

GUEST LECTURE

Material Design 3

CHRISTOF SCHWARZENBERGER

Google Material Design 3

<https://m3.material.io/>

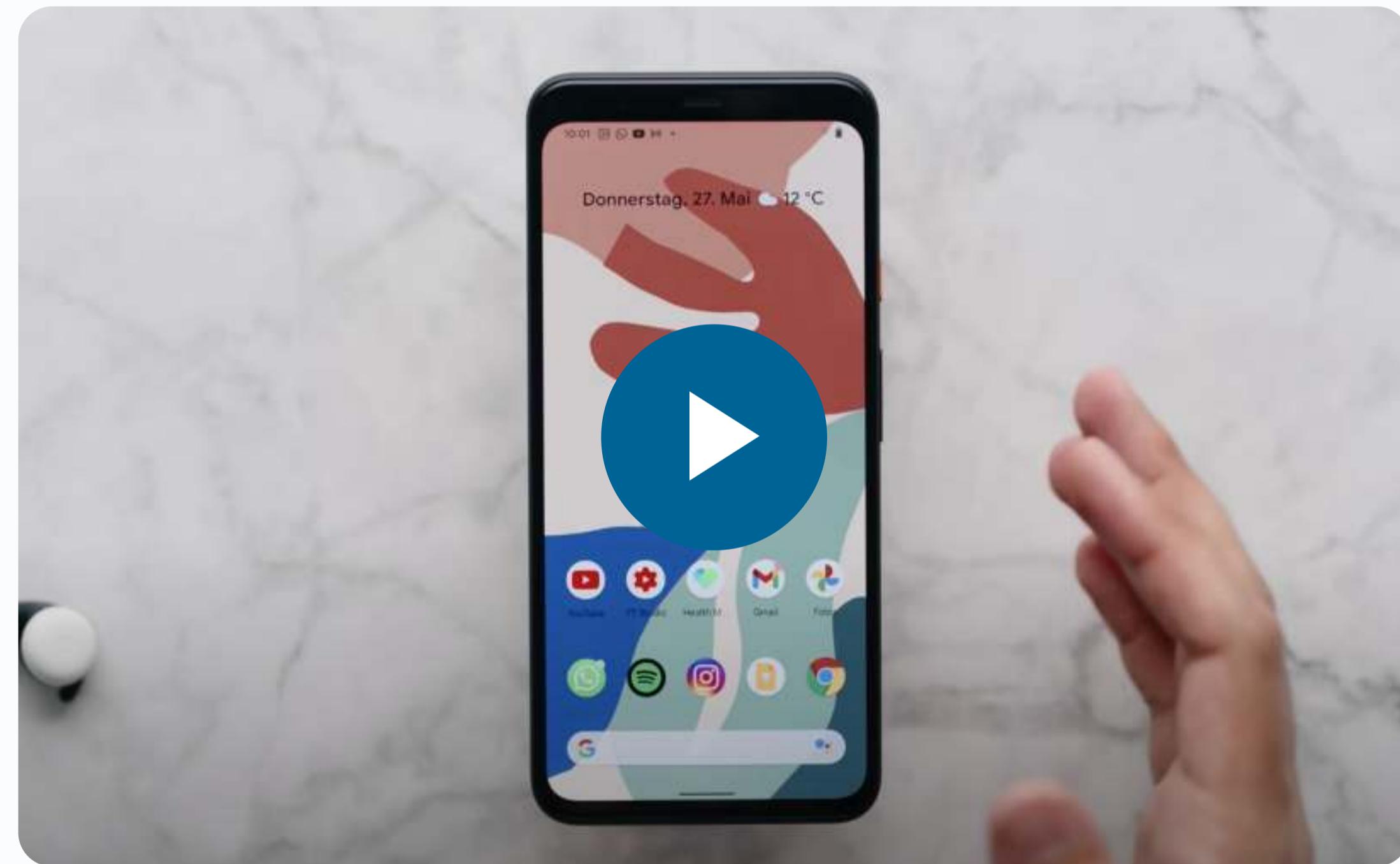
The latest version of Material Design includes **personalization** and accessibility features that put people at the center.

- is used in Android 12
- users can **personalize** their phone with dynamic color by generating unique color experiences (wallpaper design, brand design)
- **colors** can be applied across the entire OS
- **flexible fonts and icons** that works across various device sizes

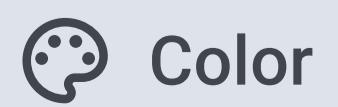


Google Material Design 3

Intro



MD



Color



Typography



Icons

Google Material Design 3

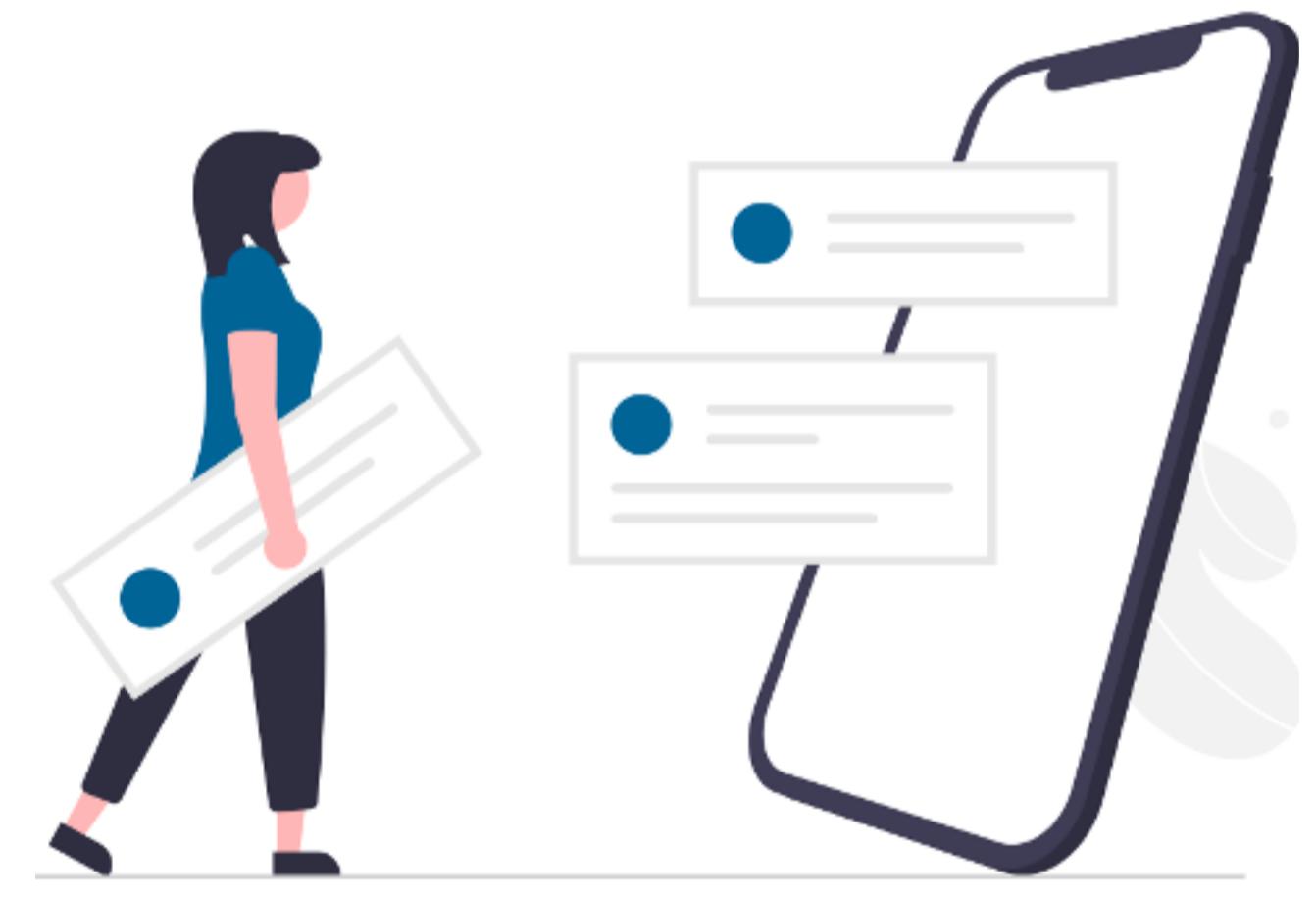
What we learn today



theory:
about color,
typography, and icons



tutorial:
how to use the MD3 in
Figma for your prototype



exercise:
practise on your
prototype

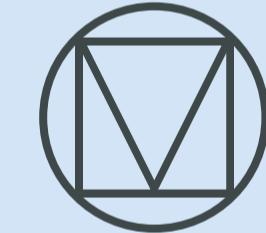
Google Material Design 3

Prerequisites

- Figma account
- access to your or lab pc
- plugins and asset overview



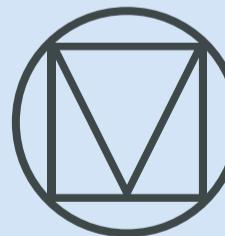
**Figma
Material Theme Builder**



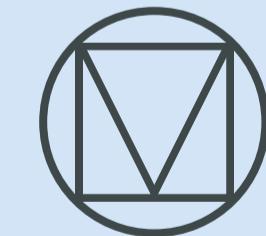
**Figma
Material 3 Design Kit**



**Figma
Material Symbols Plugin**



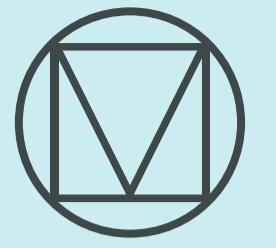
**Figma
Color Exercize**



**Figma
Variable Fonts Exercise**



Google Fonts



MATERIAL DESIGN

Color

Color

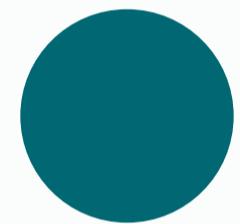
Introduction

Color is used to express style and communicate meaning. With **dynamic color**, Material puts **personal** color preferences and **individual needs** at the forefront of systematic color application.

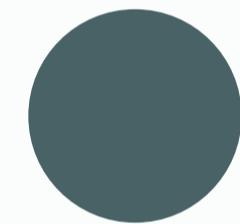
Color system

Key colors

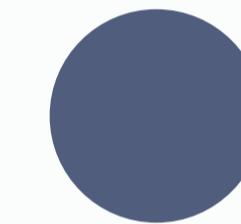
Accent colors



Primary key color

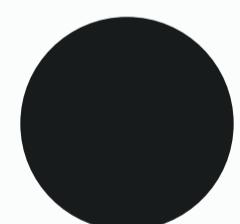


Secondary key color



Tertiary key color

Neutral colors



Neutral key color



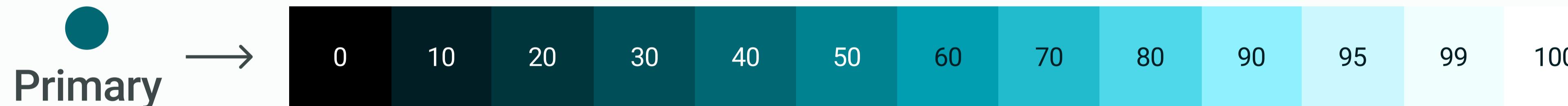
Neutral variant key color

Color system

Tonal palettes



- all colors have a tone range from 0 to 100

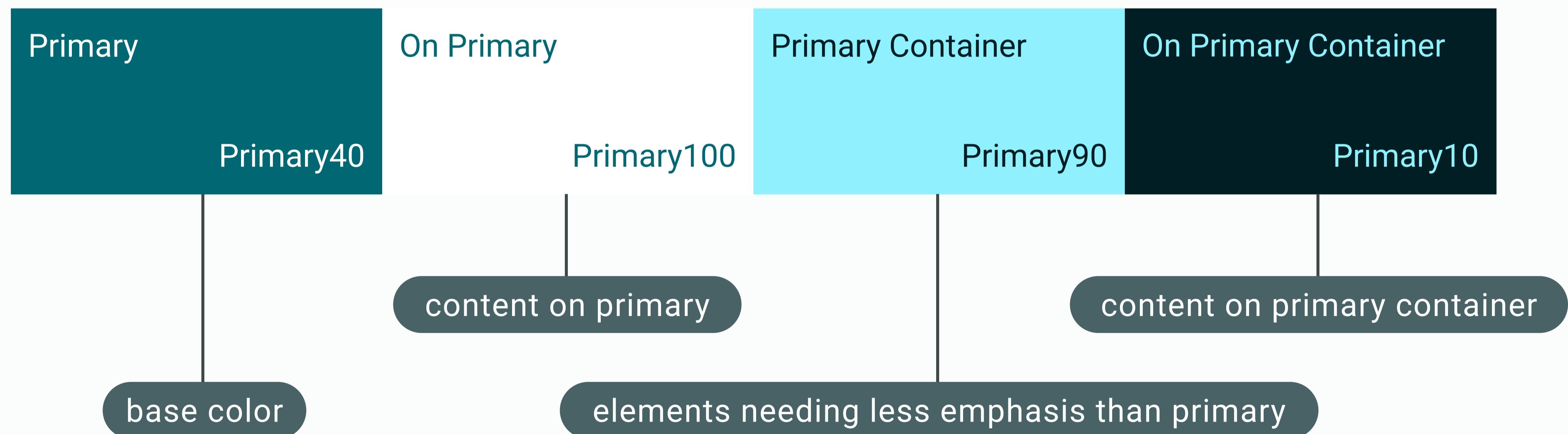


- one color comes in 13 tones
- tonal palette represents the amount of light that is present in this color

