

# Material Components

Setting up an Android theme



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Support Library -> **AndroidX**

Design Support Library -> **Material Components**  
(Material Design team, GitHub)

**1.0.0** = Namespace migration of 28.0.0 (mostly)

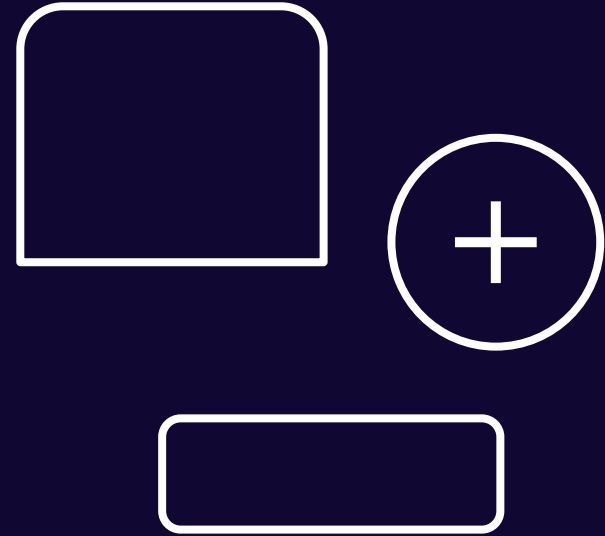
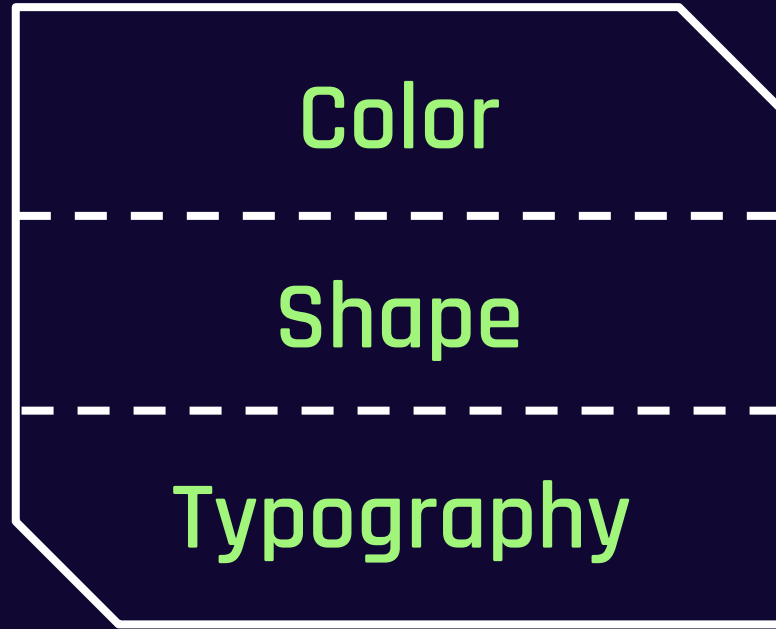
**1.1.0 (currently alpha 5)** = New features!

“

*It's far more than just  
a namespace update.*

- Me

# Subsystems



# Components

The background is a deep purple gradient. In the upper portion, there is a complex network of thin, glowing purple lines that connect various small, bright purple dots, creating a web-like or molecular structure. The lines and dots are more concentrated towards the top and fade out towards the bottom.

# Material Theming

Sept 4 TONIGHT

Select Time

Select Location

RETURN Sept 25, 2018

JFK SEL

John F. Kennedy Intl Taoyuan Intl

Sunny Day Air \$448

2018 JAN 2019 FEB 2019

Checking \$ 2,215.13

Home Savings \$ 8,676.88

Car Savings \$ 987.48

Sept 9 - Crafts

Explore Restaurants

Nap 1286

Dall 2241

Cór 876

Heads up, you've used Shopping budget for

RedPay Credit Due Jan 29

Rent Due Feb 9

TabFine Credit Due Feb 22

ABC Loans Due Feb 29

Heads up, you've used 90% of your budget for this month

SP 1,967.84

Nasdaq 6,211.46

Difficulty All

Technology 118

Fashion 92

OWL

An Introduction to the Landscape 01 4:14

WORLD As Stocks Stagnate, Many Look To Currency 2M

The Fortnightly

LOCAL

James Klein Department of Education, New York City

James Klein (born 1962) is the Chair of the New York City Department of Education. He served as the Deputy Commissioner of Education in New York City.

Department of Education, New York City

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Department of Education, New York City

healthy dinner.

Calories	Protein	Fat
465g	27g	12g

Gluten-free Egg Free

BASIL

INGREDIENTS DIRECTIONS

Basil 6 tbsps

Flow Shirt Blouse

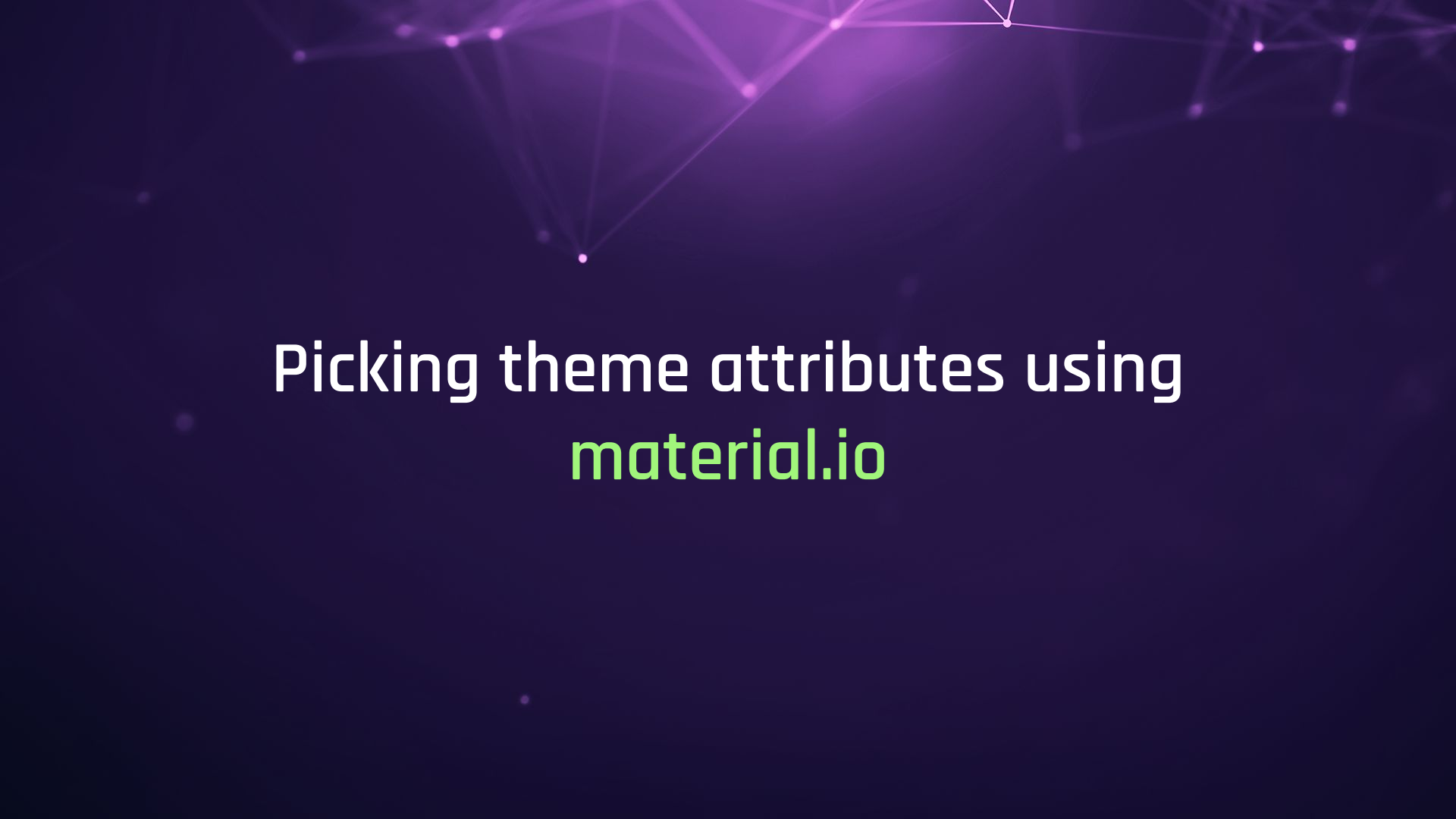
Pinstriped cornflower blue cotton blouse takes you on a walk to the park or just down the hall.

