CyberPunk Theming 2077

ANDROID DESIGN SYSTEM AND THEMING

What is a Design System?

Constraints from and for Designers

duolingo

Duolingo Design System
Updated: 17-09-21

TYPOGRAPHY

Section title - 300/34/51

Subsection title - 500/26/39

Body title - 700/19/29

Body text - 300/17/26

Caption - 500/15/23

BUTTON - 700/15/23/1

COLORS

KIWI
7AC70C
8EE000

BLUEBERRY
1CB0F6
14D4F4

RASPBERRY
D33131
E53B3B

BANANA
FFB020
FFC300

PUMPKIN
FA811B
FF9400

JELLY
8549BA
A560E8

COCOA
864E1B
AB6425

LIQUORICE
4C4C4C
777777

CLOUD
CFCFCF
DDDDDD

CREME
FFFFFF

BUTTONS

PRIMARY
SECONDARY

ICON
ICON

PRESSED
PRESSED

DISABLED
DISABLED

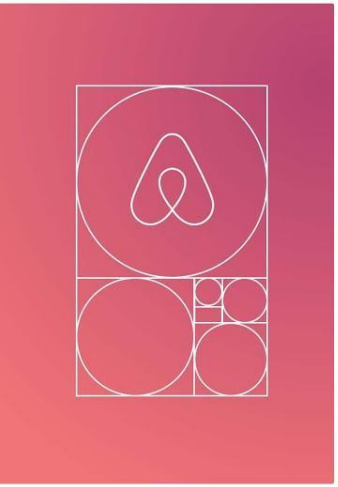
COMPACT
COMPACT

PRESSED
PRESSED

DISABLED
DISABLED

Guide

DLS Primitives



Usage

Primitives are used to retain the Airbnb brand with the colors, typography and spacing rhythm.

Primitives are global variables that are set in the codebase, meaning that changing a value will change it everywhere in the product.

Overwriting these values is not recommended since any future changes will not be reflected and even in short term it will cause fragmentation for the product experience.

Note:
When starting a new project, you can copy this artboard to have all the primitives ready to use.

Typography

Title 1

Title 2

Title 3

Large

Regular

Small

Mini

MICRO

Color

Spacing

none

04 · micro

08 · tiny

16 · small

24 · standard

32 · semi

48 · large

64 · x-large

MATERIAL DESIGN

Material Design

COLOR SCHEME

colorPrimary	
colorPrimaryVariant	
colorSecondary	
colorSecondaryVariant	
colorBackground	
colorSurface	
colorError	
colorOnPrimary	
colorOnSecondary	
colorOnBackground	
colorOnSurface	
colorOnError	

TYPOGRAPHY SCALE

textAppearanceHeadline1	H1
textAppearanceHeadline2	H2
textAppearanceHeadline3	H3
textAppearanceHeadline4	H4
textAppearanceHeadline5	H5
textAppearanceHeadline6	H6
textAppearanceSubtitle1	Subtitle 1

SHAPE SYSTEM

shapeAppearanceSmallComponent	S
shapeAppearanceMediumComponent	M
shapeAppearanceLargeComponent	L