Color system

Color scheme

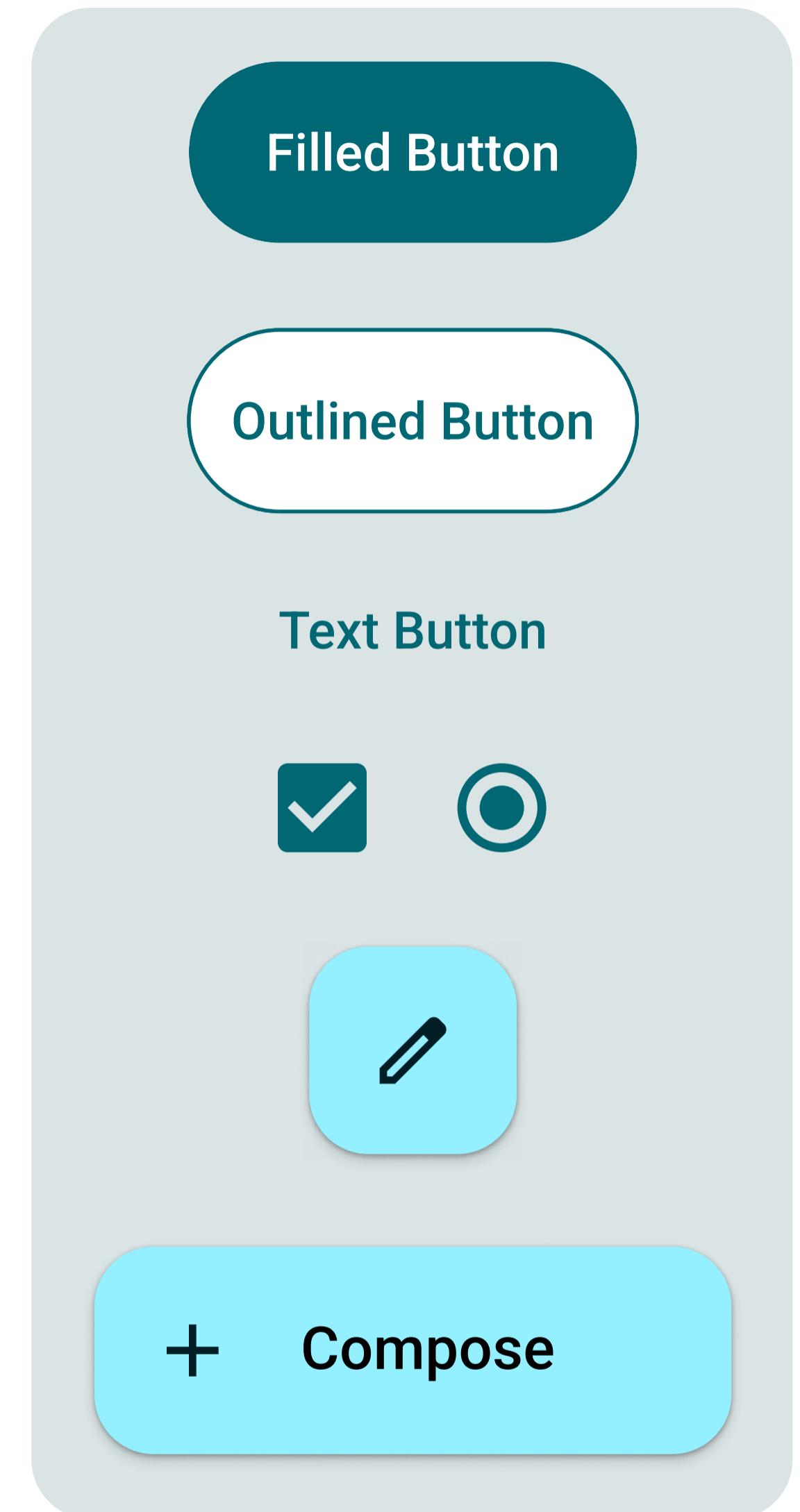
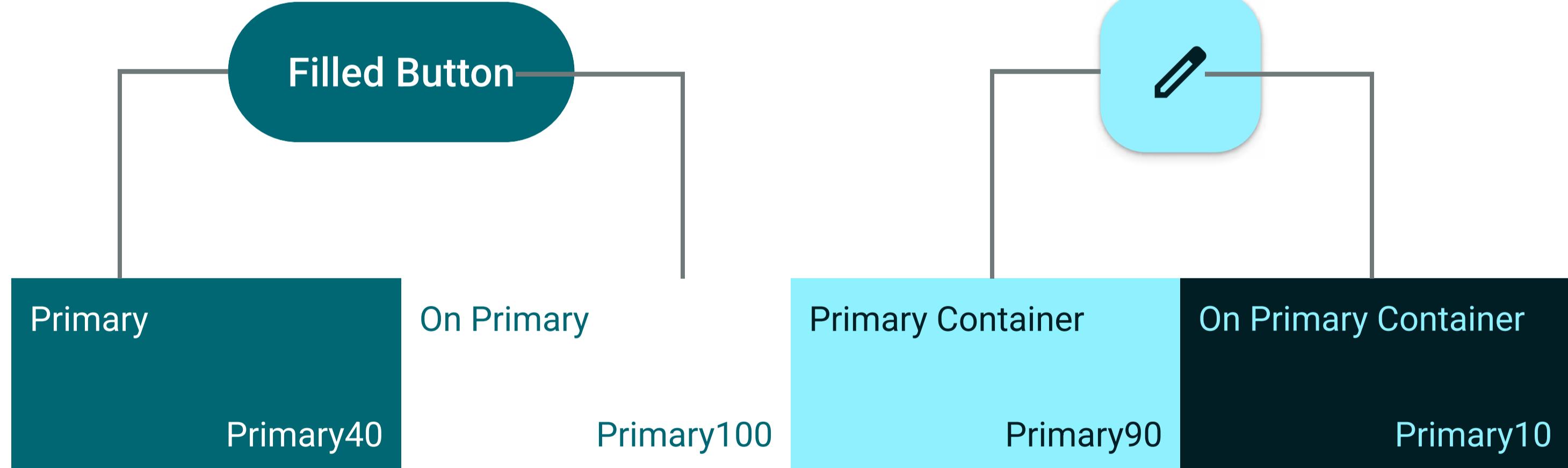
- each accent color is following a **4-color group pattern**
- tones are assigned to specific roles that get **mapped to UI components**
- **accessible contrast by default**



Accent colors

Primary color

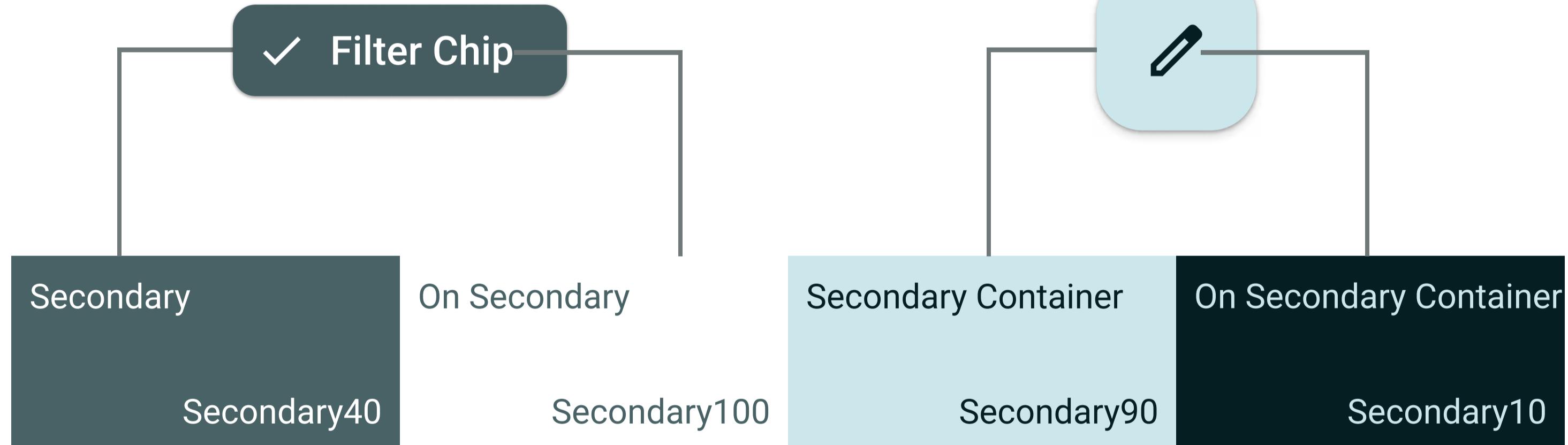
- **key components** across the UI
- FAB, prominent buttons, active states, elevated surfaces



Accent colors

Secondary color

- **less prominent components** in the UI
- expanding the opportunity for color expression



✓ Filter Chip

✓ Filter Chip

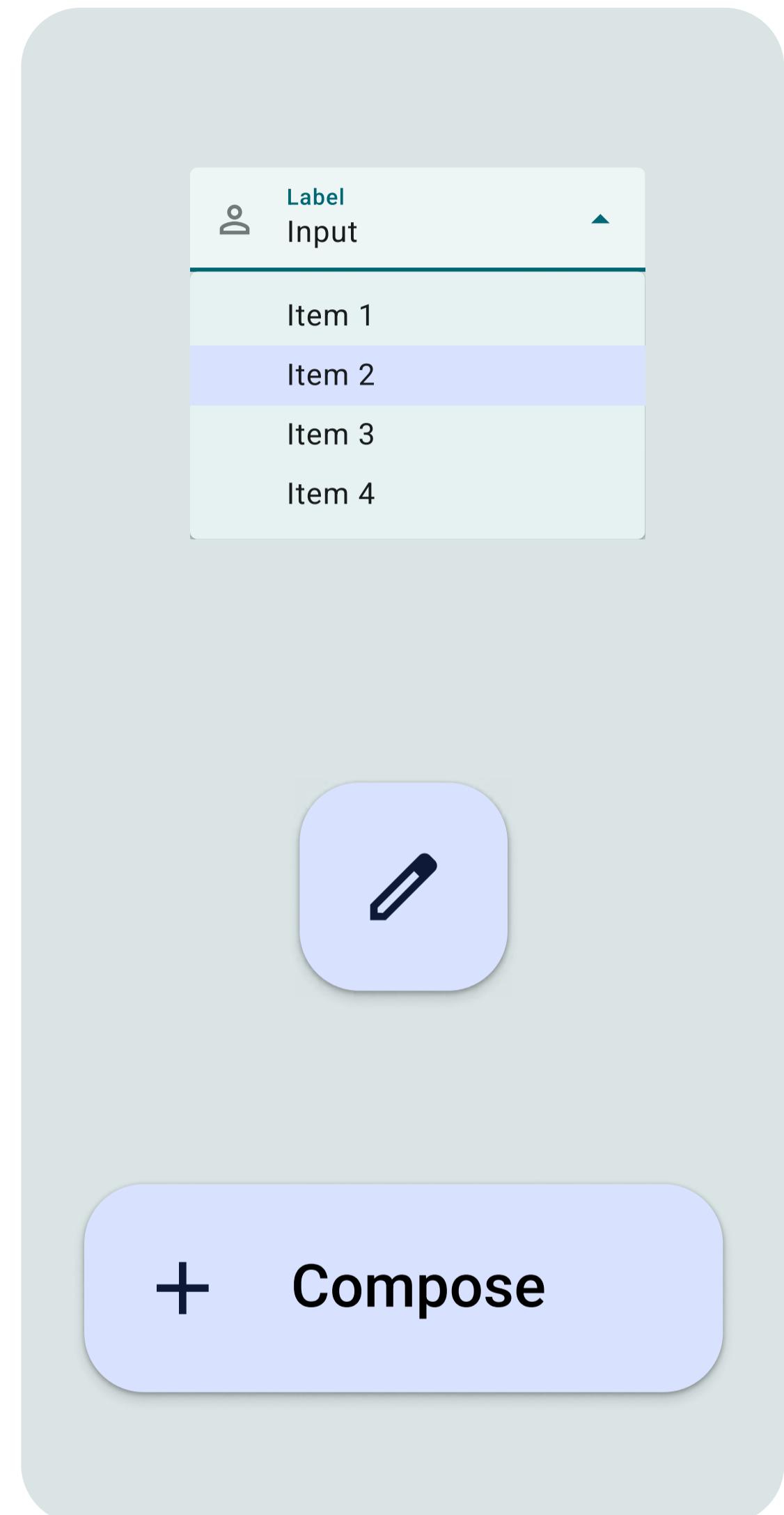
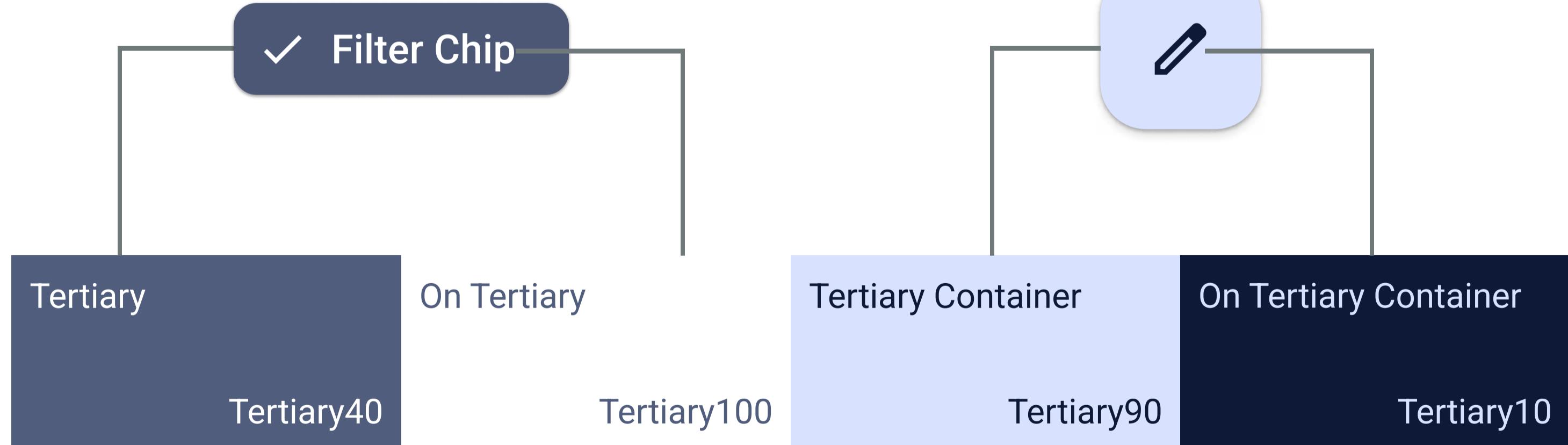


+ Compose

Accent colors

Tertiary color

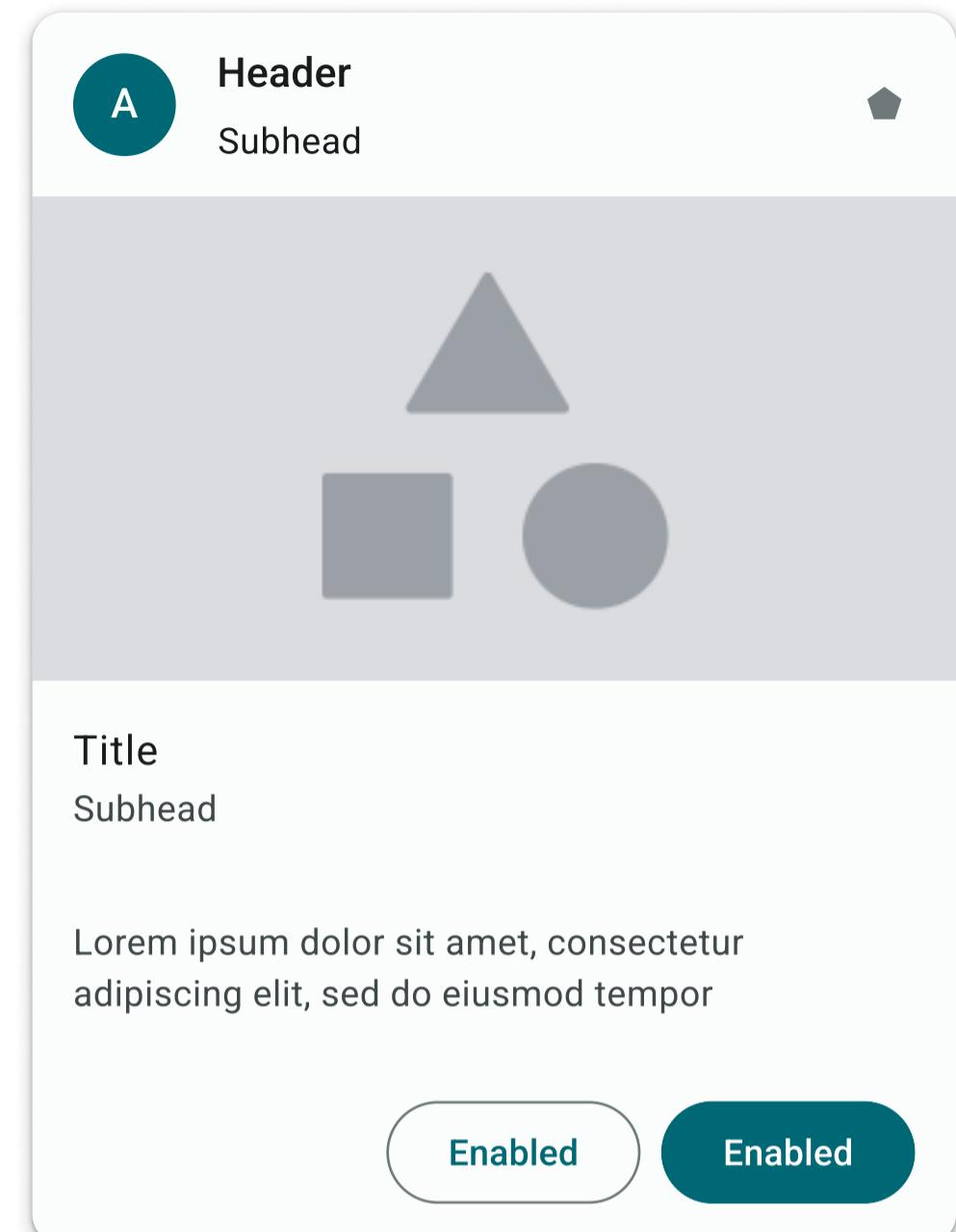
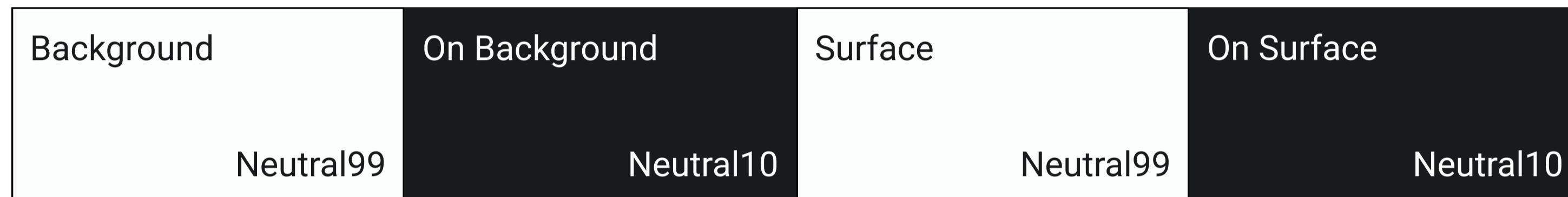
- **contrasting accents** that can be used to balance the primary or secondary color
- bring heightened attention to an element