MORE DETAILS

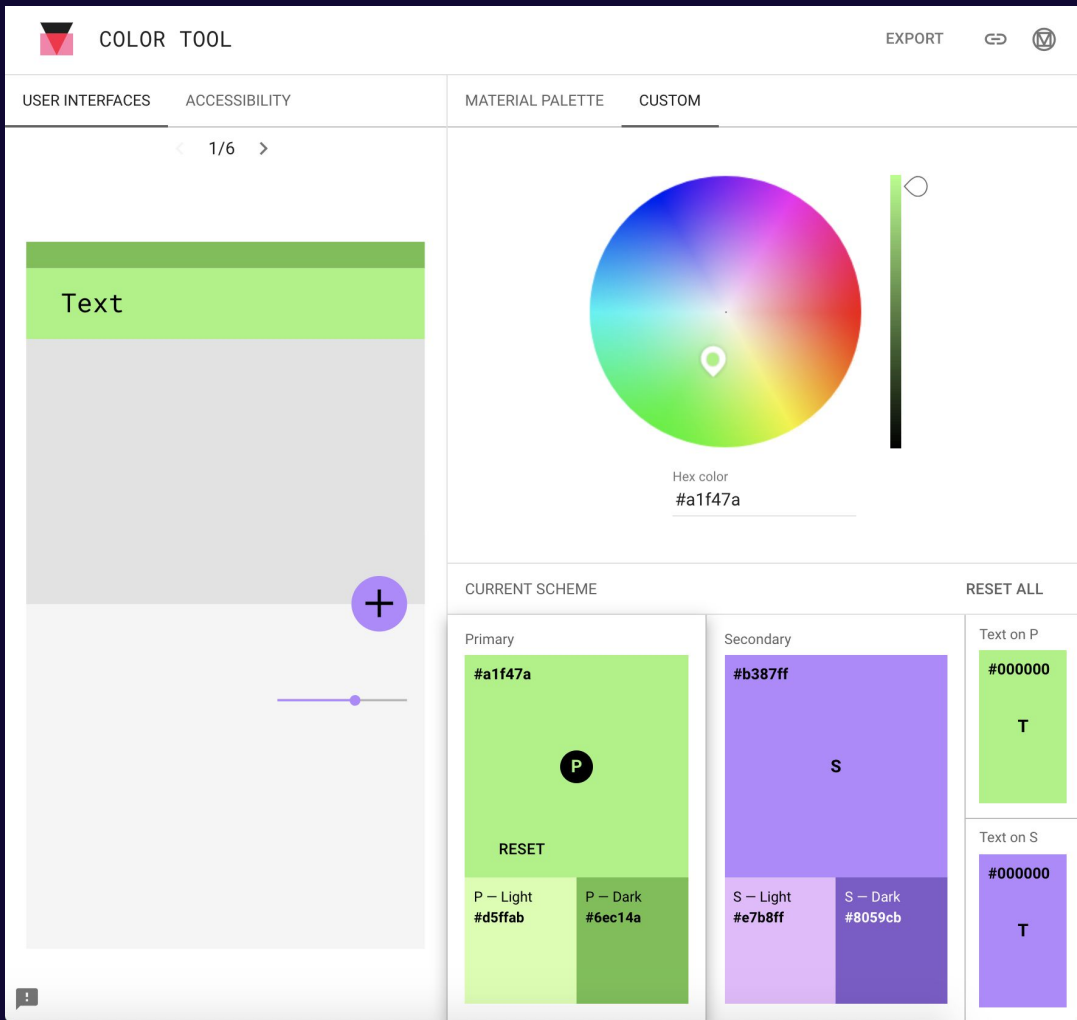
SHRINE

ADD TO CART

SELECT size



Picking theme attributes using  
**material.io**

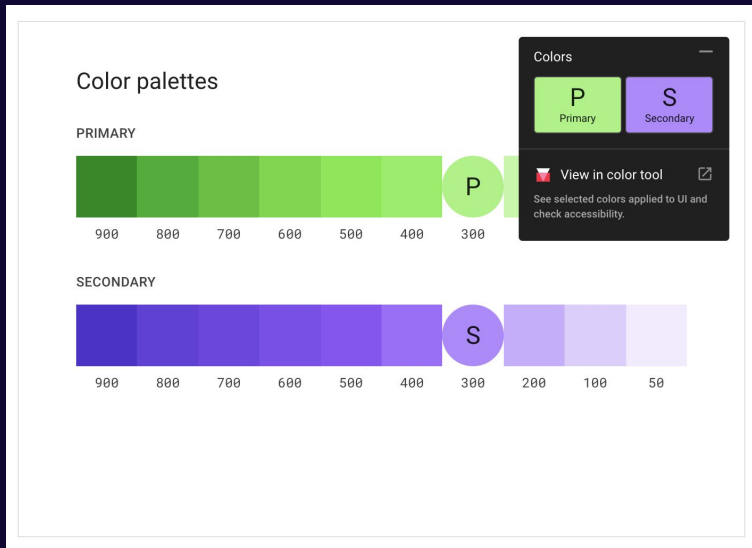


Color tool:

<https://material.io/tools/color>

Color palette generator:

<https://material.io/design/color/the-color-system.html#tools-for-picking-colors>