Material Design

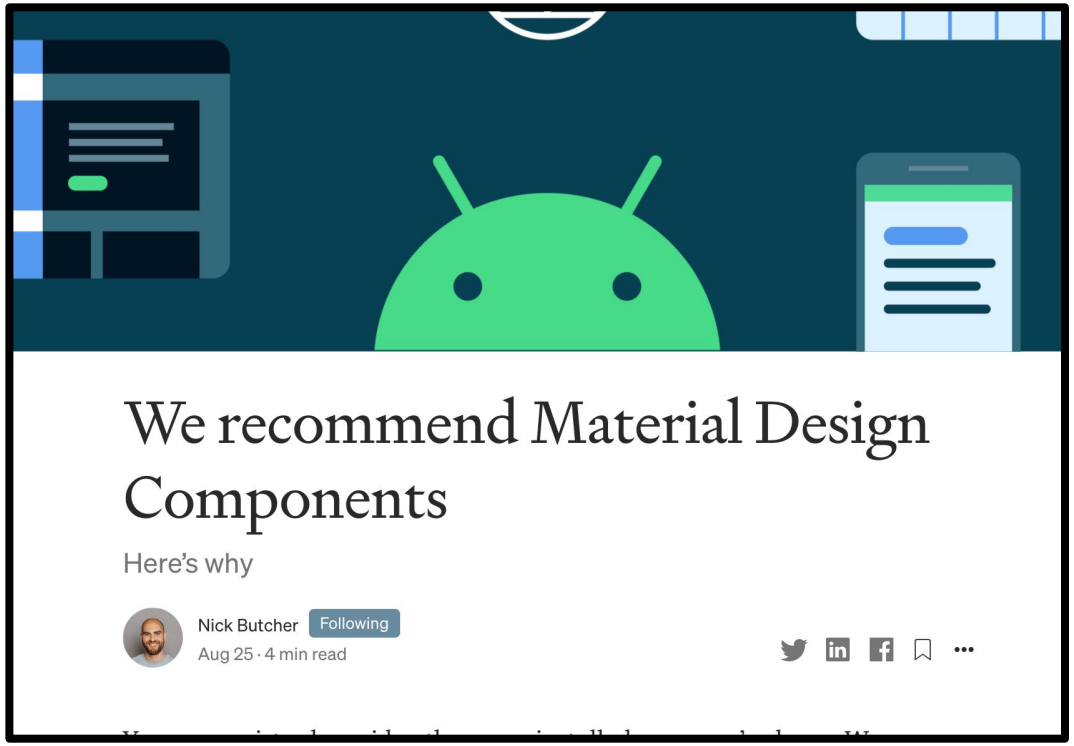
material.io

Material Design

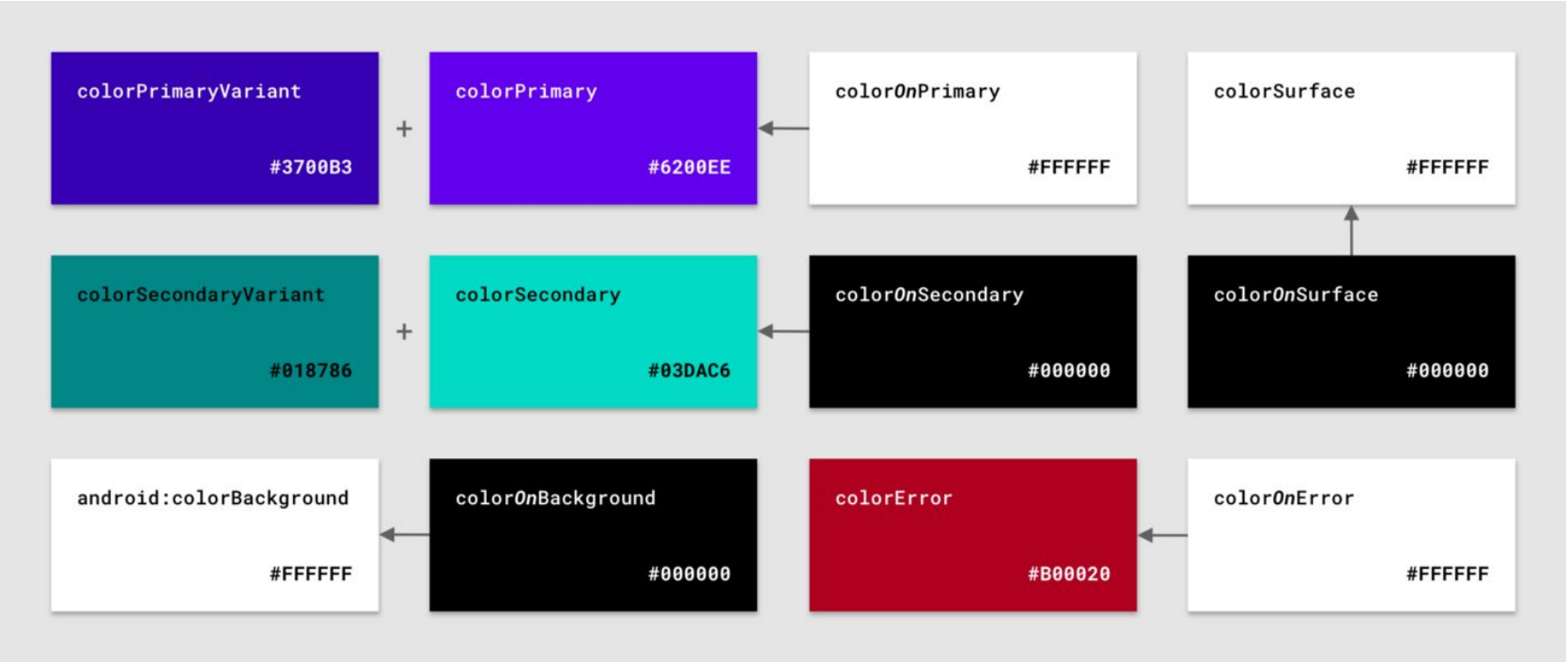
Recommended for Android.

Start with MD. Extend if needed.

Android Design System is based on MD.



Material Design: **COLOR**



Literal Names

Describe the value, not how it's used

- darkRed
- greenMelon
- brandBlue

Semantic Names

Describe its use.

- colorError
- successBackground
- primaryColor

What is Theming?

Using a design system structure that allows changes across all our application.

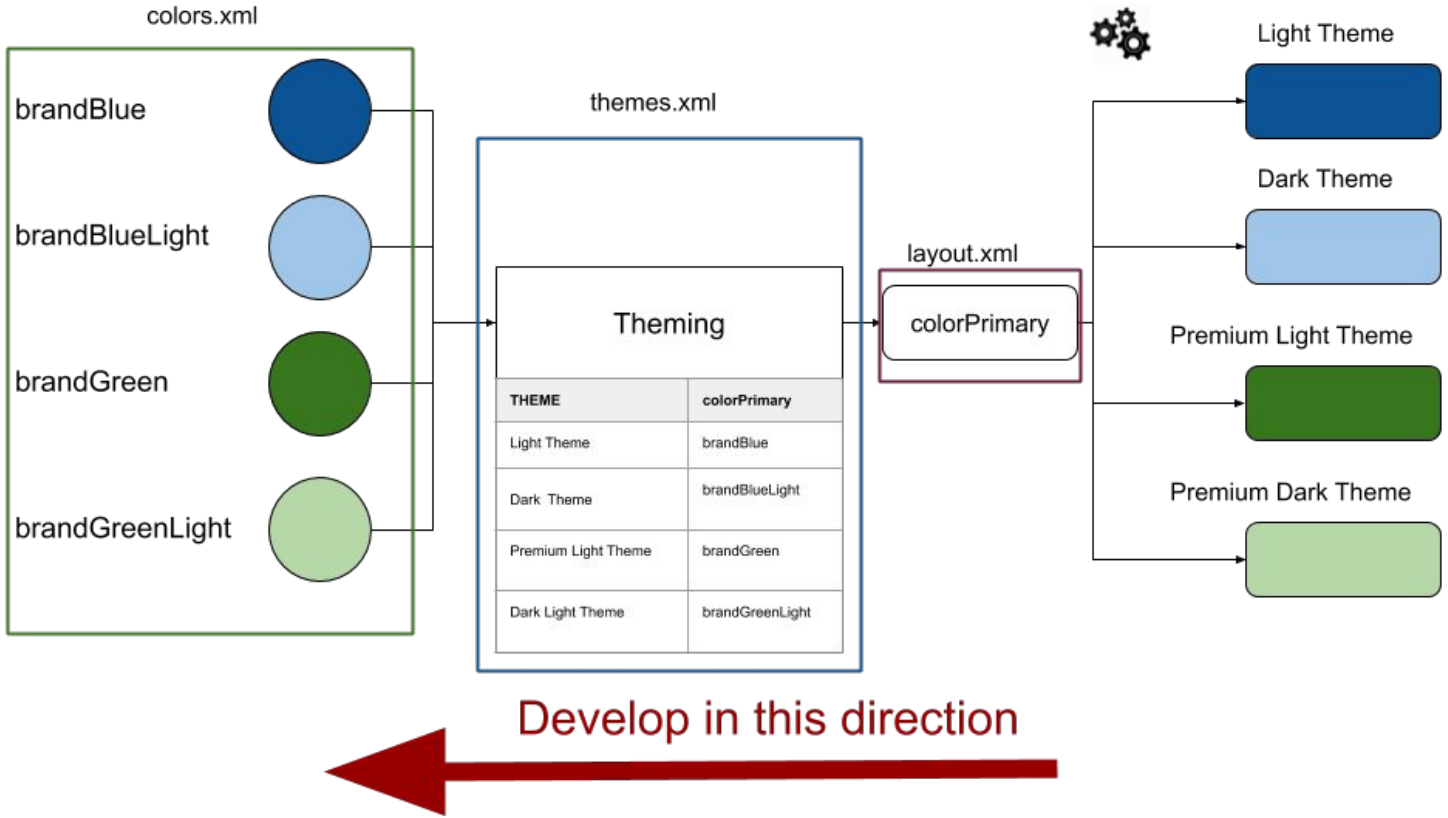
IMPLEMENTATION

Dependency inversion principle

SOLID

Program to an Interface

Program to an Interface



View Attributes

- Applied to a single View.

  android:textColor
  android:textSize

```
<TextView
    ...
    android:color="@color/red"
    android:textSize="12sp" />
```

