Note

This lecture uses the Family Map project code as an example. Alternatively, the same concepts can be demonstrated using the "Beat Box" example in chapters 20-21 of the Android text book.

Units

px = physical pixel

in = inches

mm = millimeters

pt = points (1/72 of an inch)

dp = density-independent pixels (1/160 of an inch)

sp = like dp, but also scaled by the user's font size preference; use for specifying font sizes

See the following Stack Overflow article:

http://stackoverflow.com/questions/2025282/difference-between-px-dp-dip-and-sp-on-android

Colors

In Family Map project, show "app/src/main/res/values/colors.xml" file

"Find Usages" of a color to show how colors are referenced

Styles

A style is a collection of attributes that you can apply to a widget. Centralizes attributes that are applied to multiple widgets so they can be changed more easily.

In Family Map project, show "app/src/main/res/values/styles.xml" file

Show how the SettingsActivity layout uses styles to define attributes of the RelativeLayout for each setting.

XML Drawables

(Continue using SettingsActivity to demonstrate.)

Widget backgrounds can be defined using colors. They can also be defined using shapes stored in an XML file. This is called an "XML Drawable".

Shape / Layer List Drawables

In Family Map project, show how SettingsActivity layout uses a Layer List XML Drawable to define the background for the RelativeLayout for each setting.

State List Drawables

In Family Map project, show how SettingsActivity layout uses a State List XML Drawable to create the "Re-sync Data" and "Logout" buttons (which are not actually buttons at all).

Icons

As described in the Family Map specification, the "Android Iconify" library can be used to create icons for use in an application.

The code for creating an icon and displaying it in an ImageView widget is in the spec. The code for putting an icon in a menu item is as follows:

```
public static void setIcon(Context context, MenuItem item,
                           Iconify.IconValue icon) {
    item.setIcon(new IconDrawable(context, icon)
                    .colorRes(R.color.menu_icon)
                    .actionBarSize()
    );
}
```