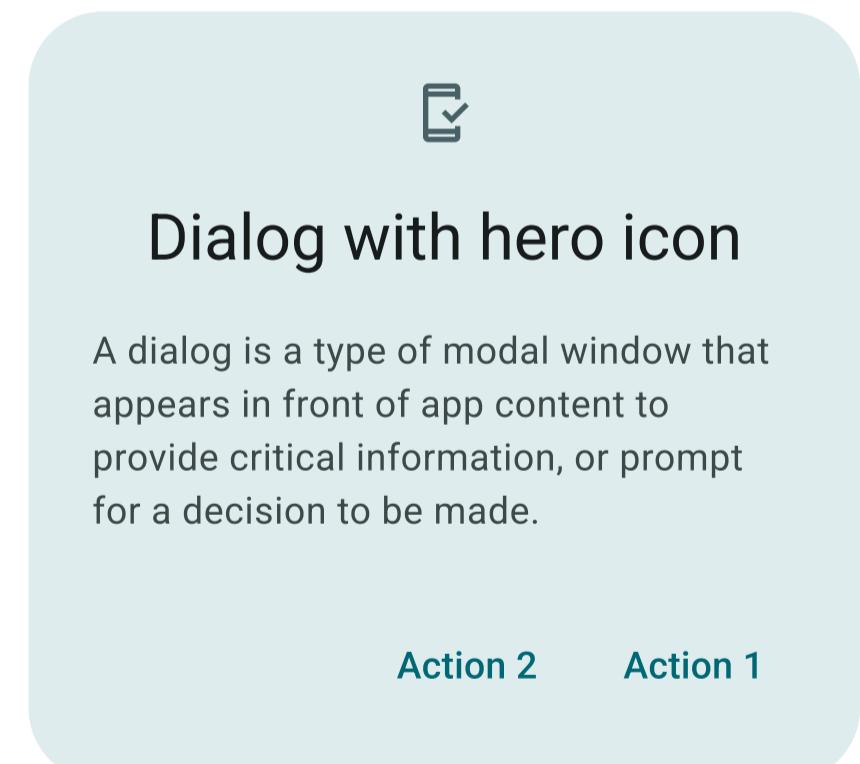
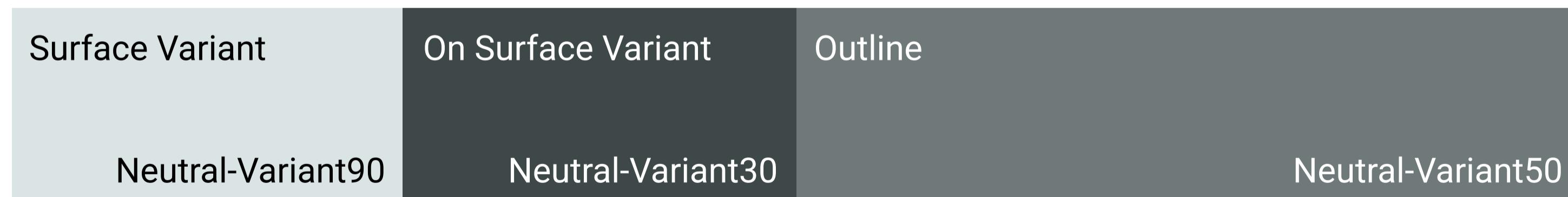
Neutral colors

Surfaces, backgrounds & outlines

- for **surfaces and backgrounds**, as well as high emphasis text and icons



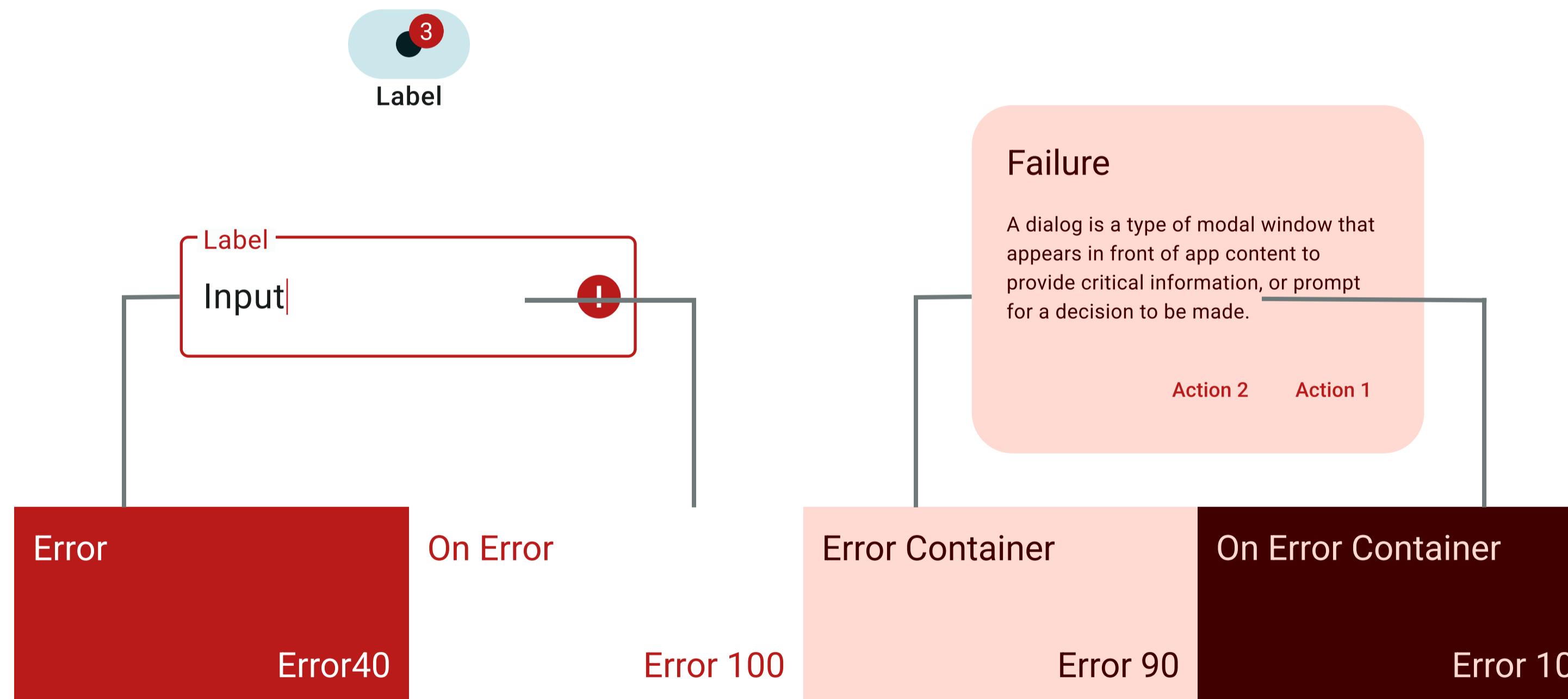
- variants are used **differentiation** against a surface
- outlines create **boundaries and emphasis**



Additional colors

Error colors

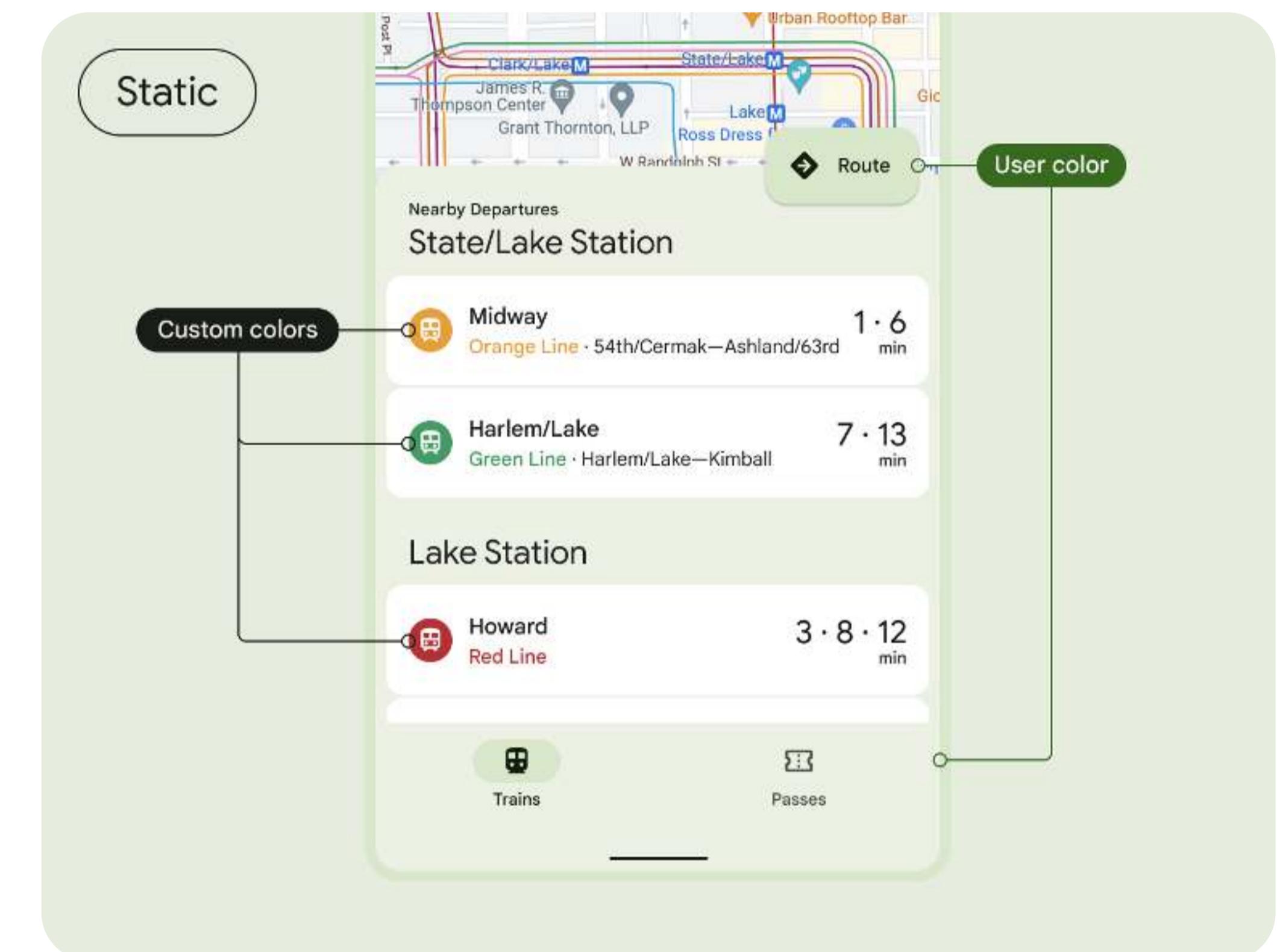
- for **errors**, brings attention to this elements