Theme Attributes

- Applied to a Theme, not a view.
- They are defined in the Theme
- The Theme provides and varies them.
- They will be the same in all the application.
- Should be used widely.
  colorPrimary
  textAppearanceBody1 = ...

```
<style name="Theme.Base" parent="...>
  <item name="colorPrimary">@color/red </item>
</style>

<TextView
    android:color="?attr/colorPrimary" />
```

Directly in the View

```
<Button
    ...
 android:background="@color/blue" />
```

Directly in the View

```
<Button
     ...
 android:background="@color/blue" />
```

In a style

```
<style name="MyButtonStyle">
   <item name="background">@color/blue </item>
</style>

<Button style="@style/MyButtonStyle" />
```

Directly in the View

```
<Button
     ...
 android:background="@color/blue" />
```

In a style

```
<style name="MyButtonStyle">
   <item name="background">@color/blue </item>
</style>

<Button style="@style/MyButtonStyle" />
```

Using Theme attributes

```
<Button
     ...
    android:background="?attr/colorPrimary"
/>
```

Directly in the View

```
<Button
     ...
 android:background="@color/blue" />
```

In a style

```
<style name="MyButtonStyle">
   <item name="background">@color/blue </item>
</style>

<Button style="@style/MyButtonStyle" />
```

Using Theme attributes

```
<Button
     ...
    android:background="?attr/colorPrimary"
/>
```

Using a MD Theme

```
<style name="Theme.MyApp"
 parent="Theme.MaterialComponents ... ">
    <item name="colorPrimary">@color/blue </item>
</style>


<Button />
```

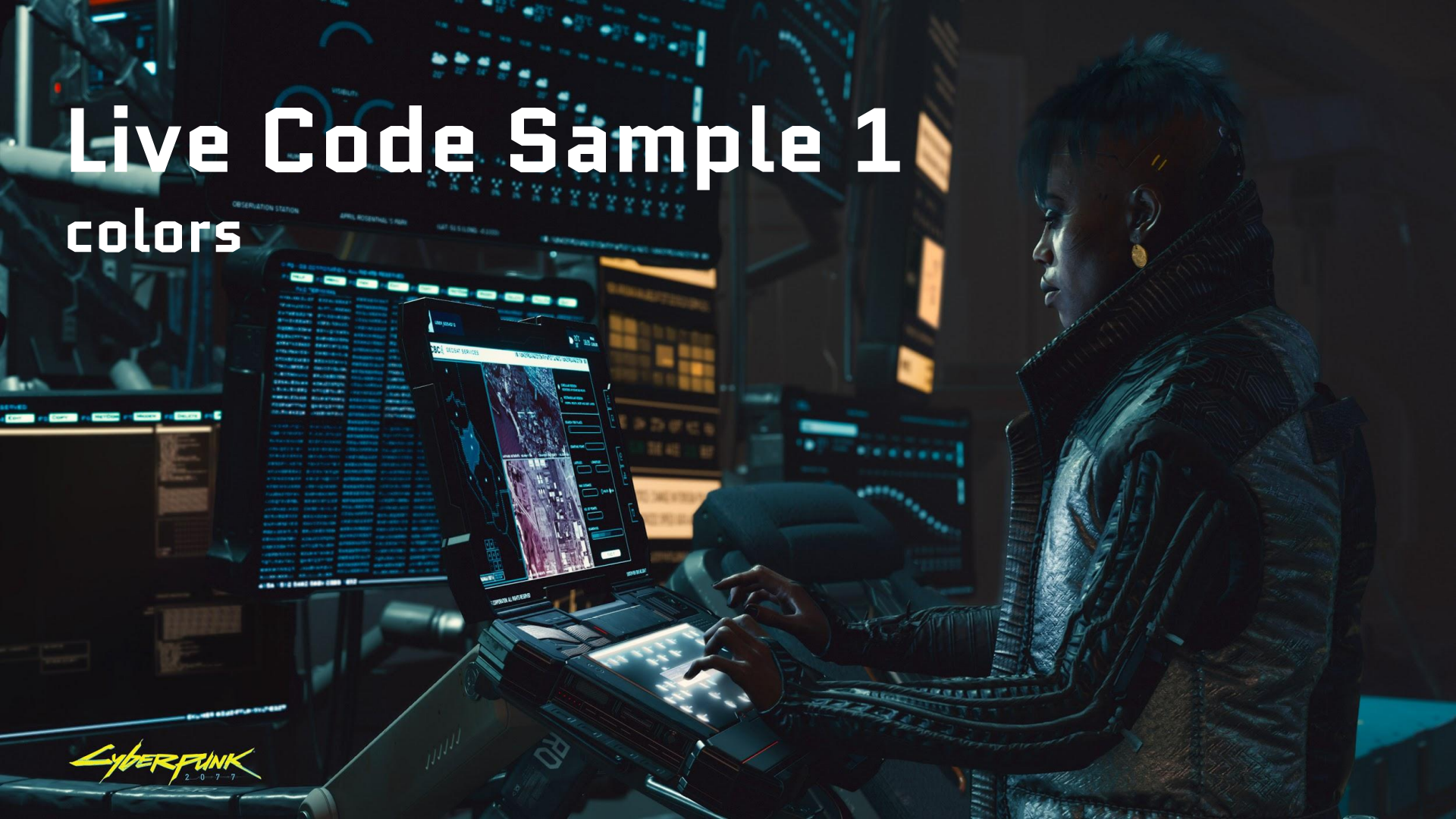
Implementation: COLOR

Focus on these:

```
colorPrimary
colorPrimaryVariant
colorOnPrimary

colorSecondary
colorSecondaryVariant
colorOnSecondary
```

Extra Customization:

```
android:colorBackground
colorOnBackground

colorSurface
colorOnSurface

colorError
colorOnError
```


Live Code Sample 1
colors
CYBERPUNK
2077

Implementation: Files and Naming

Files structure

`dimens.xml, colors.xml, strings.xml`

Implementation: Files and Naming

Files structure

`dimens.xml, colors.xml, strings.xml`

- `styles.xml` : Only Widgets
- `themes.xml` : Themes and Theme overlays
- `type.xml` : Text Appearances
- `shapes.xml` : Shape Appearances

Implementation: Files and Naming

Files structure

`dimens.xml, colors.xml, strings.xml`

- `styles.xml` : Only Widgets
- `themes.xml` : Themes and Theme overlays
- `type.xml` : Text Appearances
- `shapes.xml` : Shape Appearances

Naming Themes vs Naming Widgets

Themes: `Theme.YourAppsName.ThemeVariantName`
Widgets: `Widget.YourAppsName.WidgetType.WidgetVariantName`

TextAppearances: `TextAppearance.YourAppsName.Type.VariantName`
ShapeAppearances: `ShapeAppearances.YourAppsName.Type.VariantName`