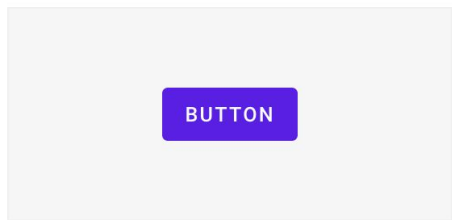




## Shape customization tool:

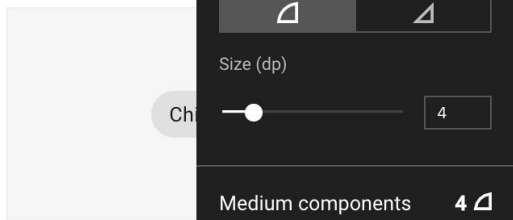
<https://material.io/design/shape/about-shape.html#shape-customization-tool>

### 4 Small components



 Button

4 



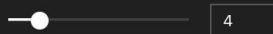
 Chip


#### Shape scheme


##### Small components

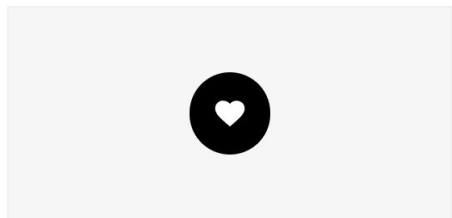


Size (dp)



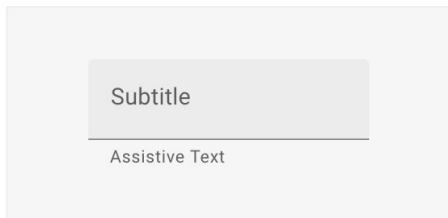
Medium components 4 

Large components 24 



 FAB

50% 



 Text Field

4 

### 4 Medium components



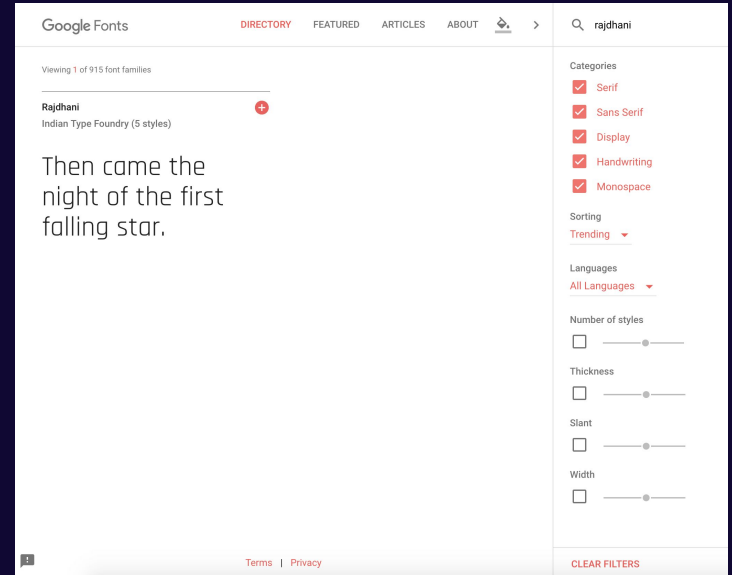
Scale Category	Typeface	Font	Size	Case	Letter spacing
H1	Roboto	Light	96	Sentence	-1.5
H2	Roboto	Light	60	Sentence	-0.5
H3	Roboto	Regular	48	Sentence	0
H4	Roboto	Regular	34	Sentence	0.25
H5	Roboto	Regular	24	Sentence	0
H6	Roboto	Medium	20	Sentence	0.15
Subtitle 1	Roboto	Regular	16	Sentence	0.15
Subtitle 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

## Material type system:

<https://material.io/design/typography/the-type-system.html>

## Google Fonts:

<https://fonts.google.com>



The background is a dark purple gradient with a faint, glowing network of white lines and dots, resembling a molecular or digital structure, primarily concentrated in the upper half of the image.

Bringing it back to  
**android**

# Adding the dependency

module/build.gradle

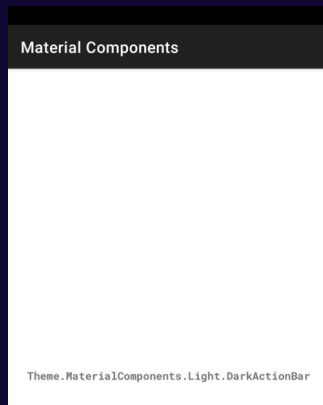
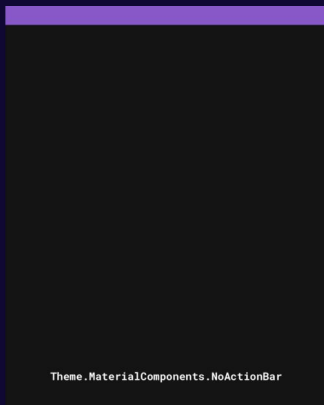
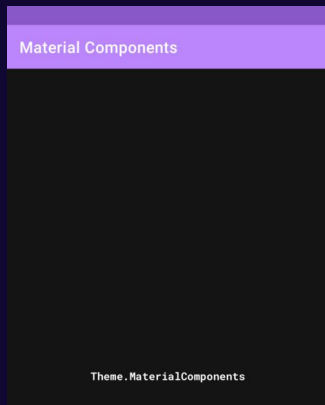
```
implementation "com.google.android.material:material:$material_version"
```

```
ext.material_version = '1.1.0-alpha05'
```

