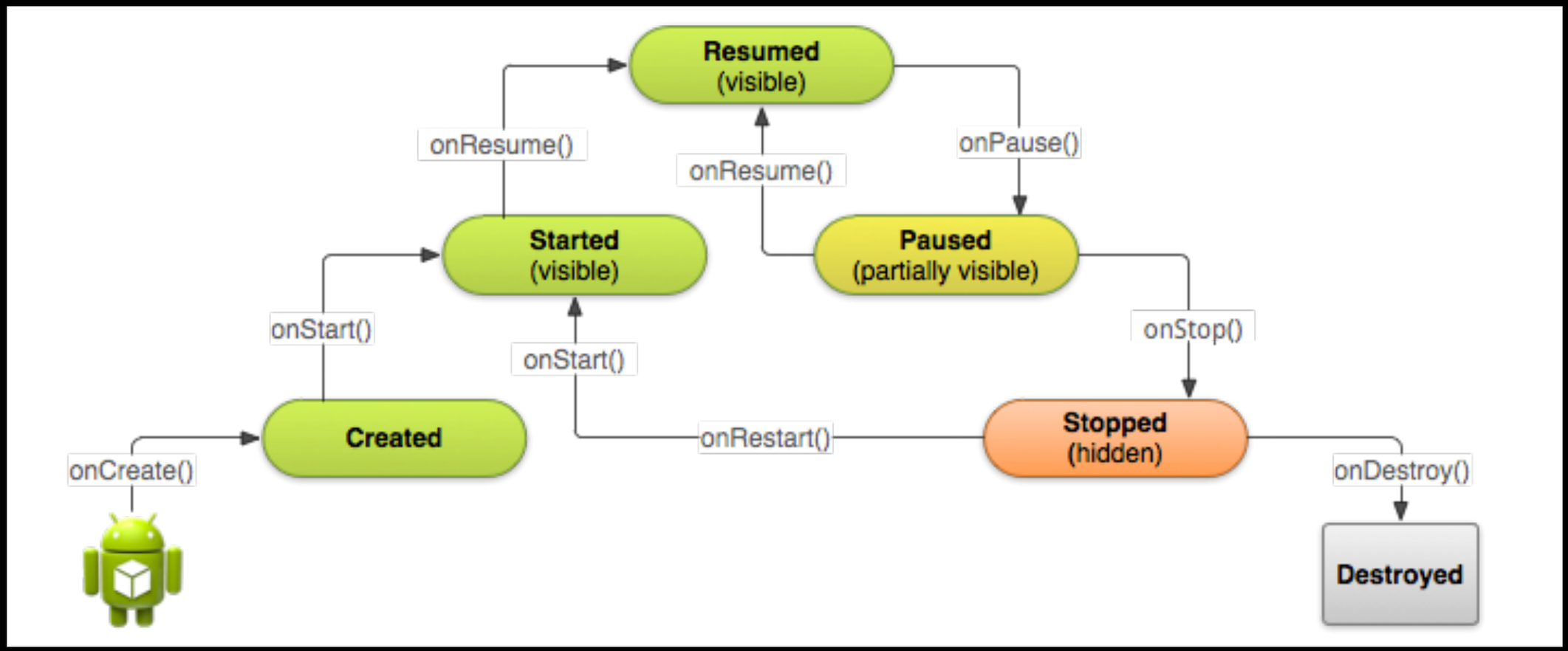
UI basics : Views



```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://
schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
<LinearLayout
    android:orientation="horizontal"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    >
<EditText
   android:id="@+id/enteredName"
   android:layout_width="0dp"
   android:layout_weight="1"
   android:layout_height="wrap_content"
   android:hint="Enter your name..."
   />
```

```
<Button
   android:text = "Submit..."
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:onClick="sendName"
   />
</LinearLayout>
<RelativeLayout
   android:layout_width="fill_parent"
   android:layout_height="fill_parent"
   >
<TextView
   android:id="@+id/displayName"
   android:layout_centerInParent="true"
   android:textSize="24sp"
   android:textColor="#FF0000"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Hello World, MainActivity"
     />
</RelativeLayout>
</LinearLayout>
```

Activity life cycle



Depending on the complexity of your activity, you probably don't need to implement all the lifecycle methods.

More information

- https://github.com/morganericsson/DAT255Demo
- https://github.com/morganericsson/AndroidExamples
- Video lecture (from VT2013)