Live Code Sample 2

naming

Material Design: **TYPOGRAPHY**

Scale Category	Typeface	Weight	Size	Case	Letter spacing
H1	Roboto	Light	96	Sentence	-1.5
H2	Roboto	Light	60	Sentence	-0.5
H3	Roboto	Regular	48	Sentence	0
H4	Roboto	Regular	34	Sentence	0.25
H5	Roboto	Regular	24	Sentence	0
H6	Roboto	Medium	20	Sentence	0.15
Subtitle 1	Roboto	Regular	16	Sentence	0.15
Subtitle 2	Roboto	Medium	14	Sentence	0.1
Body 1	Roboto	Regular	16	Sentence	0.5
Body 2	Roboto	Regular	14	Sentence	0.25
BUTTON	Roboto	Medium	14	All caps	1.25
Caption	Roboto	Regular	12	Sentence	0.4
OVERLINE	Roboto	Regular	10	All caps	1.5

Implementation: TextAppearance

1.- Add the font in the `font` folder. Create the `font.xml` file.

2.- Define the 13 textAppearances styles in `type.xml`

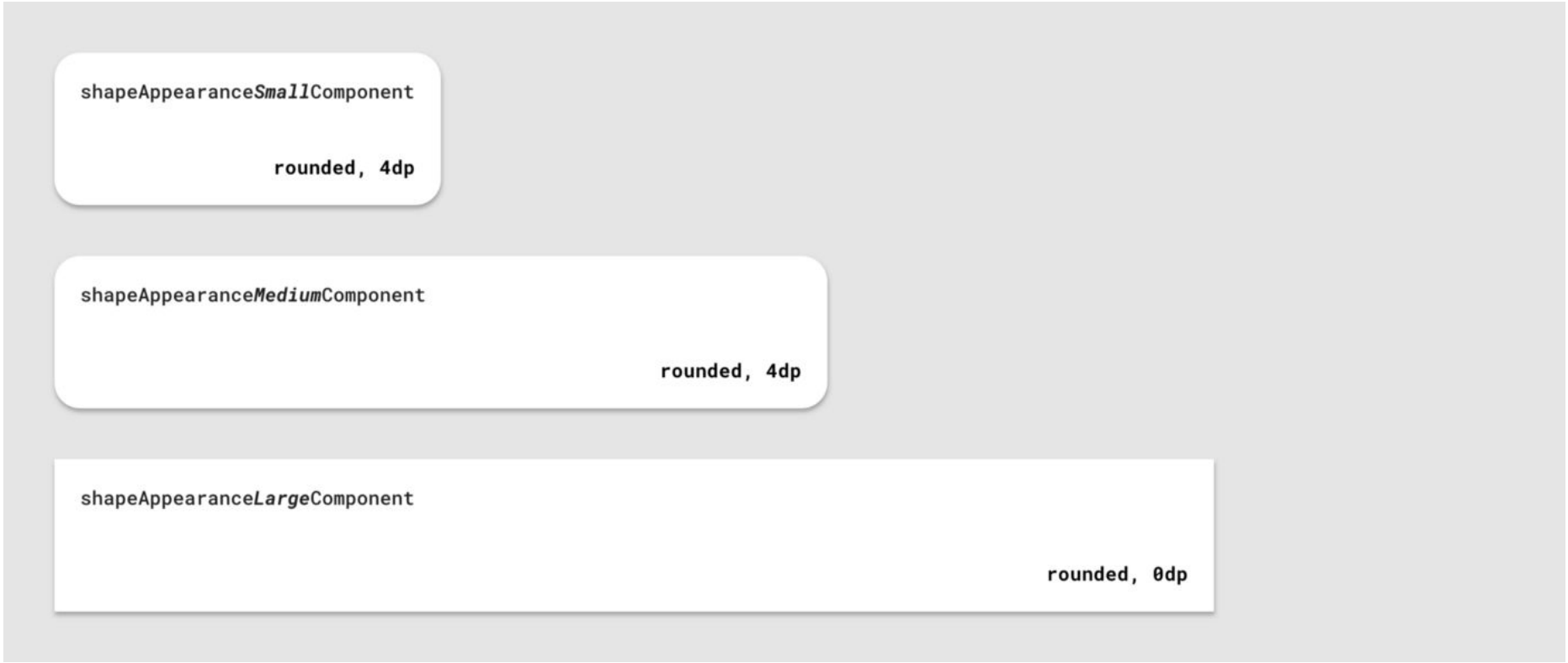
3.- Apply the styles to the 13 textAppearances **theme attributes** in the theme

```
textAppearanceBody1
textAppearanceBody2
textAppearanceButton
textAppearanceCaption
textAppearanceHeadline1
textAppearanceHeadline2
textAppearanceHeadline3
textAppearanceHeadline4
textAppearanceHeadline5
textAppearanceHeadline6
textAppearanceOverline
textAppearanceSubtitle1
textAppearanceSubtitle2
```