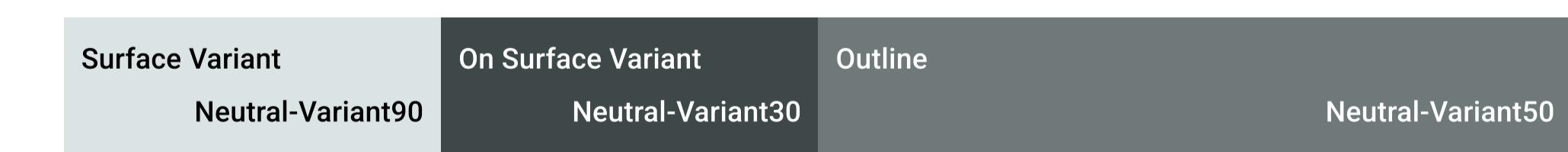
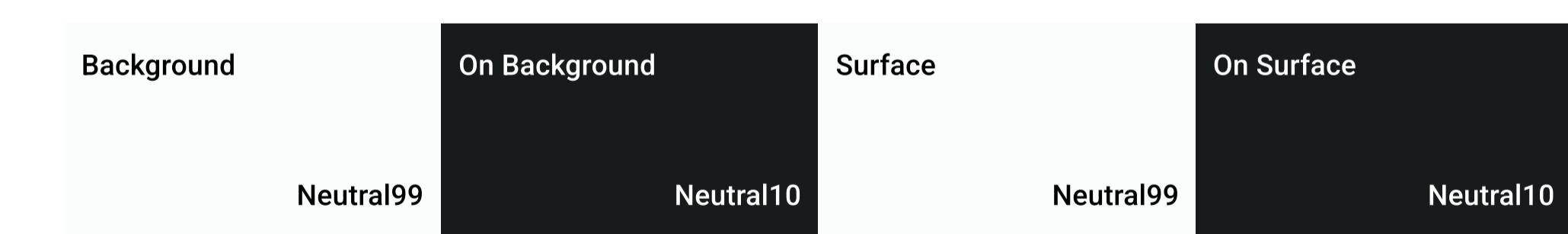
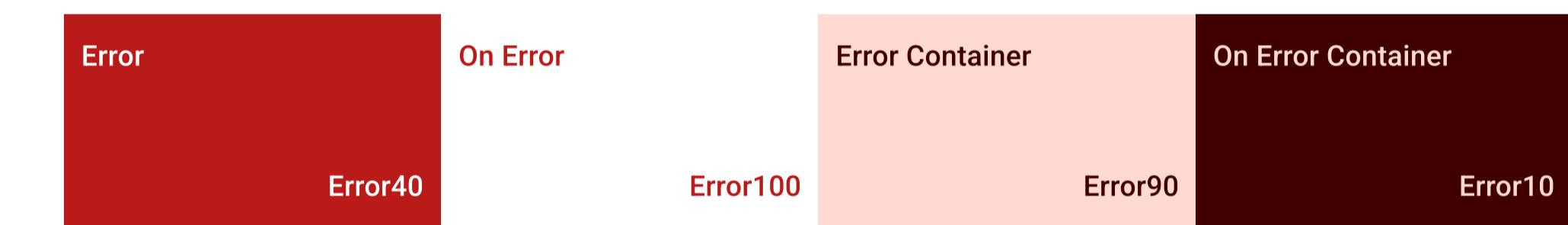
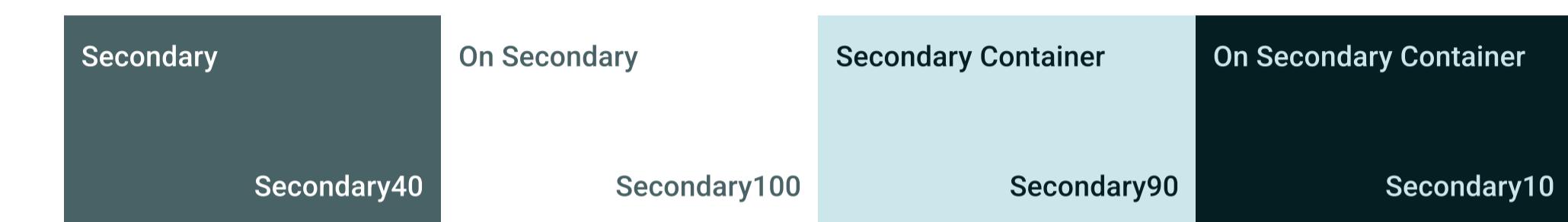
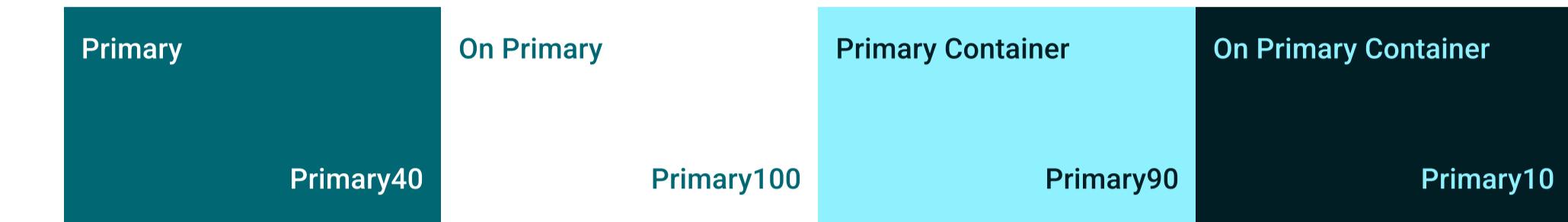
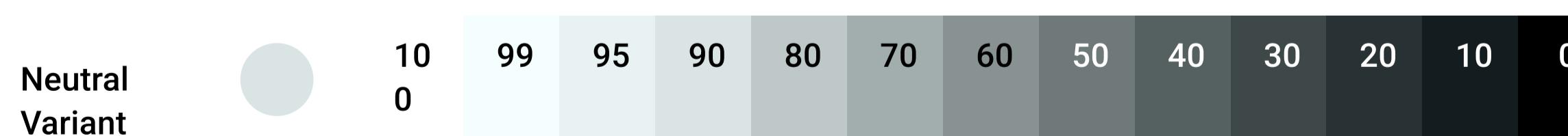
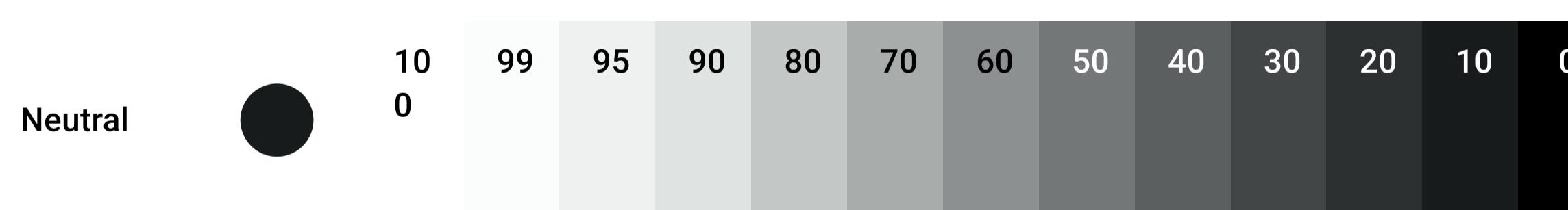
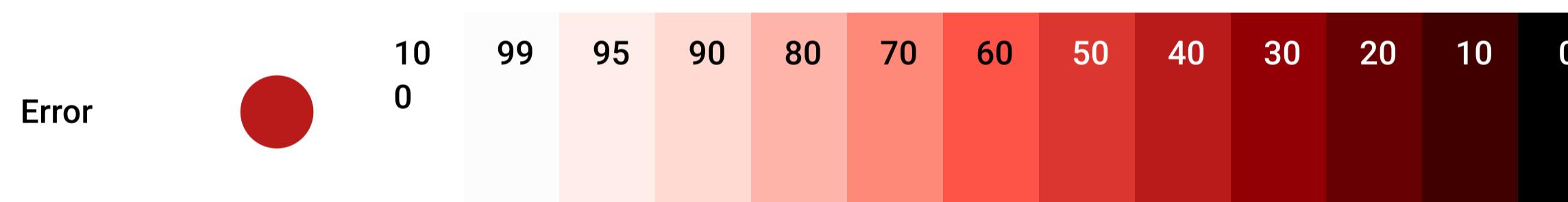
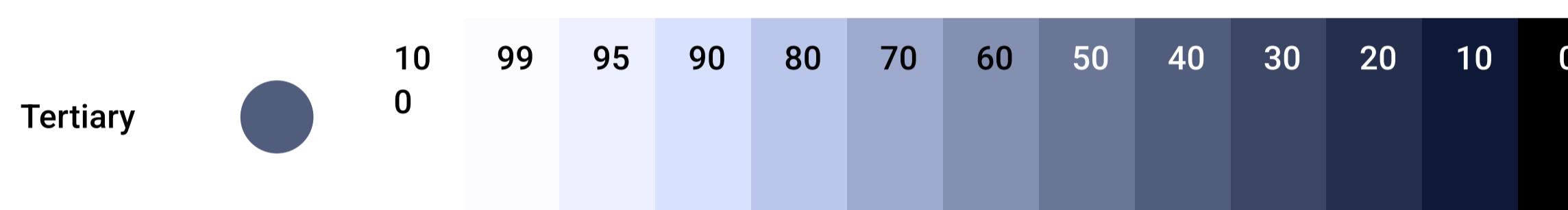
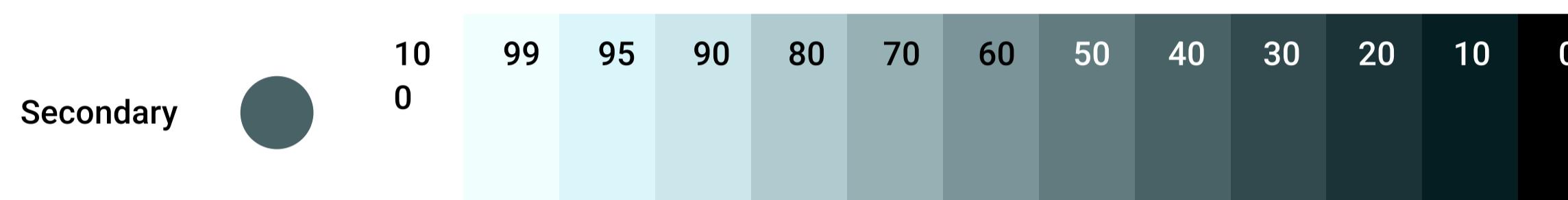
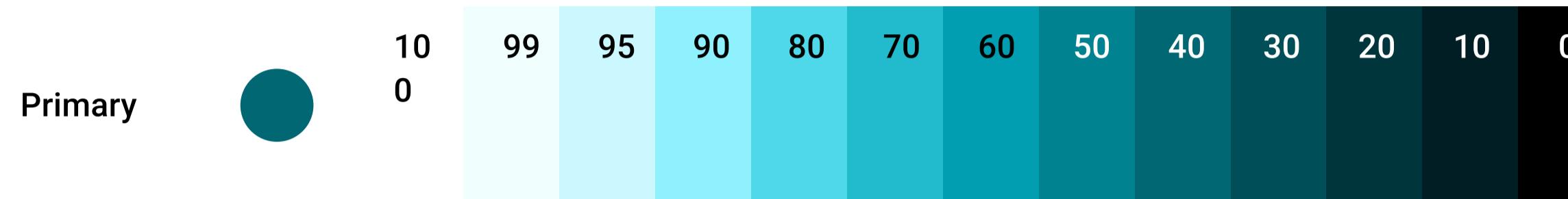
Additional colors

Product-specific custom colors

- custom colors that are often needed besides expressive colors
- **communicate conventional meaning**



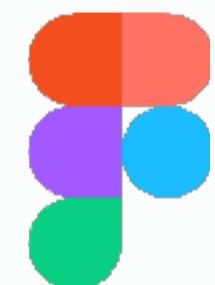
Color palette



Practical part

Why using the color system?

- coding roles through **tokens**, rather than assigning hex values
- update colors **systematically** if a color palette is changing



Figma
Material Theme Builder



Figma
Material 3 Design Kit

Custom colors

Adding colors to a scheme

- custom colors can be **added and translated** into a group of four compatible tones
- **harmonization** makes colors more seamless by automatically shifting hue and chroma slightly