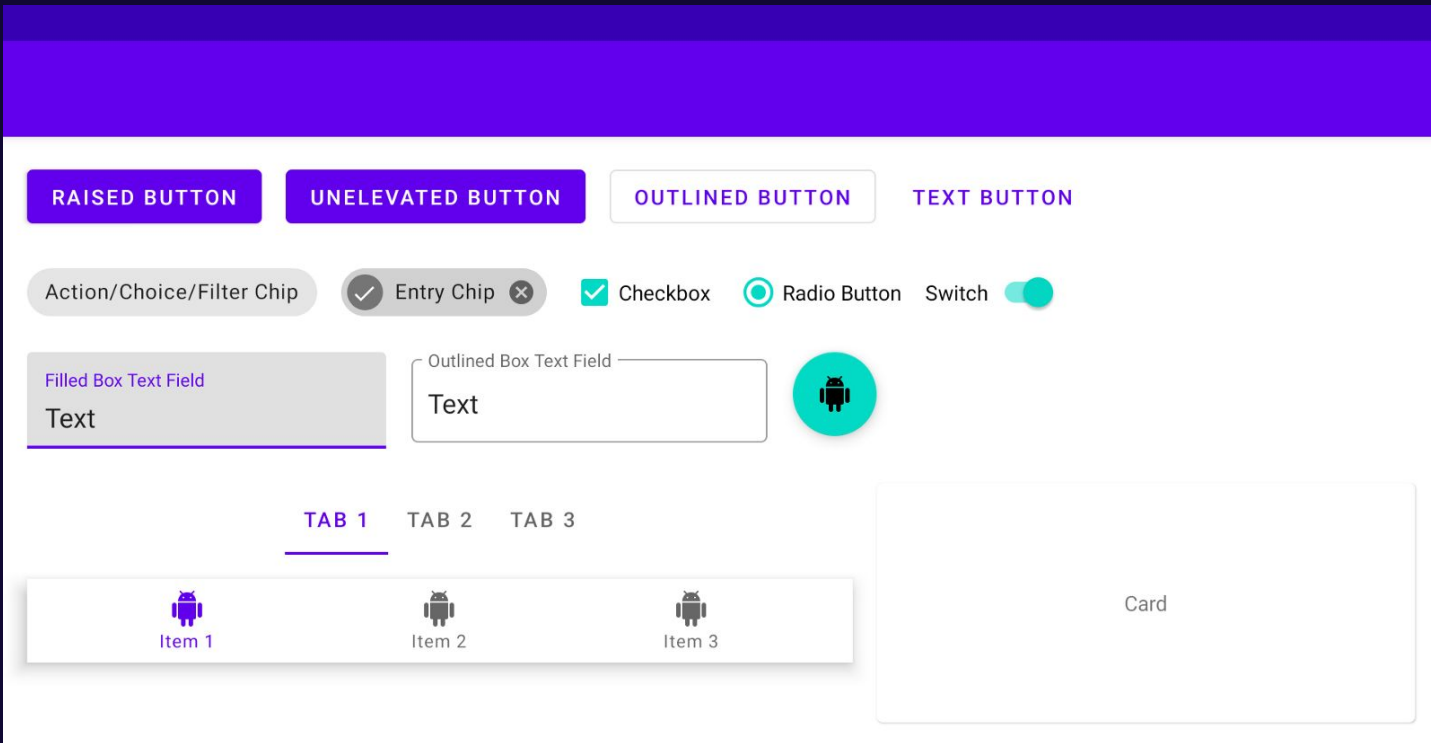
# Choose a base theme

res/styles.xml

```
<style name="AppTheme" parent="Theme.MaterialComponents.*">  
    <!-- Add attributes here -->  
</style>
```