Live Code Sample 3

textAppearance

Material Design: **SHAPE**

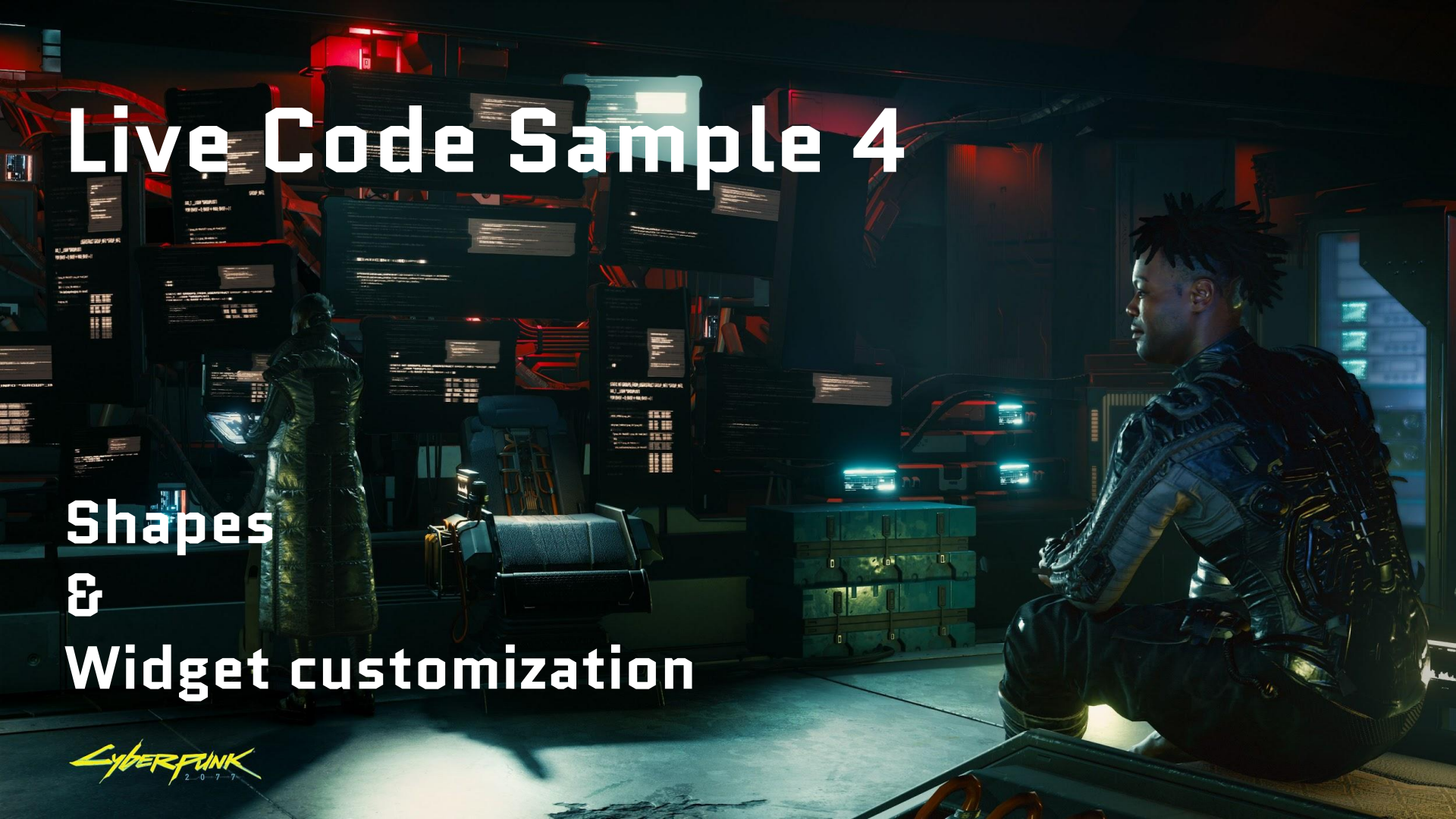


Implementation: Shape

1.-Define the **3** shapeAppearances styles in `shape.xml`

2.- Apply the styles to the 3 shapeAppearances **theme attributes** in the theme

```
shapeAppearanceSmallComponent
shapeAppearanceMediumComponent
shapeAppearanceLargeComponent
```


Live Code Sample 4
Shapes
&
Widget customization
CYBERPUNK
2077

Widgets Customization with Theme Attributes

Customise Widgets in the Theme

```
<item name="floatingActionButtonStyle">
  @style/Widget.Cyber.FloatingActionButton
</item>

<FloatingActionButton />
```

Directly in the View

```
<Button
     ...
 android:background="@color/blue" />
```

In a style

```
<style name="MyButtonStyle">
   <item name="background">@color/blue </item>
</style>

<Button style="@style/MyButtonStyle" />
```

Using Theme attributes

```
<Button
     ...
    android:background="?attr/colorPrimary"
/>
```

Using a MD Theme

```
<style name="Theme.MyApp"
 parent="Theme.MaterialComponents ... ">
    <item name="colorPrimary">@color/blue </item>
</style>


<Button />
```

Customize Widgets in the Theme

```
<item name="floatingActionButtonStyle">
  @style/Widget.Cyber.FloatingActionButton
</item>


<FloatingActionButton/>
```


Welcome to
Night City
ホテル
空きPOD有り
Synapse
Roasters
CYBERPUNK
2077

Dark Theme: Color Surface

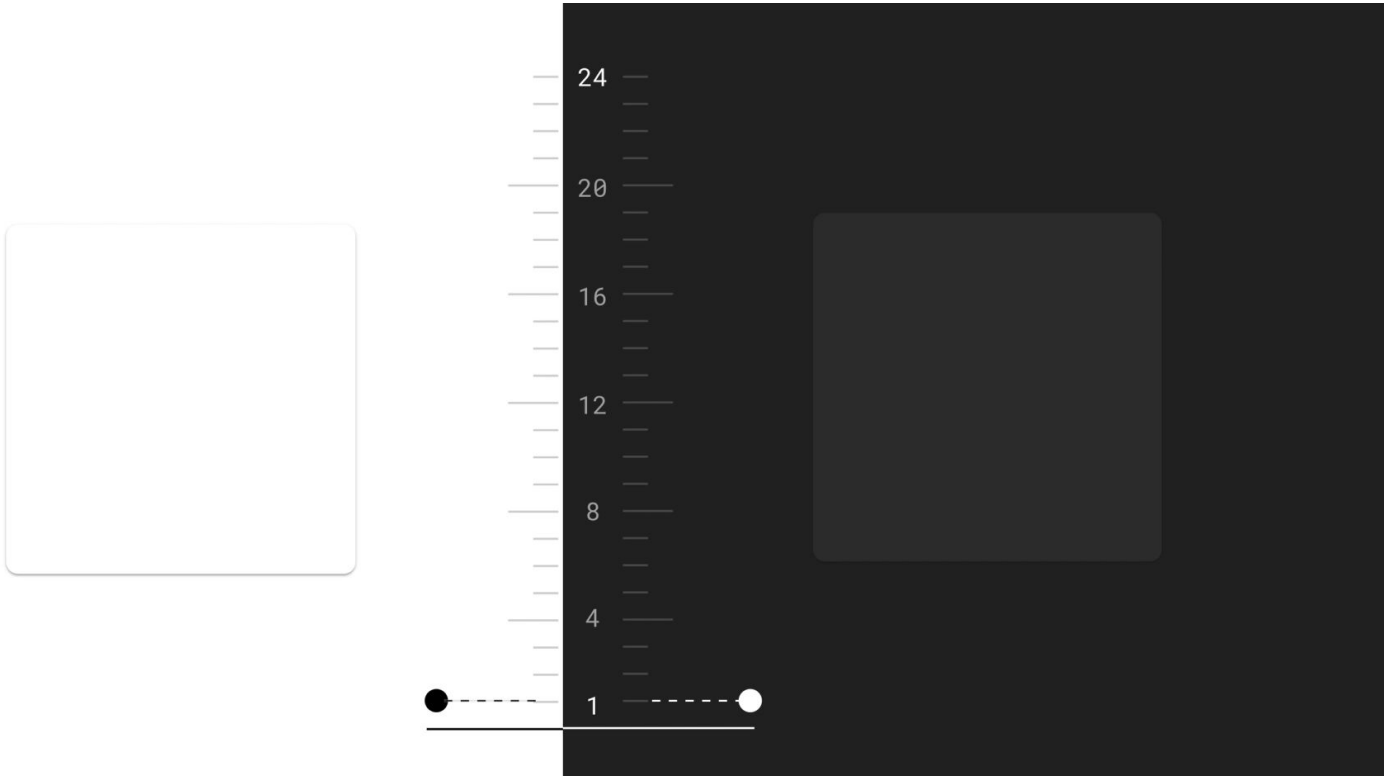
A dark theme uses dark grey, rather than black, as the primary surface color for components. Dark grey surfaces can express a wider range of color, elevation, and depth, because it's easier to see shadows on grey (instead of black).