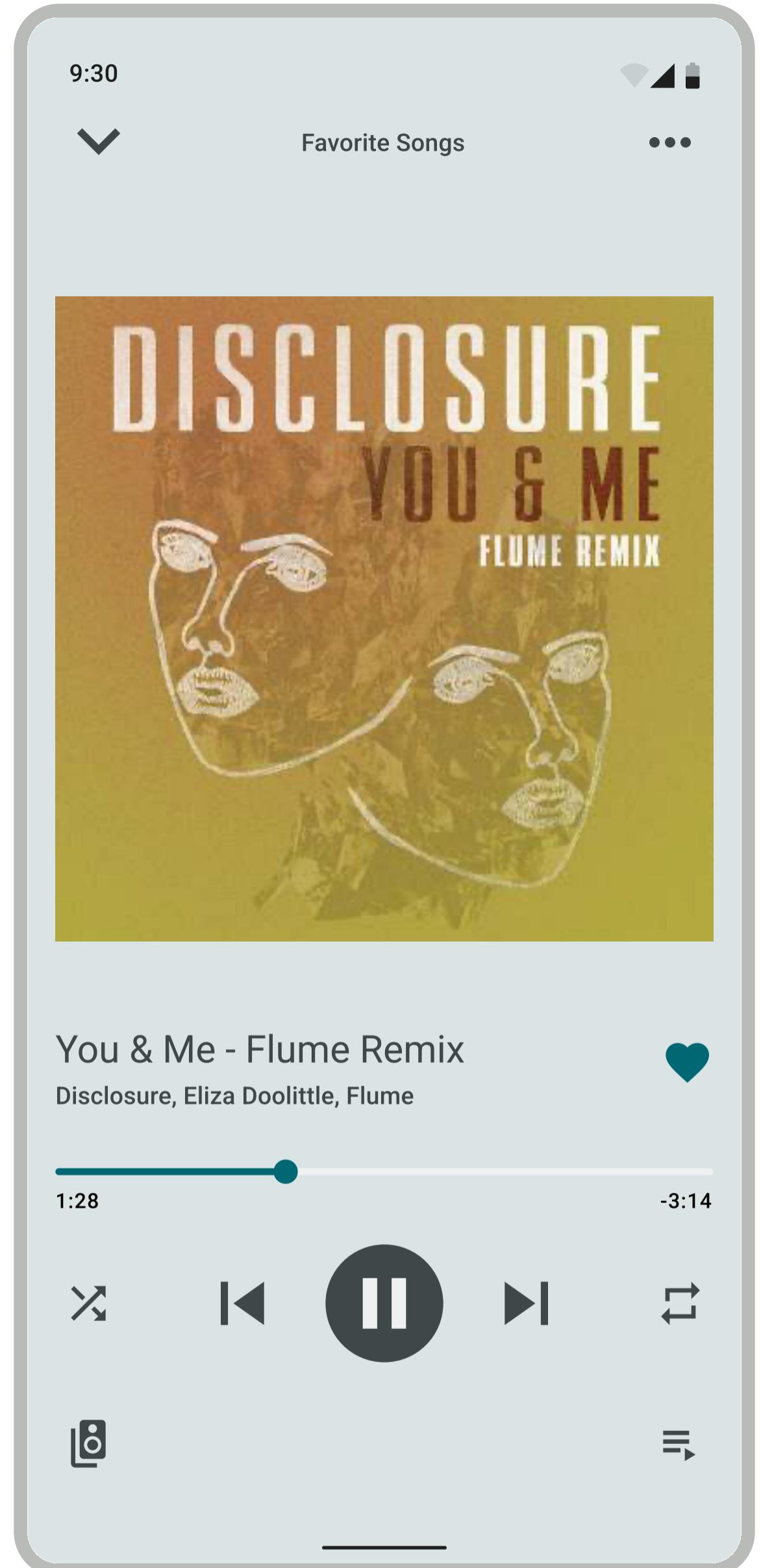


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

be careful with
images

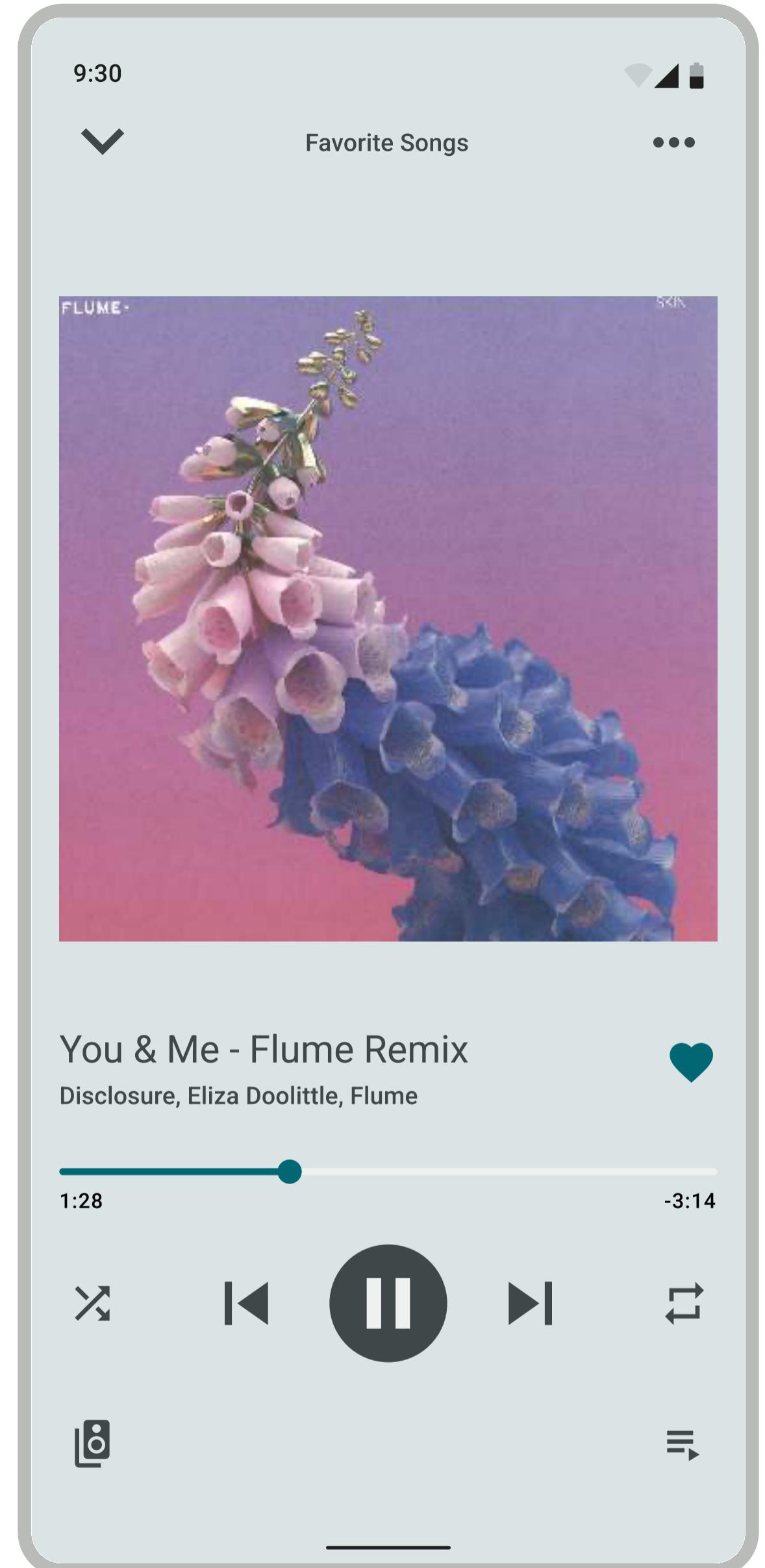


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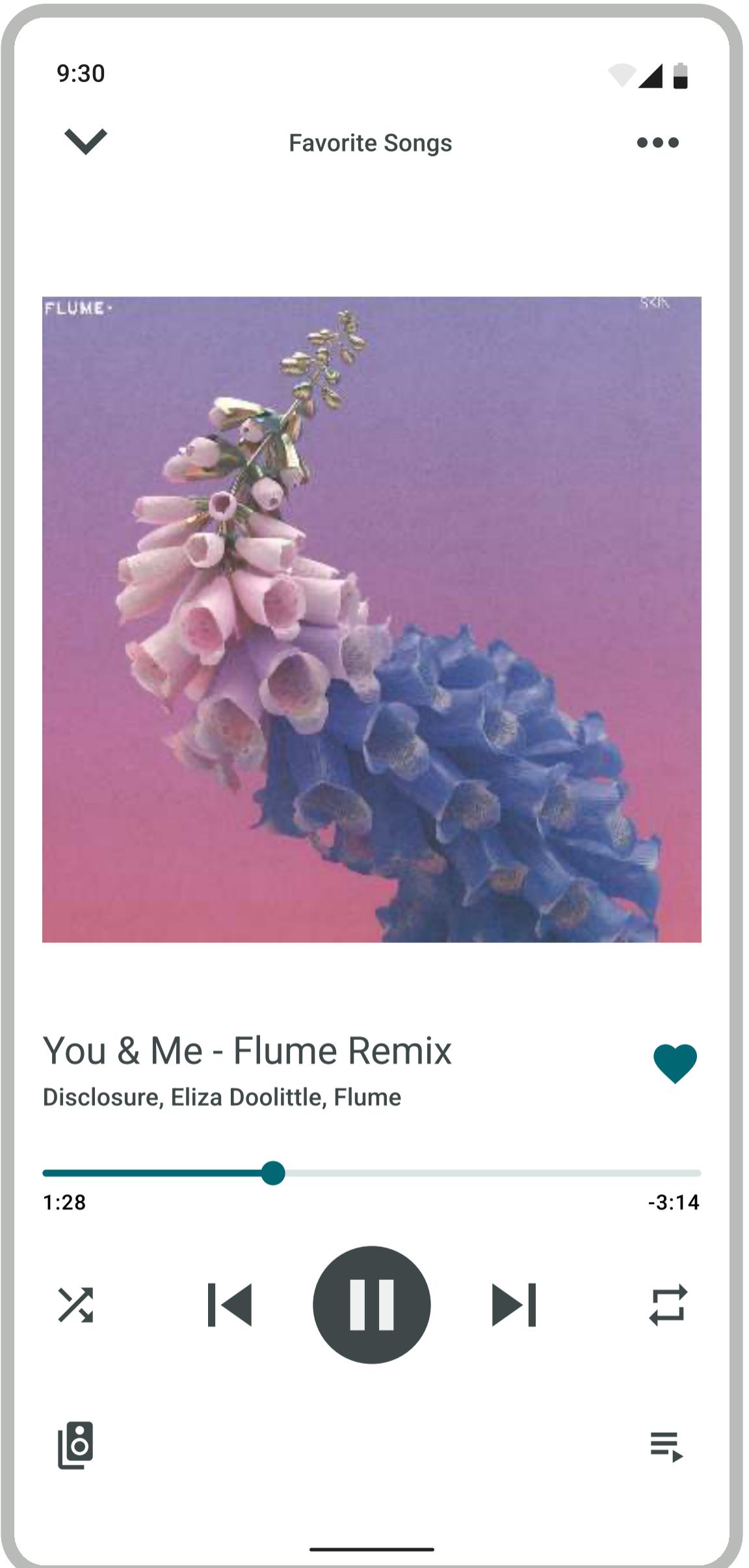


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

neutral colors

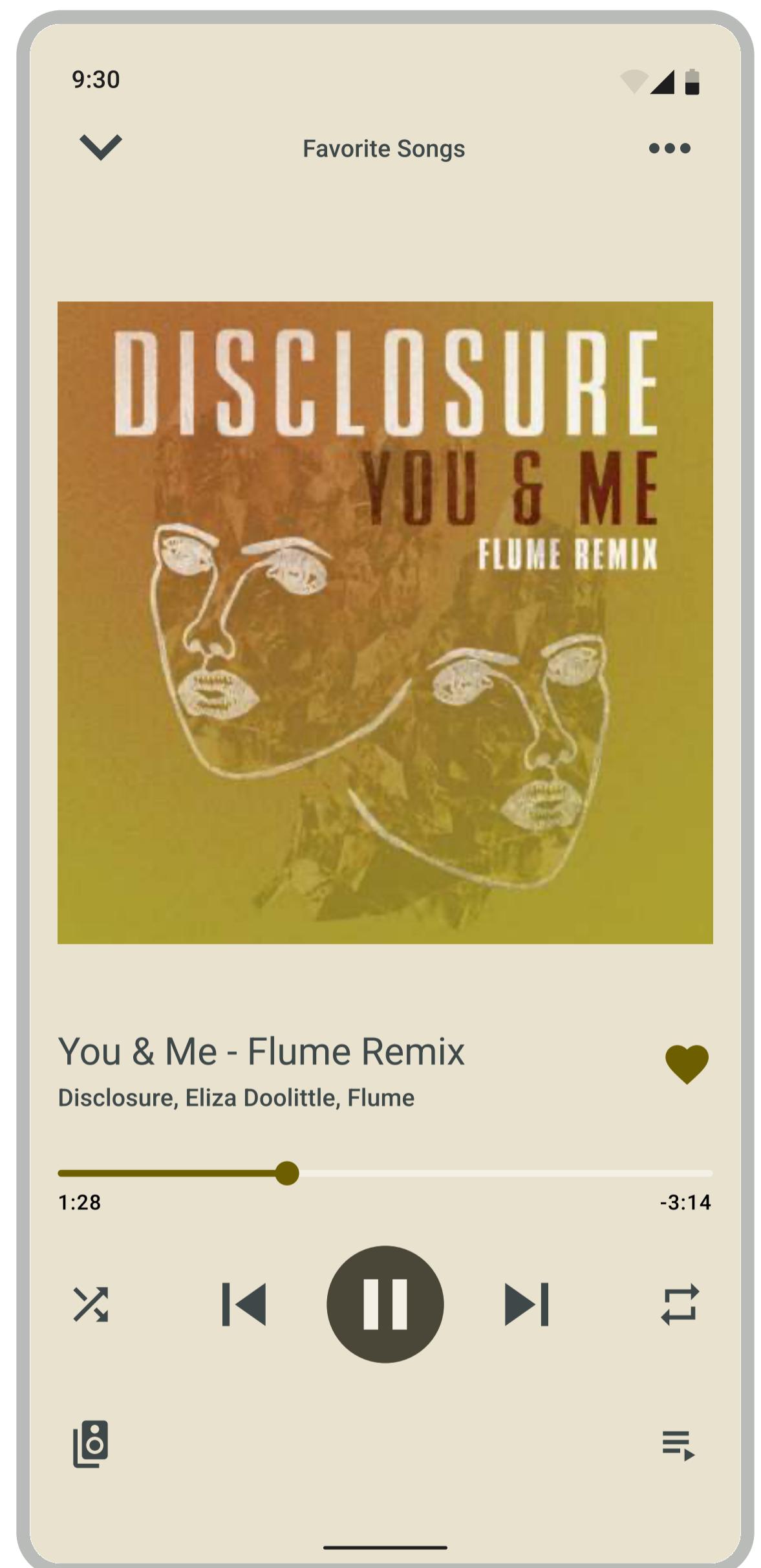


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

try out
personalization

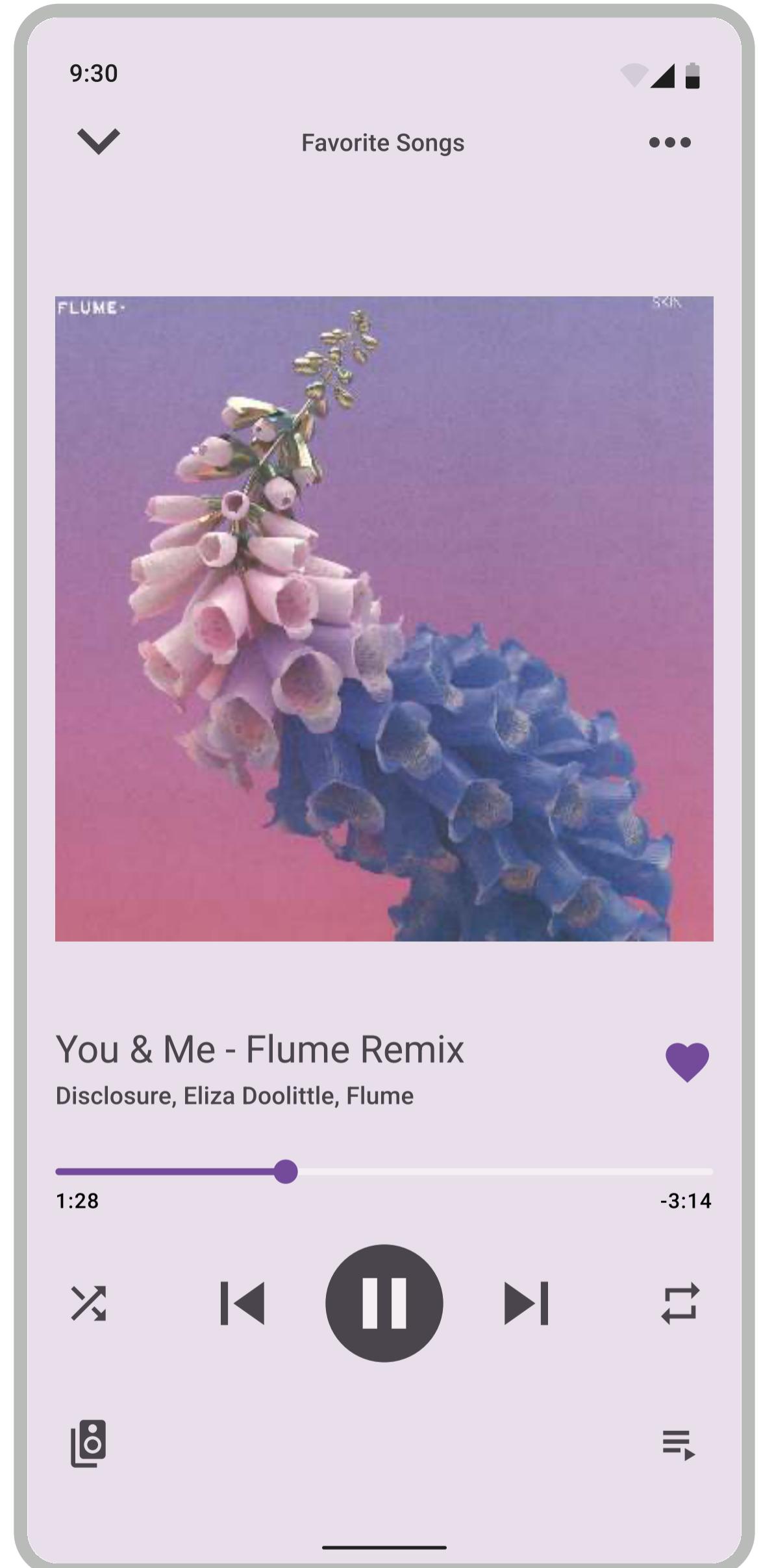


Color roles

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try out
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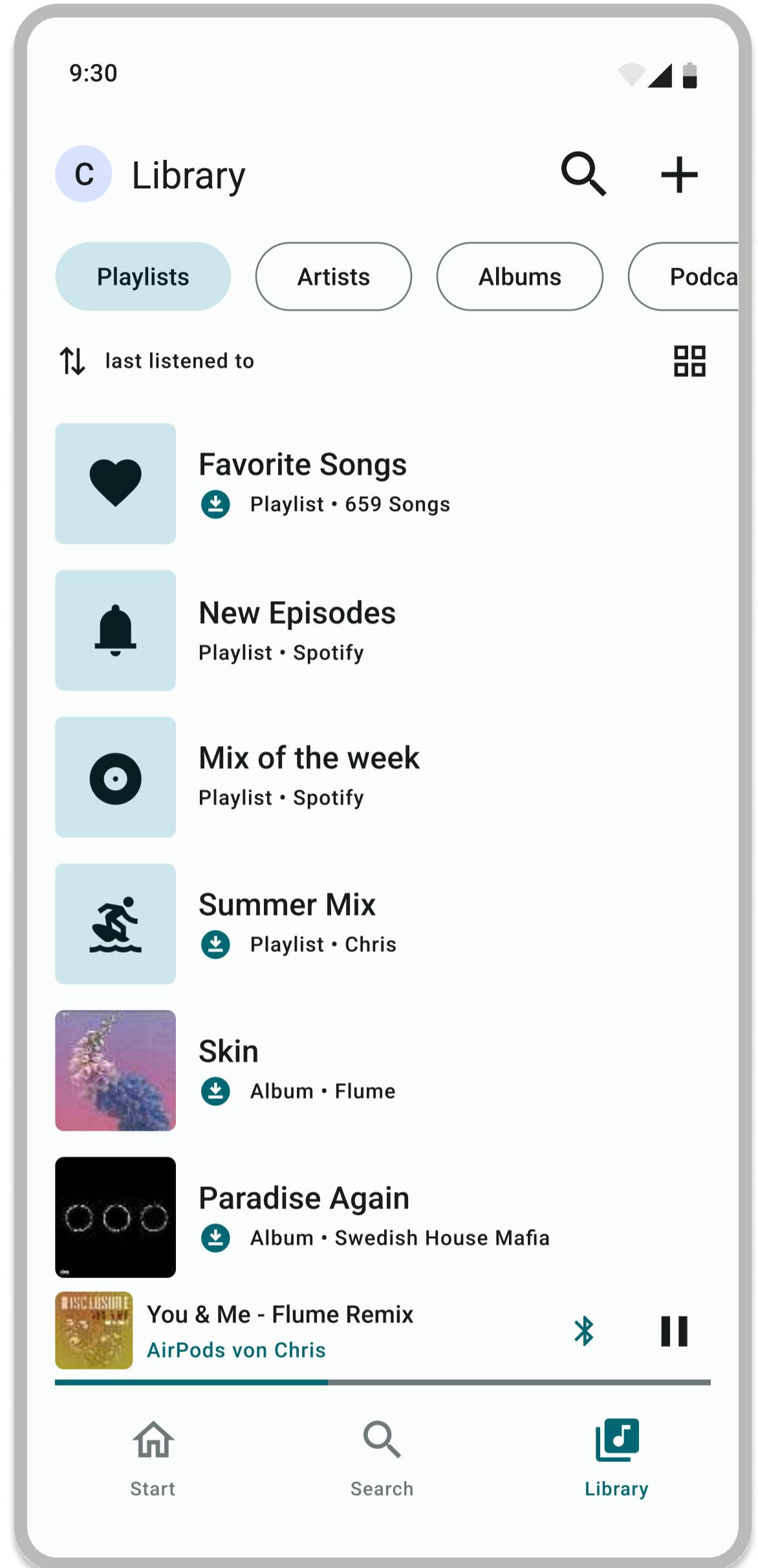