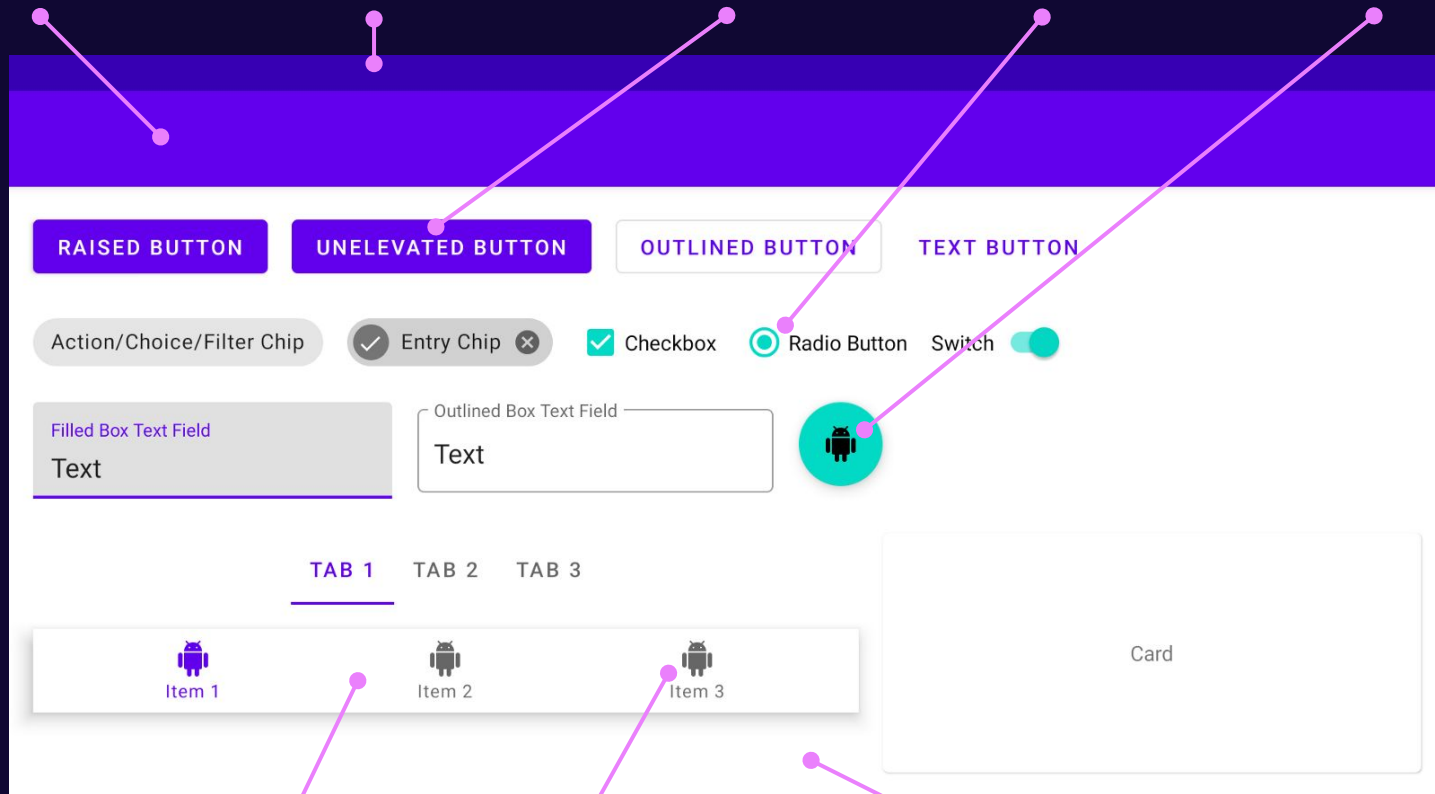
# A simple playground screen





Color

colorPrimary colorPrimaryVariant colorOnPrimary colorSecondary colorOnSecondary



colorSurface colorOnSurface android:colorBackground

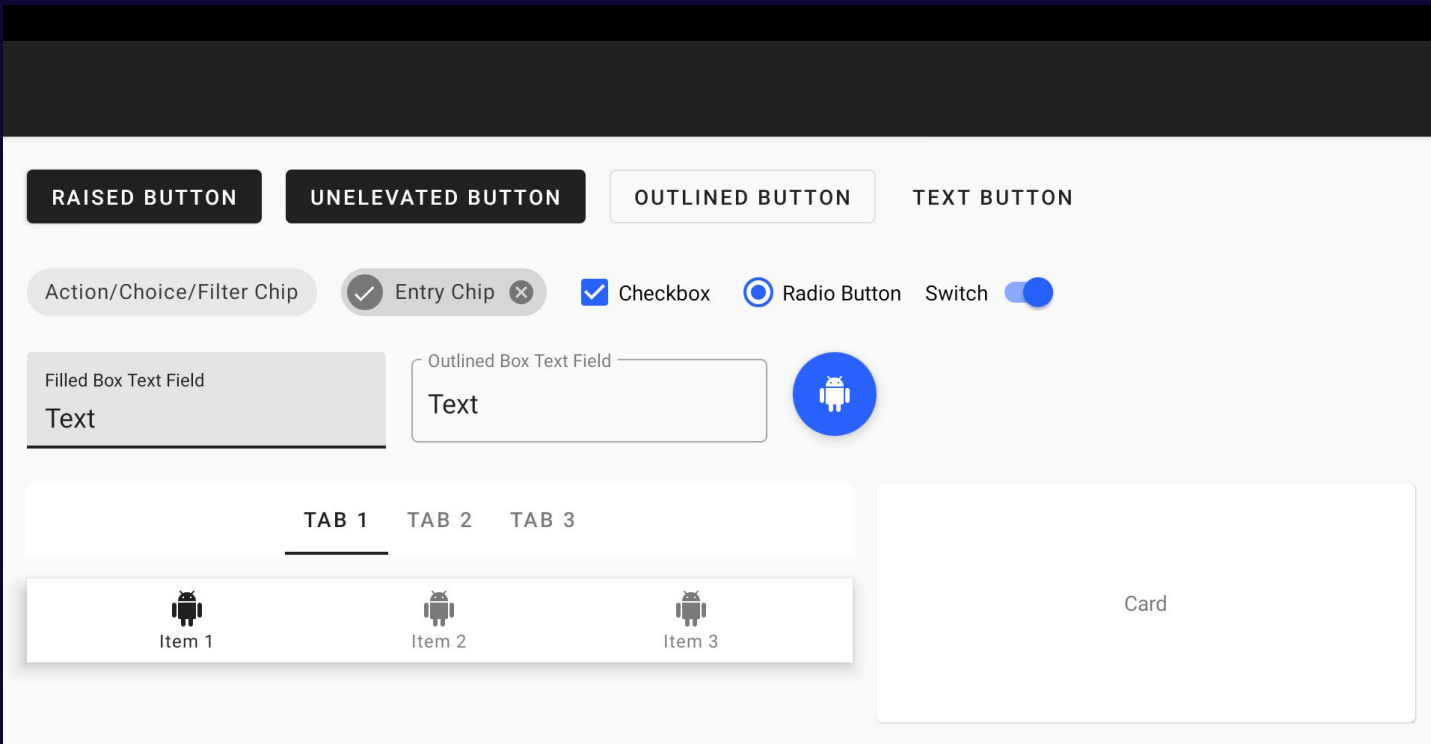


# Adding color attributes

res/styles.xml

```
<style name="AppTheme" parent="Theme.MaterialComponents.*">
    <item name="colorPrimary">#212121</item>
    <item name="colorPrimaryVariant">#000000</item>
    <item name="colorOnPrimary">#FFFFFF</item>
    <item name="colorSecondary">#2962FF</item>
    <item name="colorSecondaryVariant">#0039CB</item>
    <item name="colorOnSecondary">#FFFFFF</item>
    <item name="colorError">#F44336</item>
    <item name="colorOnError">#FFFFFF</item>
    <item name="colorSurface">#FFFFFF</item>
    <item name="colorOnSurface">#212121</item>
    <item name="android:colorBackground">@color/background</item>
    <item name="colorOnBackground">#212121</item>
</style>
<color name="background">#FAFAFA</color>
```