Dark grey surfaces also reduce eye strain, as light text on a dark grey surface has less contrast than light text on a black surface.

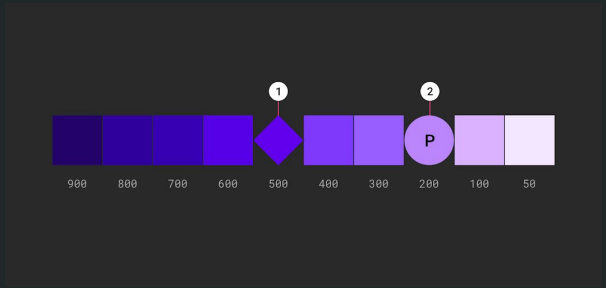
TL;DR: **The recommended dark theme surface color is #121212.**

Link

Dark Theme: Elevation



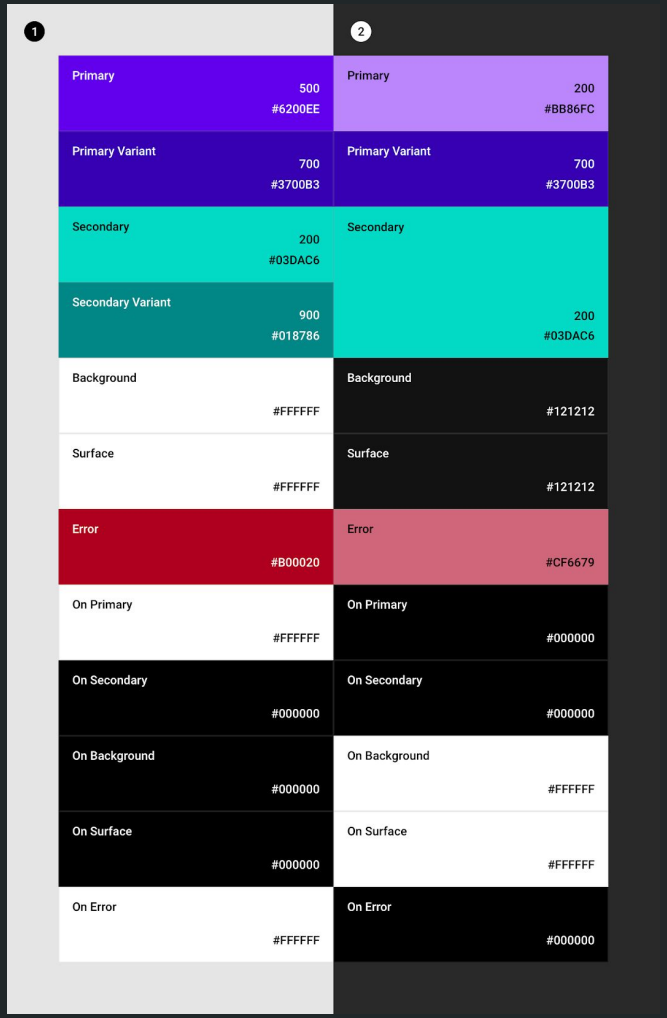
Dark Theme: Saturated Colors



Do

Don’t

Dark Theme: Colors

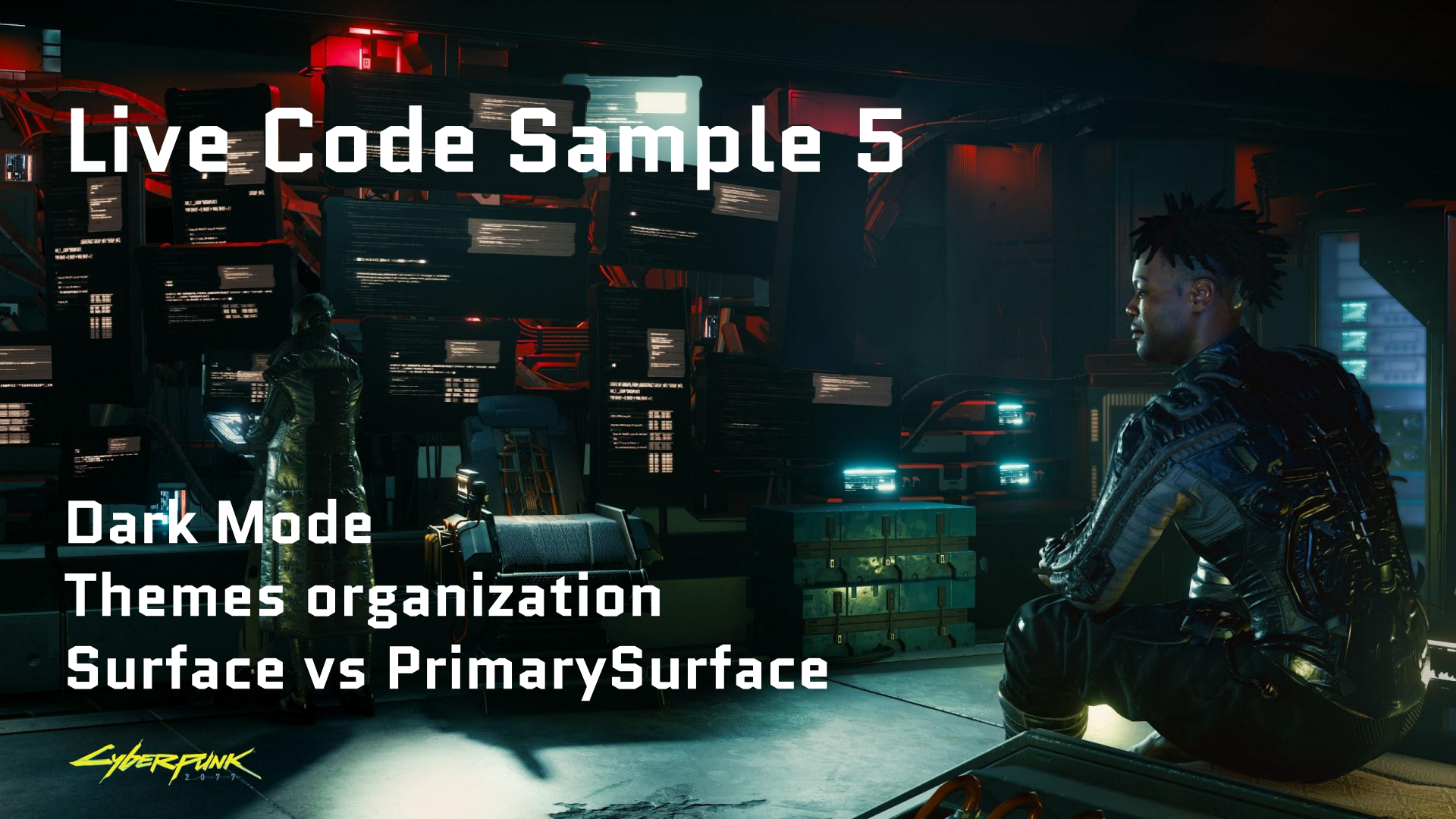


Dark Theme: Implementation

First: Inherit from Theme.MaterialComponents.**DayNight**.DarkActionBar

- MODE_NIGHT_NO
- MODE_NIGHT_YES
- MODE_NIGHT_AUTO
- MODE_NIGHT_AUTO_BATTERY

```
val isDark = AppCompatDelegate.getDefaultNightMode() == AppCompatDelegate.MODE_NIGHT_YES

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_YES)
```