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

apply the color roles

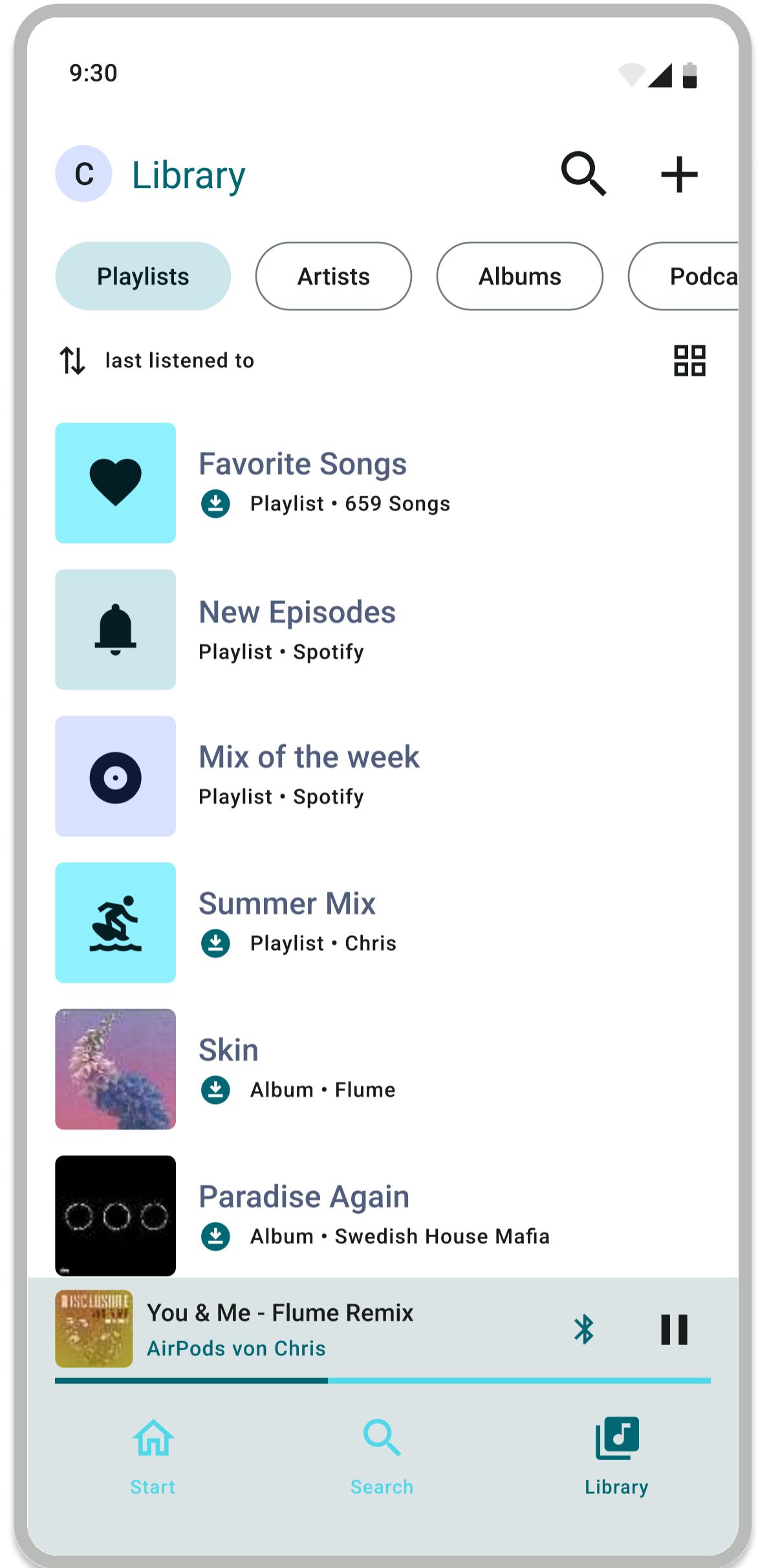


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

but not all colors

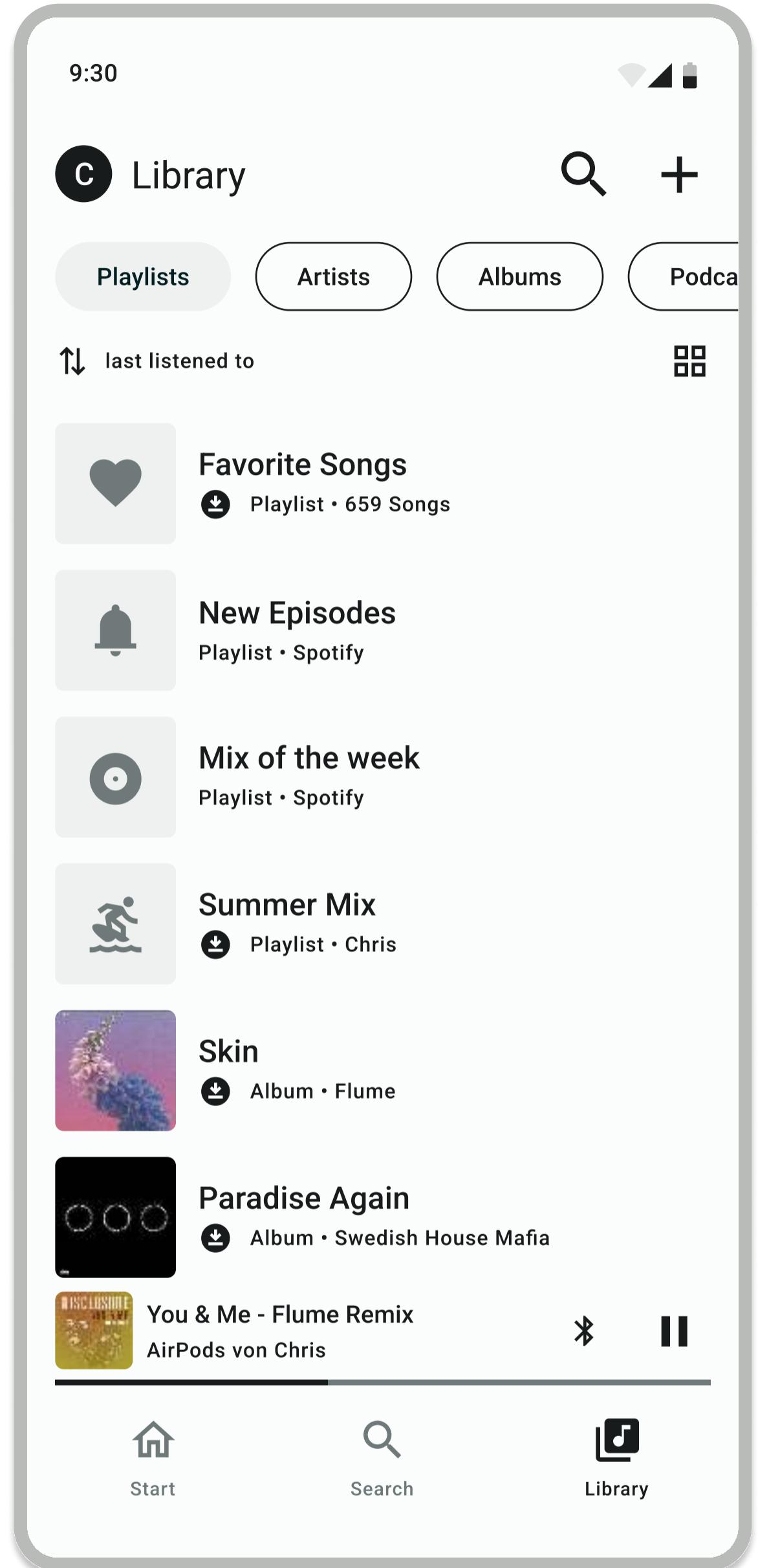


Color roles

How to apply the color palette to my design

- no best practise
- there is no right or wrong
- but some basic rules:

sometimes less is
more



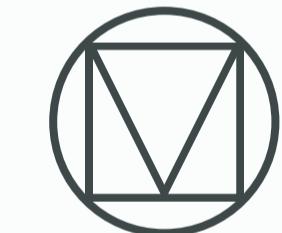
Takeaways

Color

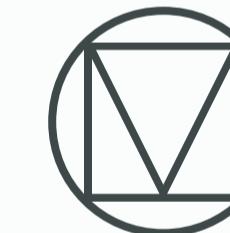
- create tonal palettes without knowledge about composition or contrast
- easily maintain or update styles and personalize your UI
- automatic color schemes