# Playground screen with updated colors



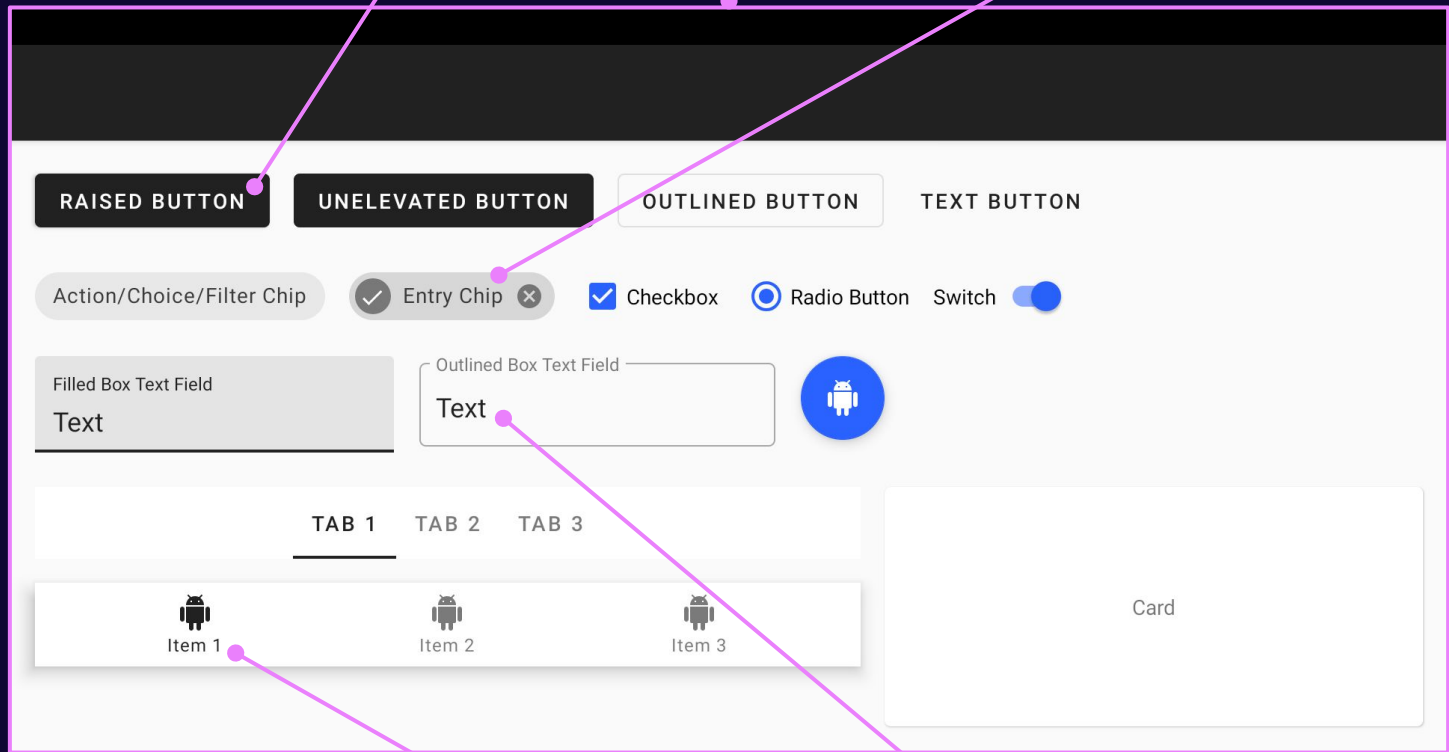


# Typography

textAppearanceButton

fontFamily

textAppearanceBody2



textAppearanceCaption

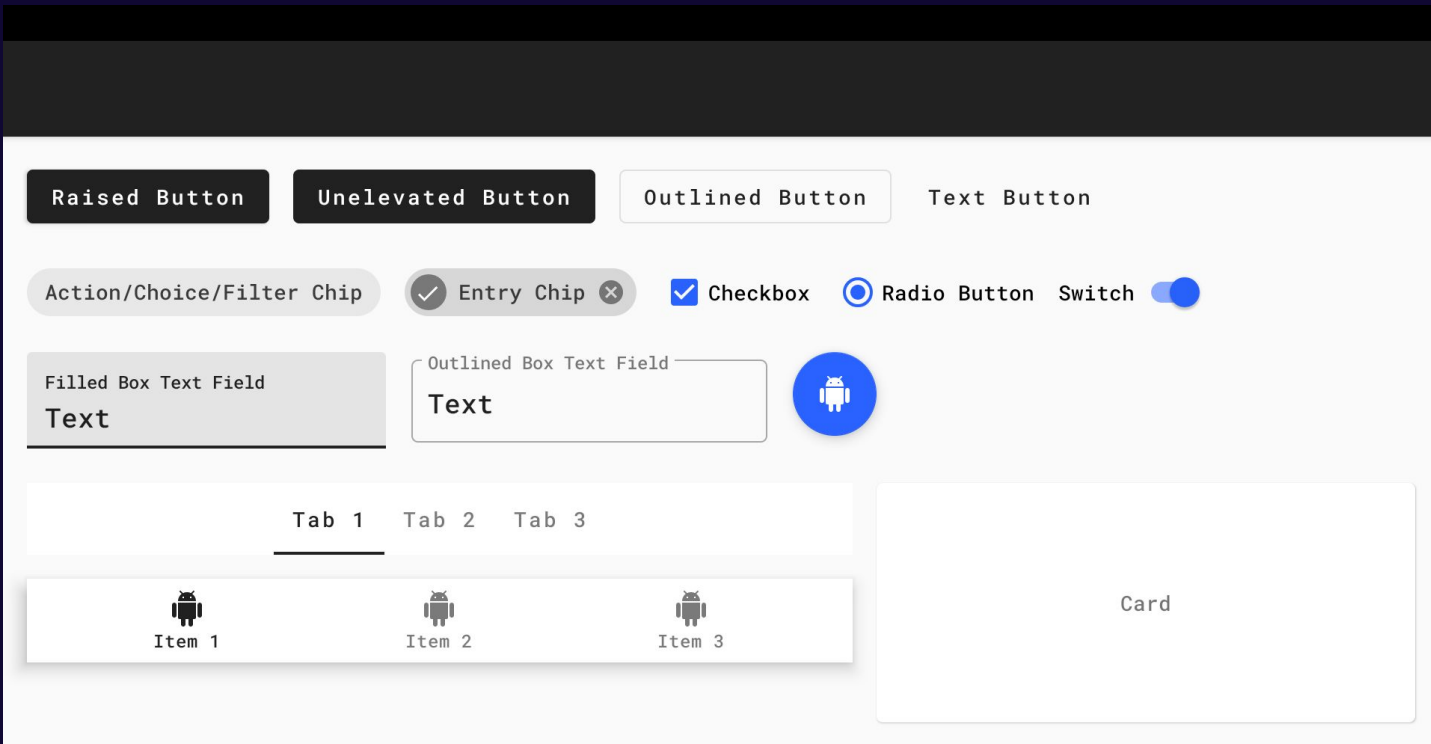
textAppearanceSubtitle1

# Adding type attributes

res/styles.xml

```
<style name="AppTheme" parent="Theme.MaterialComponents.*">
    ...
    <item name="fontFamily">@font/roboto_mono</item>
    <item name="android:fontFamily">@font/roboto_mono</item>
</style>
```