Live Code Sample 5
Dark Mode
Themes organization
Surface vs PrimarySurface
CYBERPUNK
2077

EXTRAS

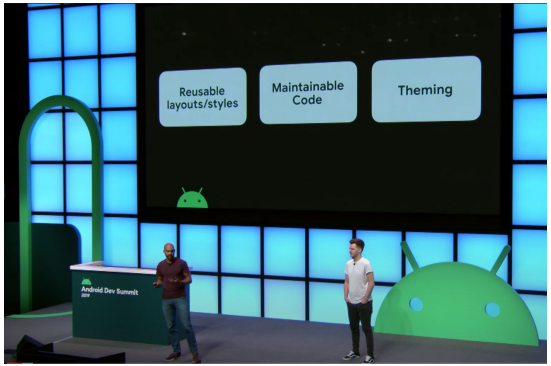

Live Code Sample 6
Create new Theme Attributes
&
Theme Overlays
CYBERPUNK
2077


Kitty

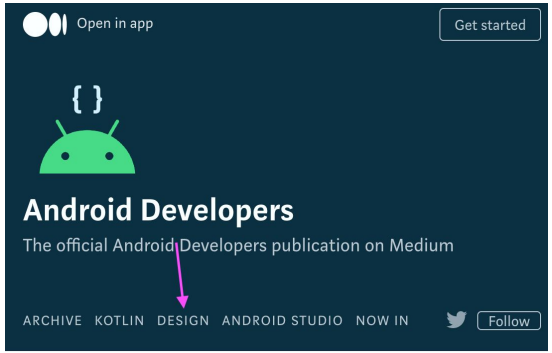
Docs and Tools

Links: Official

1.- [Developing themes with style (Android Dev Summit '19)]

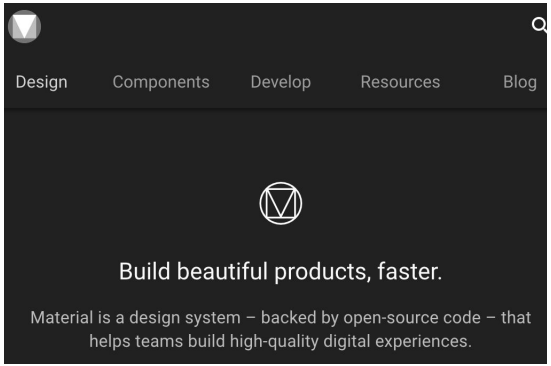


2.- [Android Developers Medium Page: Design Tag]



https://medium.com/androiddevelopers/tagged/design

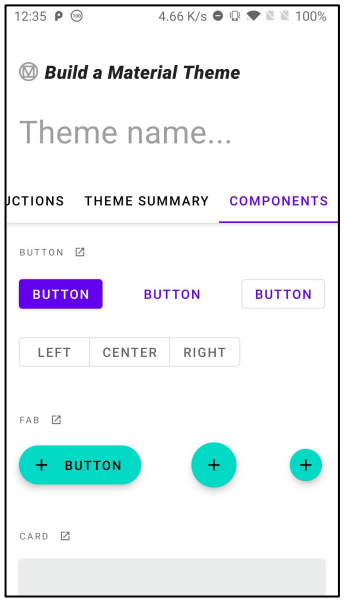
3.- [Official Material Design Web: Docs and Blog.]



https://material.io/

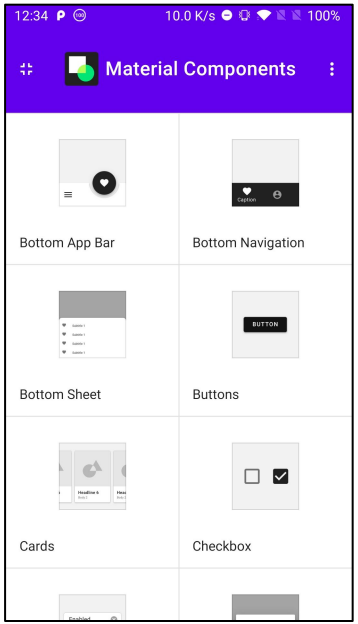
Links: Projects & Tools

1. Build Material Theme



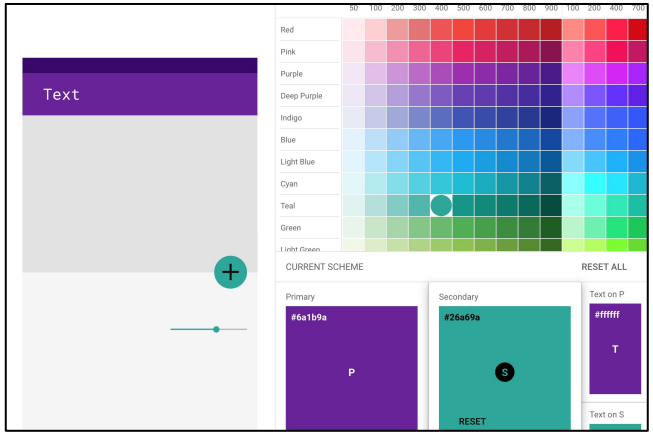
https://github.com/material-components/material-components-android/tree/master/material-theme-builder

2. Material Components



https://github.com/material-components/material-components-android/tree/master/material-theme-builder