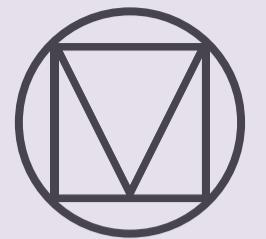
**Figma
Material Theme Builder**



**Figma
Material 3 Design Kit**



**Figma
Color Exercise**



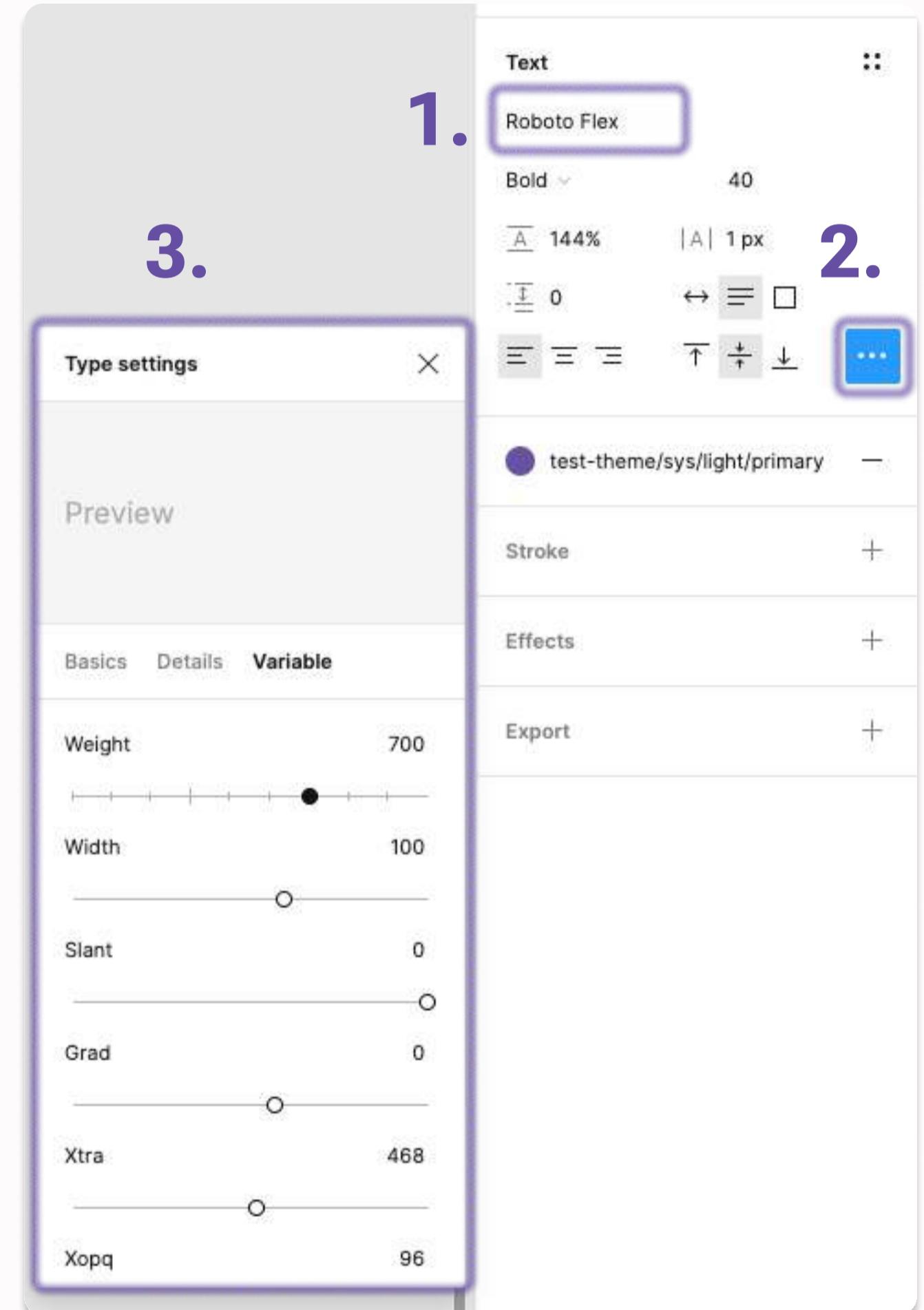
MATERIAL DESIGN

Typography

Typography

Variable fonts

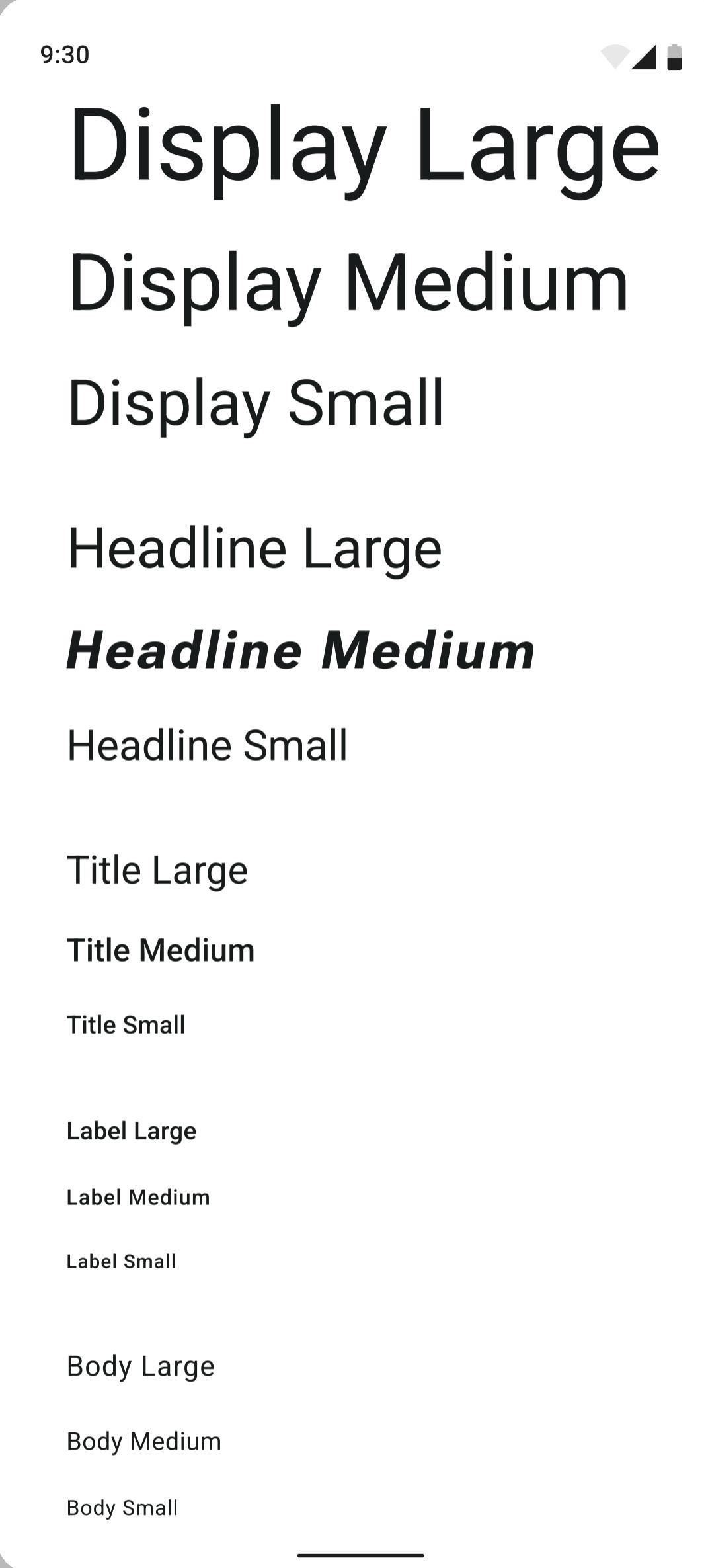
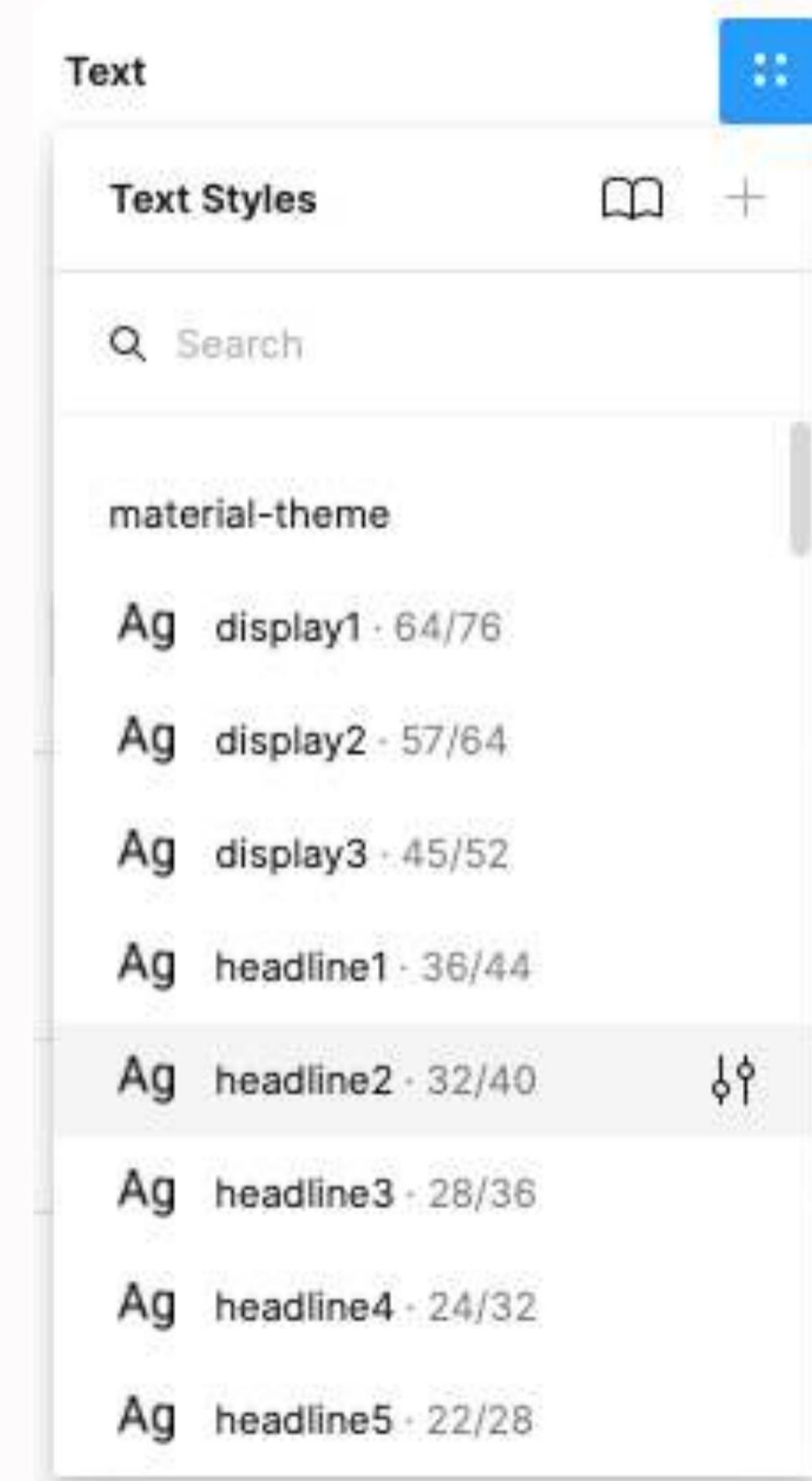
- offering more typographic control
- standard font for Android is **Roboto**
(use e.g. Roboto Flex or Roboto Serif for the variable fonts option)
- now you can customize the **Grade**, **Width**, and **Optical Size**



Typography

Type styles

- five **roles**: display, headline, title, body, label
- different **scales**: small, medium, large
- use **tokens** for a consistent typography along your UI



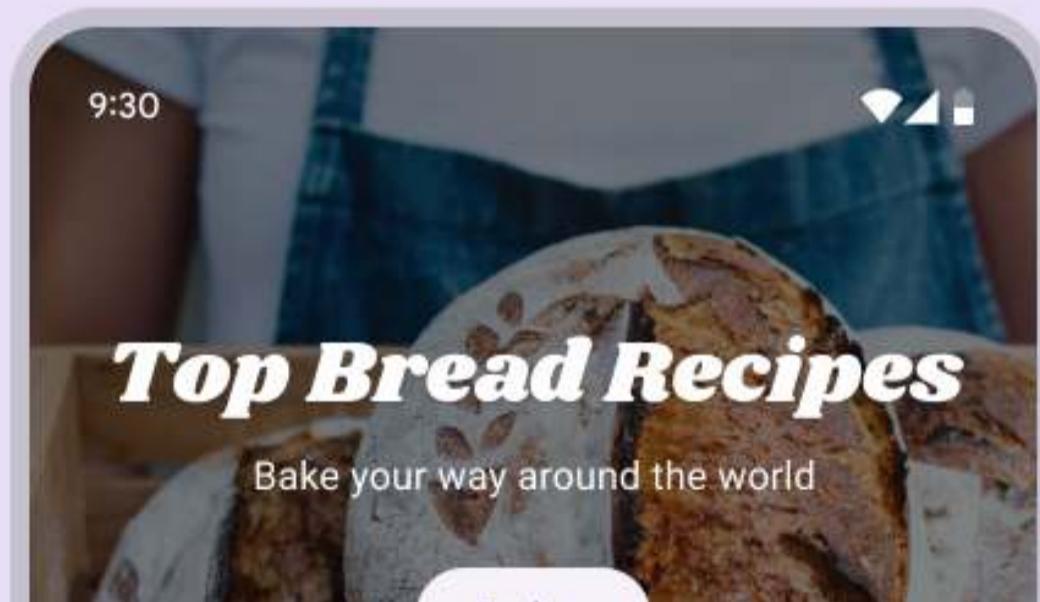
Roles

Display

- largest text, short important information on large screens
- you can use an expressive typeface

display large
display medium
display small

display large
display medium
display small



Landscape Photo 101

This video course introduces the photography of nature, including flowers, insects, trees, and full landscapes.

Cortado iced

Enter my new flame: the iced cortado. A cortado is an espresso with an equal amount of steamed milk. I drink it when I want a caffeine pick-me-up without the bitterness or acidity of pure espresso.

[Expand](#)

Roles

Headline

- short, high-emphasis text on smaller screens
- you can use an expressive typeface (but appropriate line height and letter spacing)

headline large

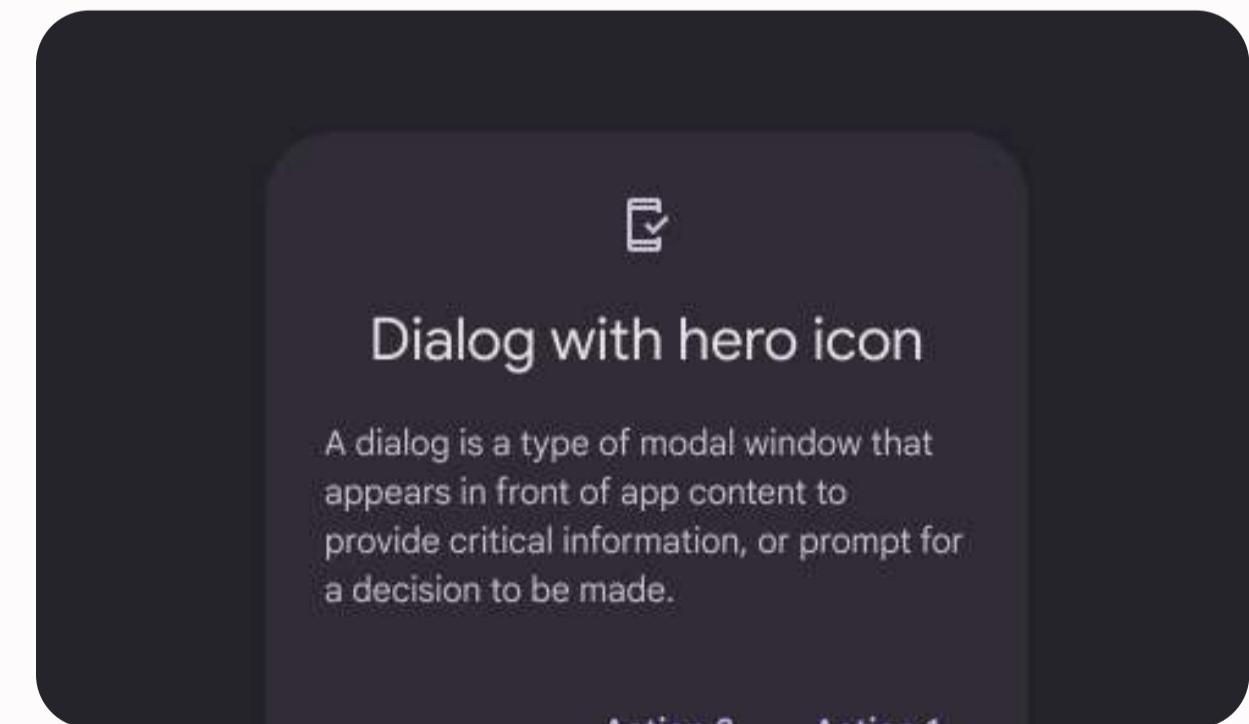
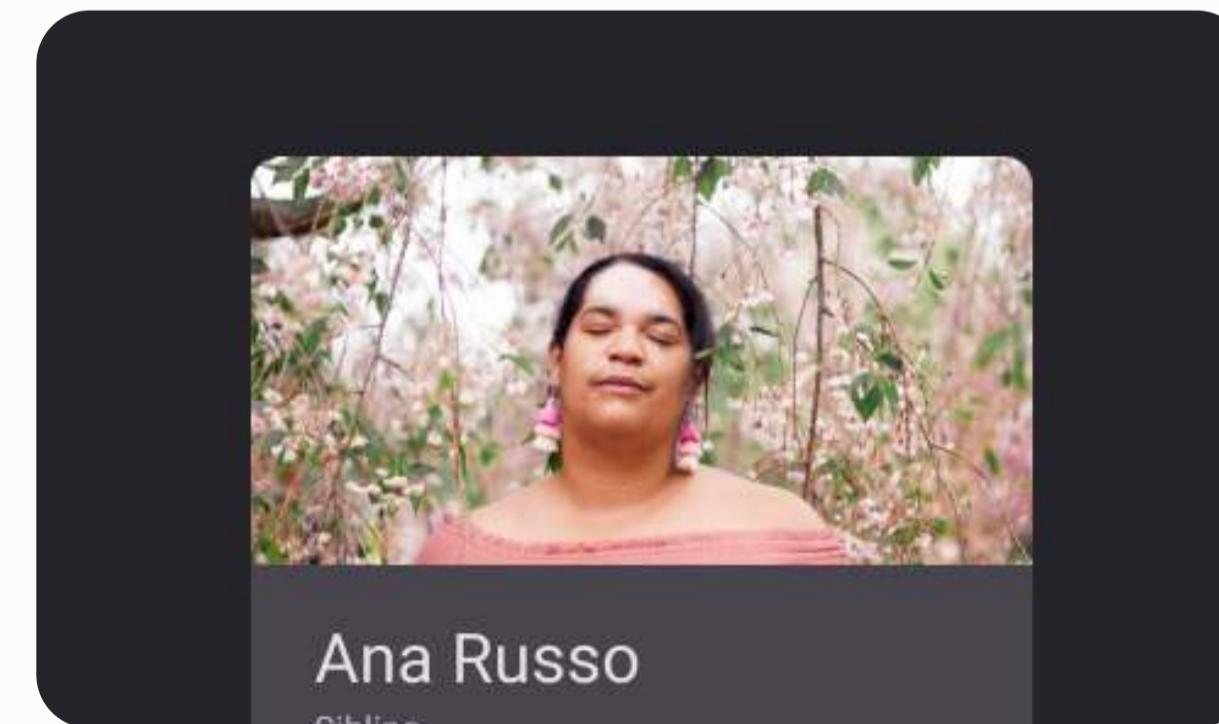
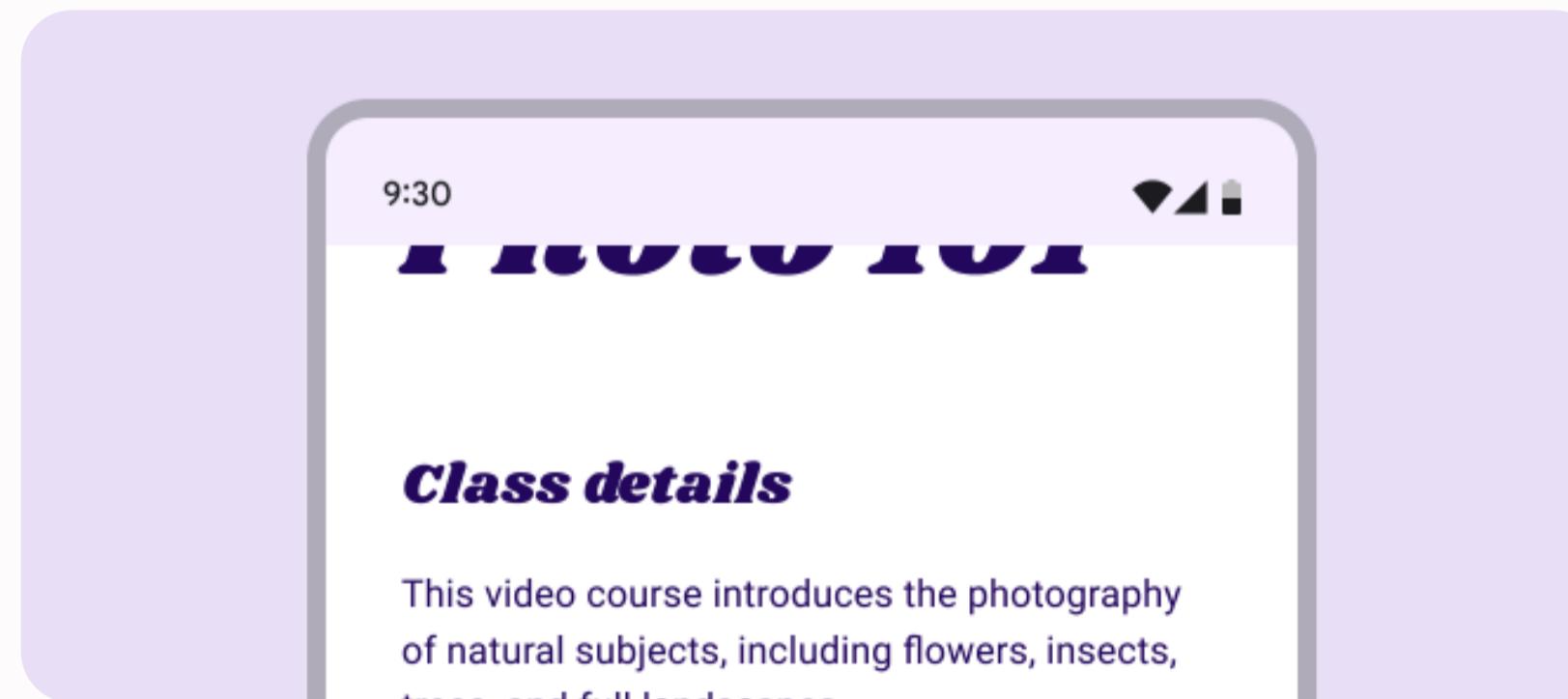
headline medium