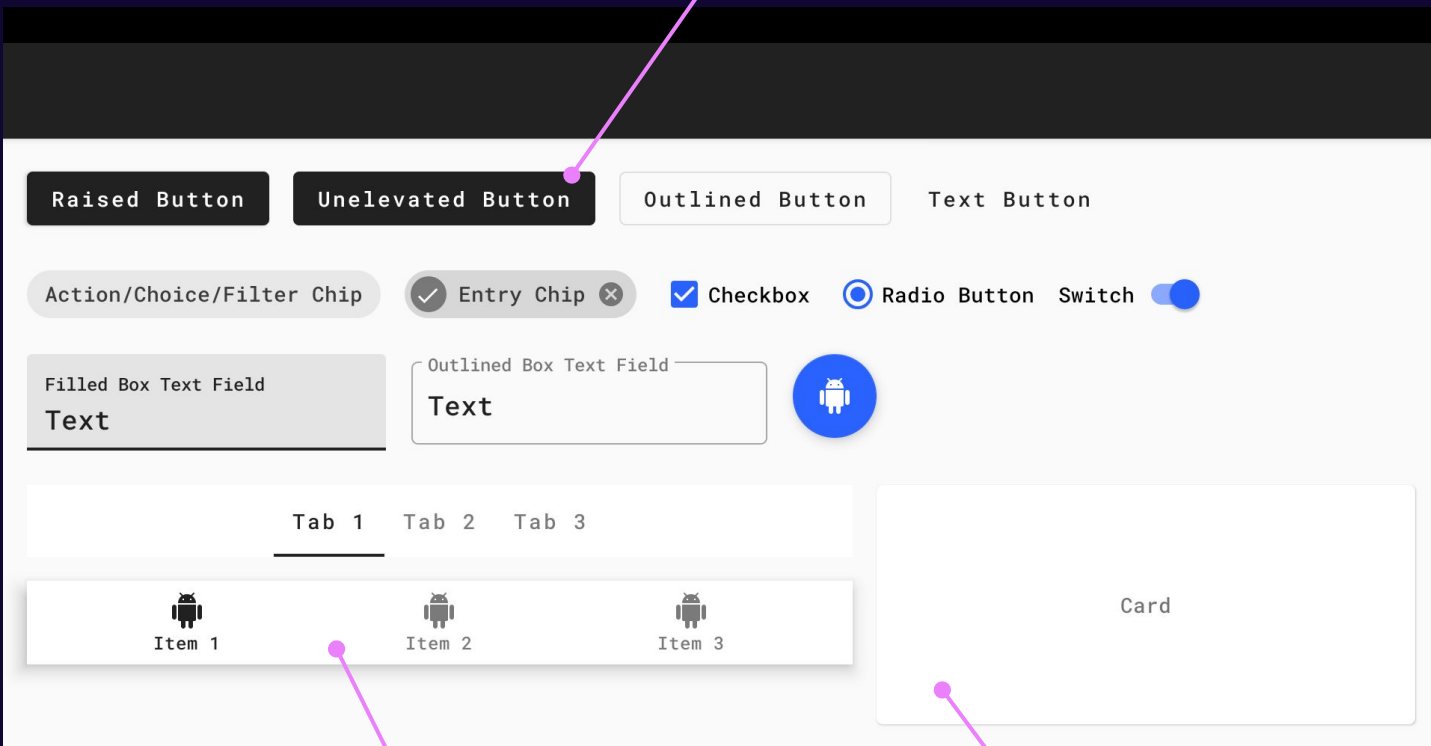
# Playground screen with updated type





Shape

shapeAppearanceSmallComponent



shapeAppearanceLargeComponent

shapeAppearanceMediumComponent



# Adding shape attributes

res/styles.xml

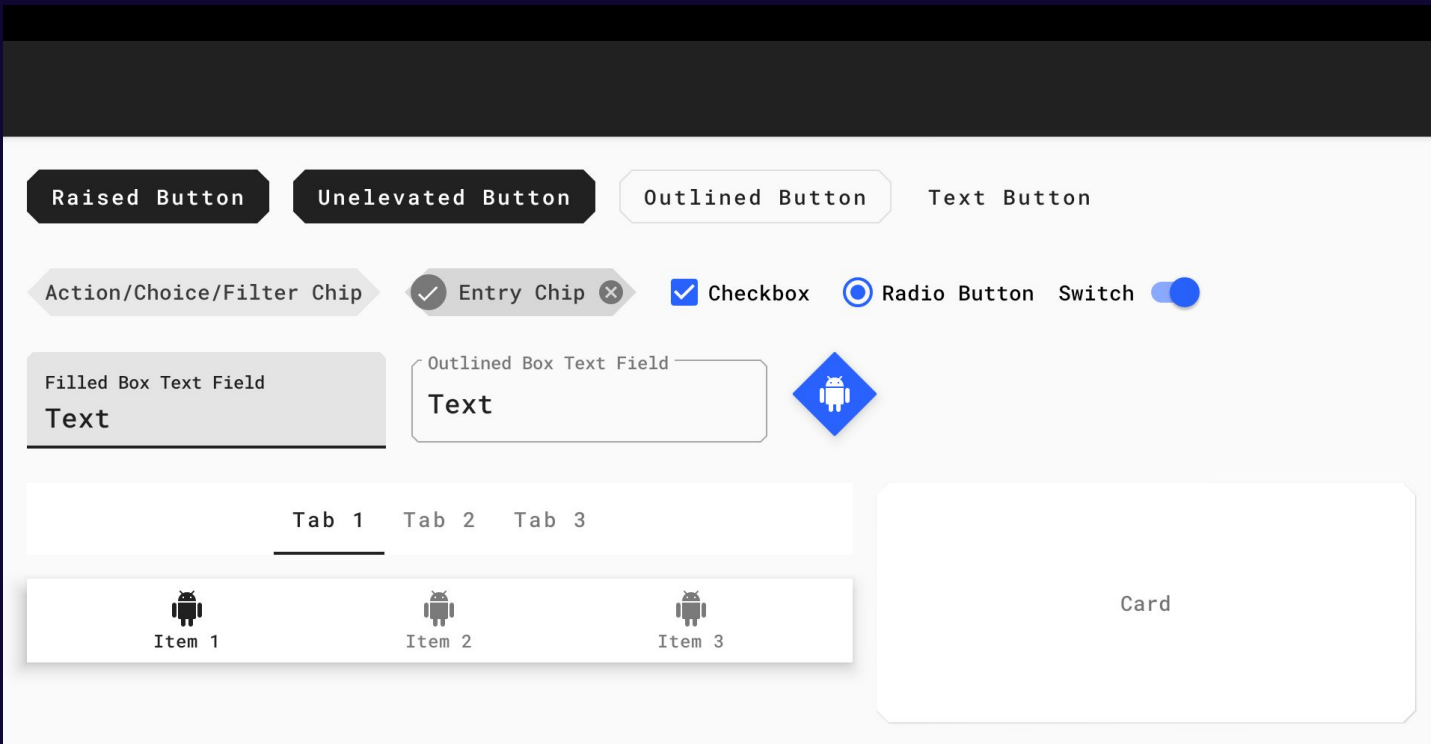
```
<style name="AppTheme" parent="Theme.MaterialComponents.*">
    ...
    <item name="shapeAppearanceSmallComponent">@style/AppShapeAppearance.SmallComponent</item>
    <item name="shapeAppearanceMediumComponent">@style/AppShapeAppearance.MediumComponent</item>
    <item name="shapeAppearanceLargeComponent">@style/AppShapeAppearance.LargeComponent</item>
</style>

<style name="AppShapeAppearance.SmallComponent" parent="ShapeAppearance.MaterialComponents.SmallComponent">
    <item name="cornerFamily">cut</item>
    <item name="cornerSize">8dp</item>
</style>

<style name="AppShapeAppearance.MediumComponent" parent="ShapeAppearance.MaterialComponents.MediumComponent">
    <item name="cornerFamily">cut</item>
    <item name="cornerSize">8dp</item>
</style>

<style name="AppShapeAppearance.LargeComponent" parent="ShapeAppearance.MaterialComponents.LargeComponent">
    <item name="cornerFamily">cut</item>
    <item name="cornerSize">8dp</item>
</style>
```