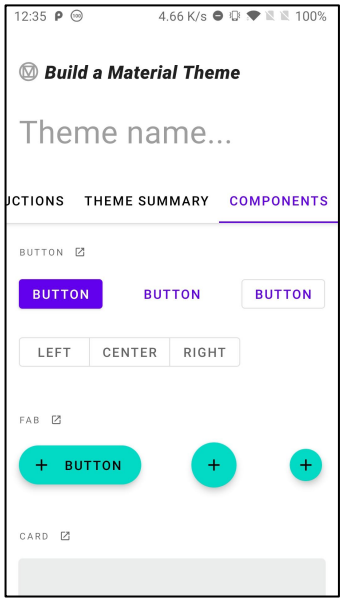
3. Color Tool



https://material.io/resources/color

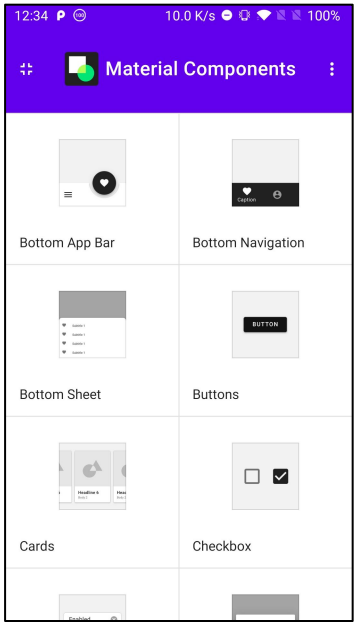
Links: Projects & Tools

1. Build Material Theme



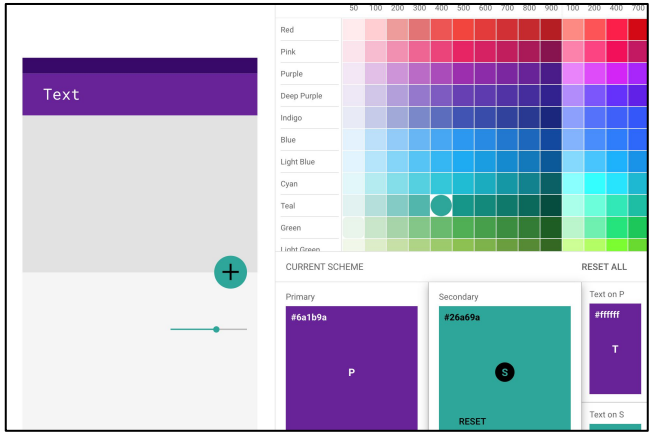
https://github.com/material-components/material-components-android/tree/master/material-theme-builder

2. Material Components



https://github.com/material-components/material-components-android/tree/master/material-theme-builder

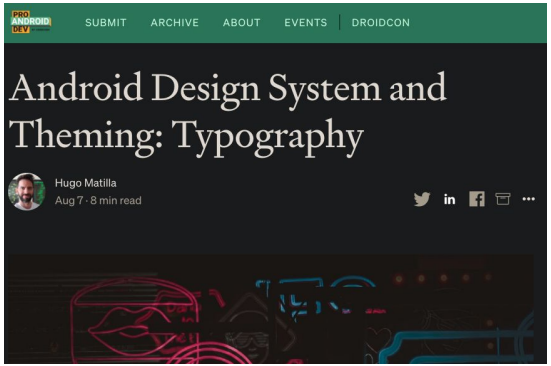
3. Color Tool



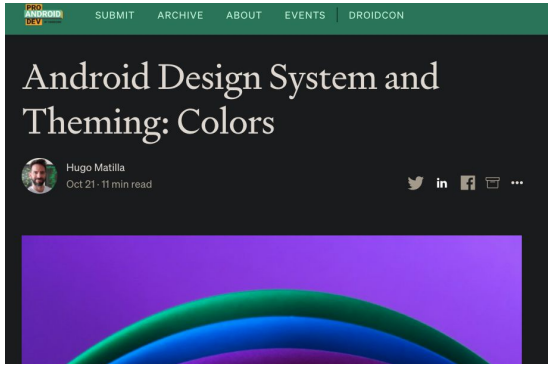
https://material.io/resources/color

Links: Posts

1.- Android Design System and Theming: Typography



2.- Android Design System and Theming: Colors

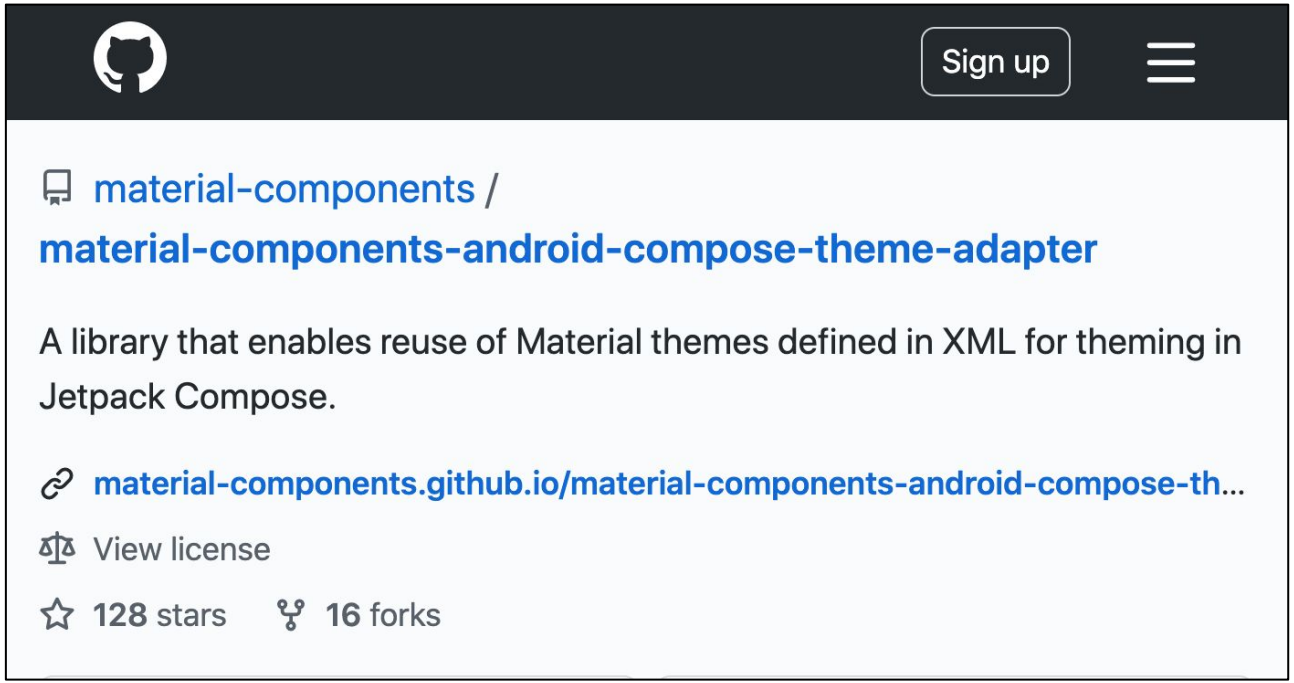


3.- hugomatilla.com

And... Jetpack Compose?

And... Jetpack Compose?

MDC-Android Compose Theme Adapter



Thank you

Questions