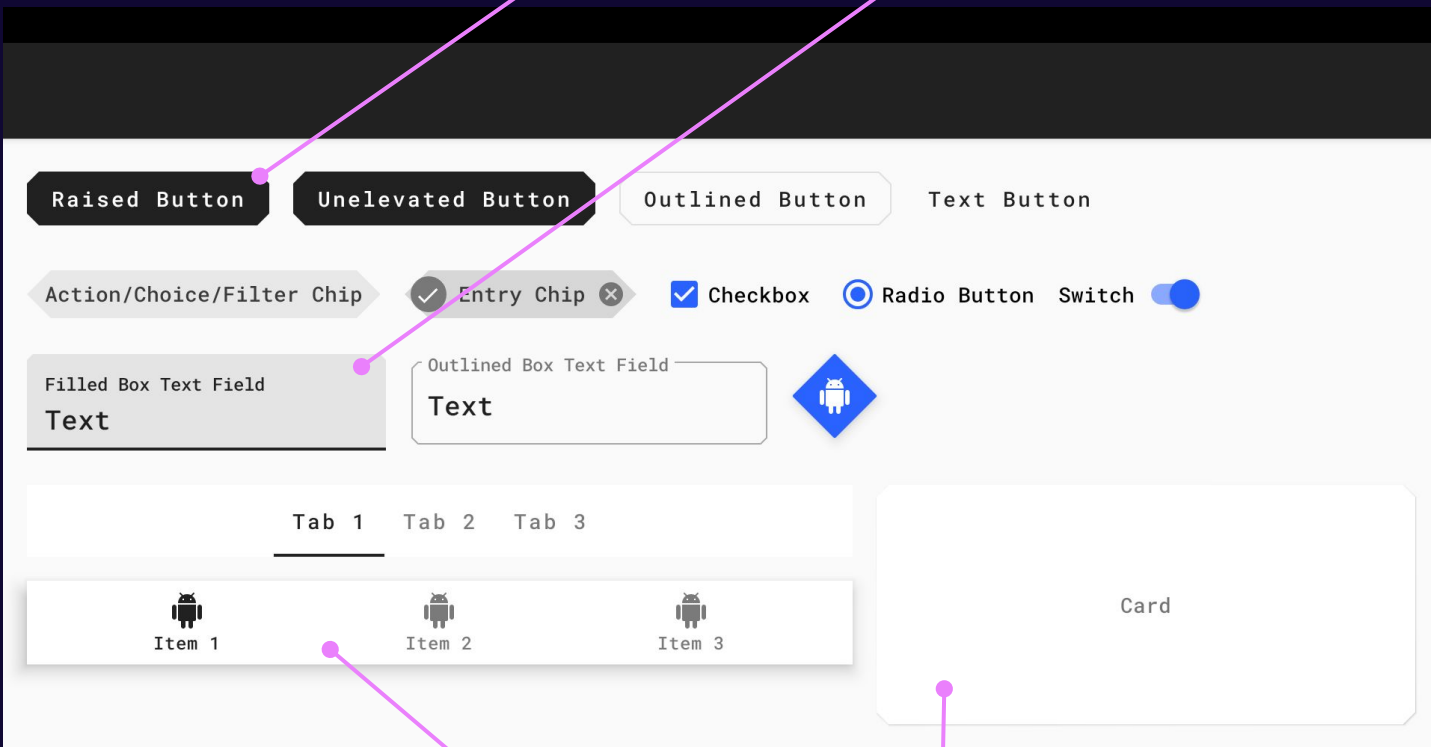
# Playground screen with updated shape





# Widgets

materialButtonStyle    textInputStyle



bottomNavigationBarStyle    materialCardViewStyle

# Adding widget style attributes

res/styles.xml

```
<style name="AppTheme" parent="Theme.MaterialComponents.*">
    ...
    <item name="materialButtonStyle">@style/AppButton</item>
    <item name="textInputStyle">@style/AppTextField</item>
    <item name="materialCardViewStyle">@style/AppCard</item>
    <item name="bottomNavigationStyle">@style/AppBottomNavigation</item>
</style>

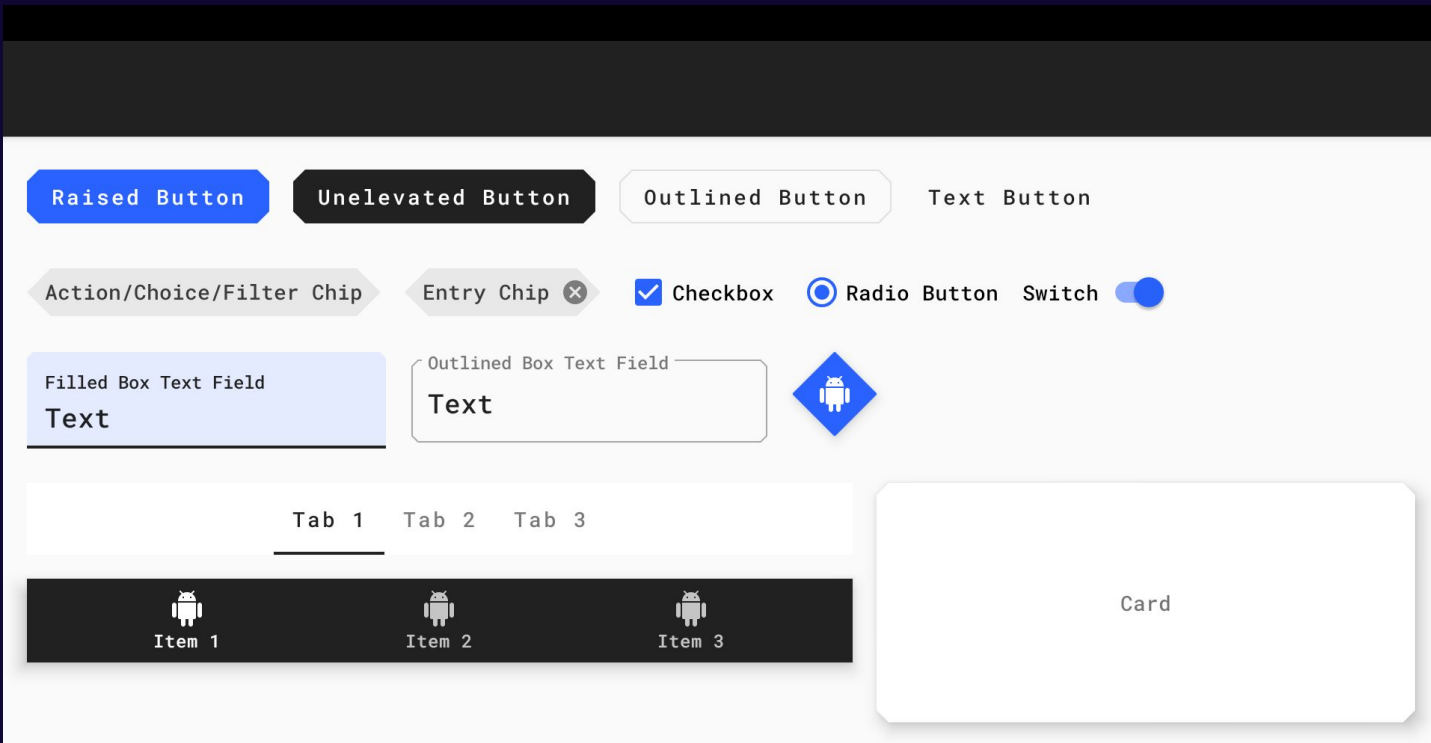
<style name="AppButton" parent="Widget.MaterialComponents.Button">
    <item name="backgroundTint">?attr/colorSecondary</item>
</style>

<style name="AppTextField" parent="Widget.MaterialComponents.TextInputLayout.FilledBox">
    <item name="boxBackgroundColor">@color/text_field_background</item>
</style>

<style name="AppCard" parent="Widget.MaterialComponents.CardView">
    <item name="cardElevation">8dp</item>
</style>

<style name="AppBottomNavigation" parent="Widget.MaterialComponents.BottomNavigation.Colored" />
```

# Playground screen with updated widget styles





**More resources**

“Setting up a Material Components theme for Android” (Medium)

<https://medium.com/over-engineering/setting-up-a-material-components-theme-for-android-fbf7774da739>

“The Components of Material Design” (Android Dev Summit 2018)

<https://www.youtube.com/watch?v=DPH3F0v1jB0>

“Designing and building a real app using Material tools & components” (Droidcon Kenya 2018)

<https://www.youtube.com/watch?v=hjATvyrA0CQ>



“

Any questions?