headline small

HEADLINE LARGE

headline medium

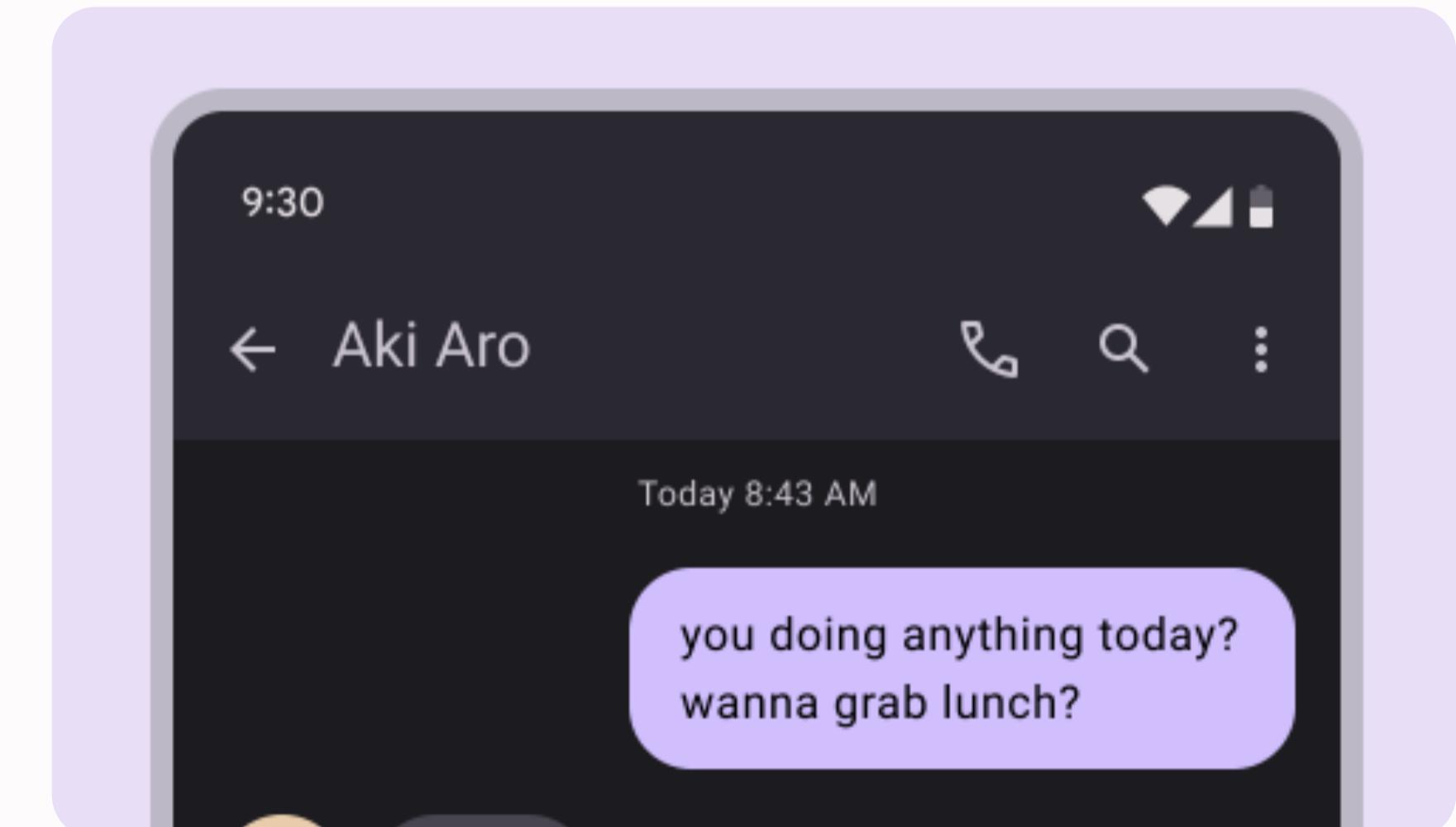
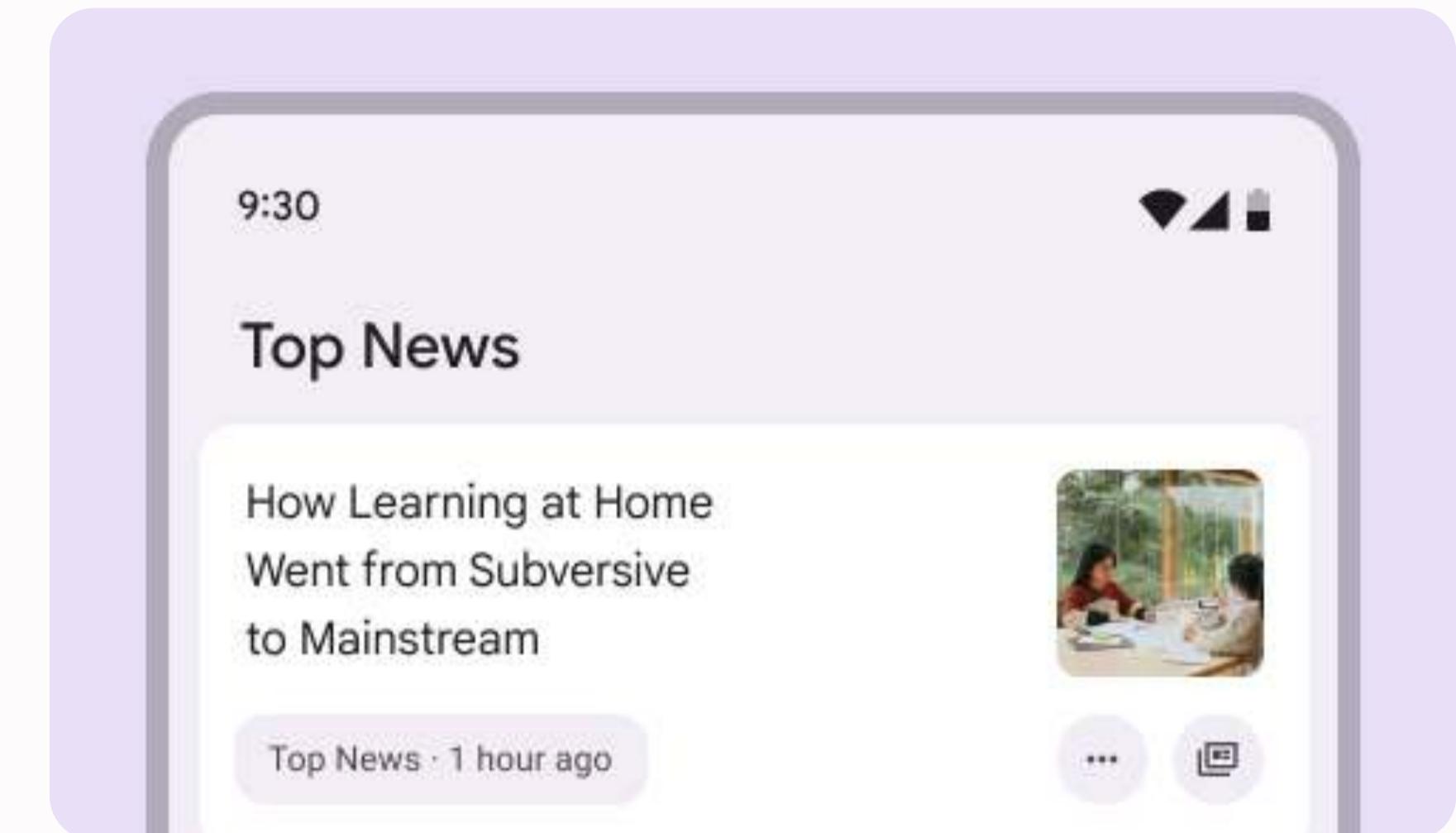
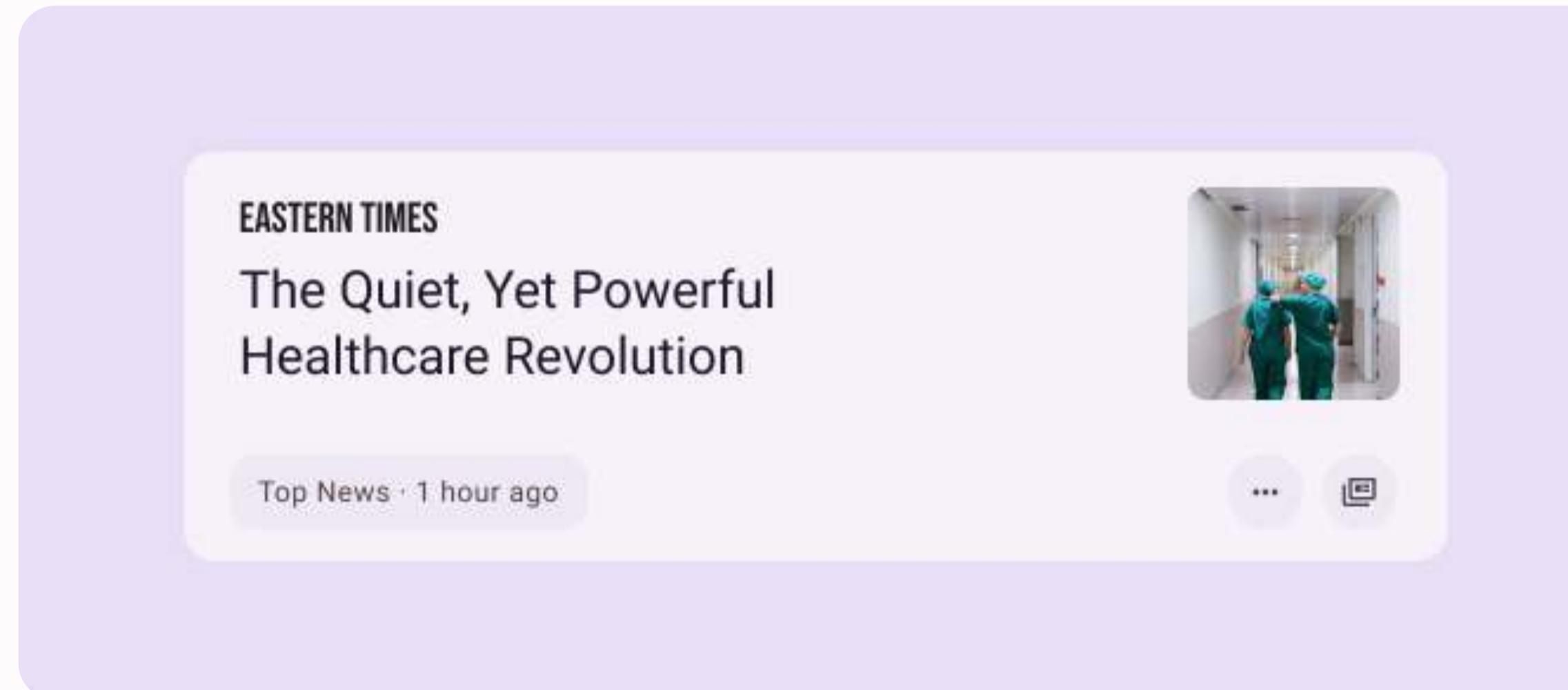
headline small



Roles

Title

- smaller than headline, for medium emphasis
- text that remains relatively short
- be careful with expressive styles



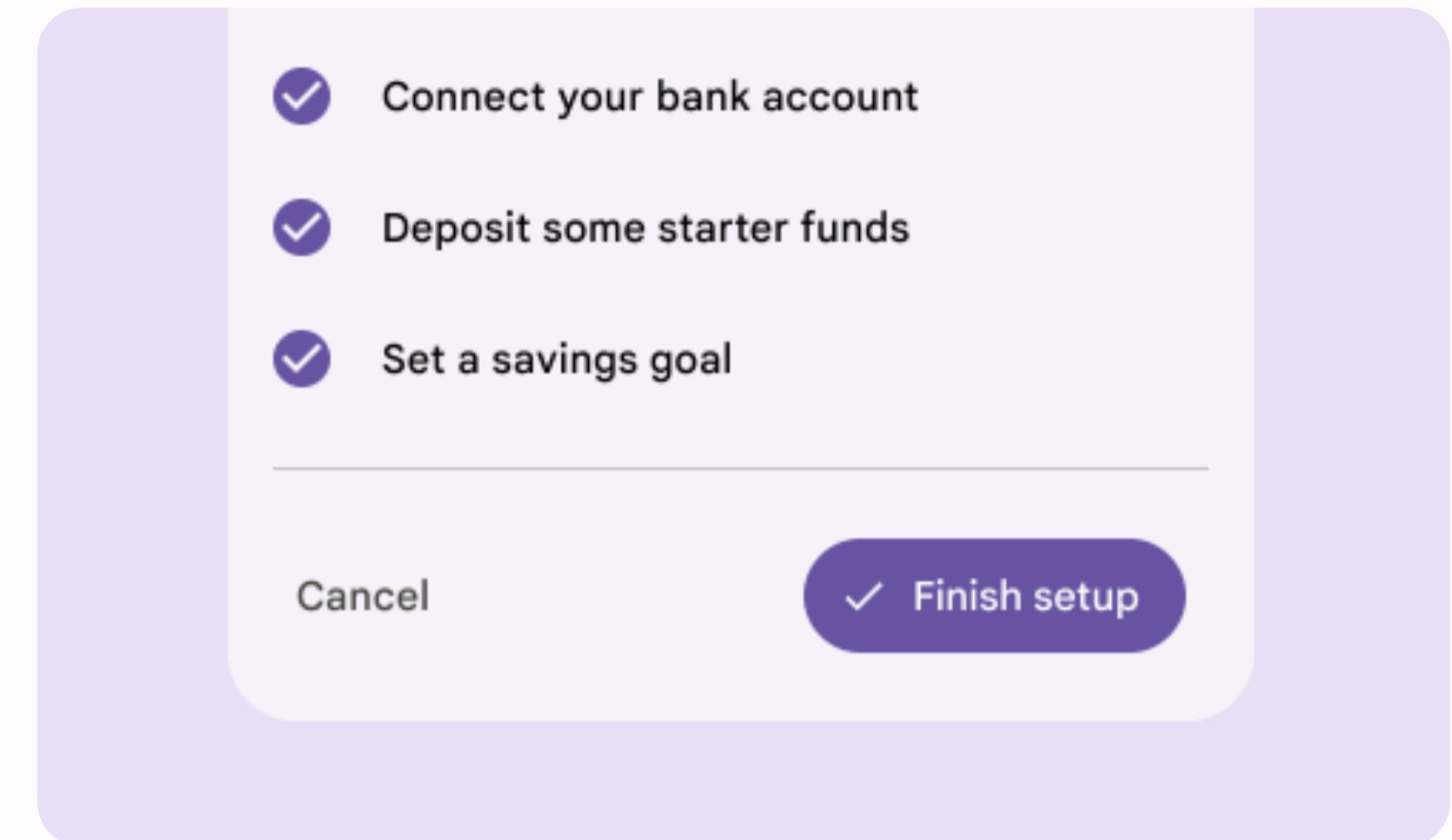
Roles

Body

- long passages of text in your app
- use typeface that are readable at smaller sizes
- avoid expressive fonts

The general consensus is that artists using digital turntables are just pushing random buttons when they perform live. But is that true? In the DMC Championships it's obvious that some artists are putting their various honed skills on display.

Most of the scorn for solo performers comes from the many who headline huge festivals. There must be some specialty skill they do in their performance to explain their million-dollar fees.

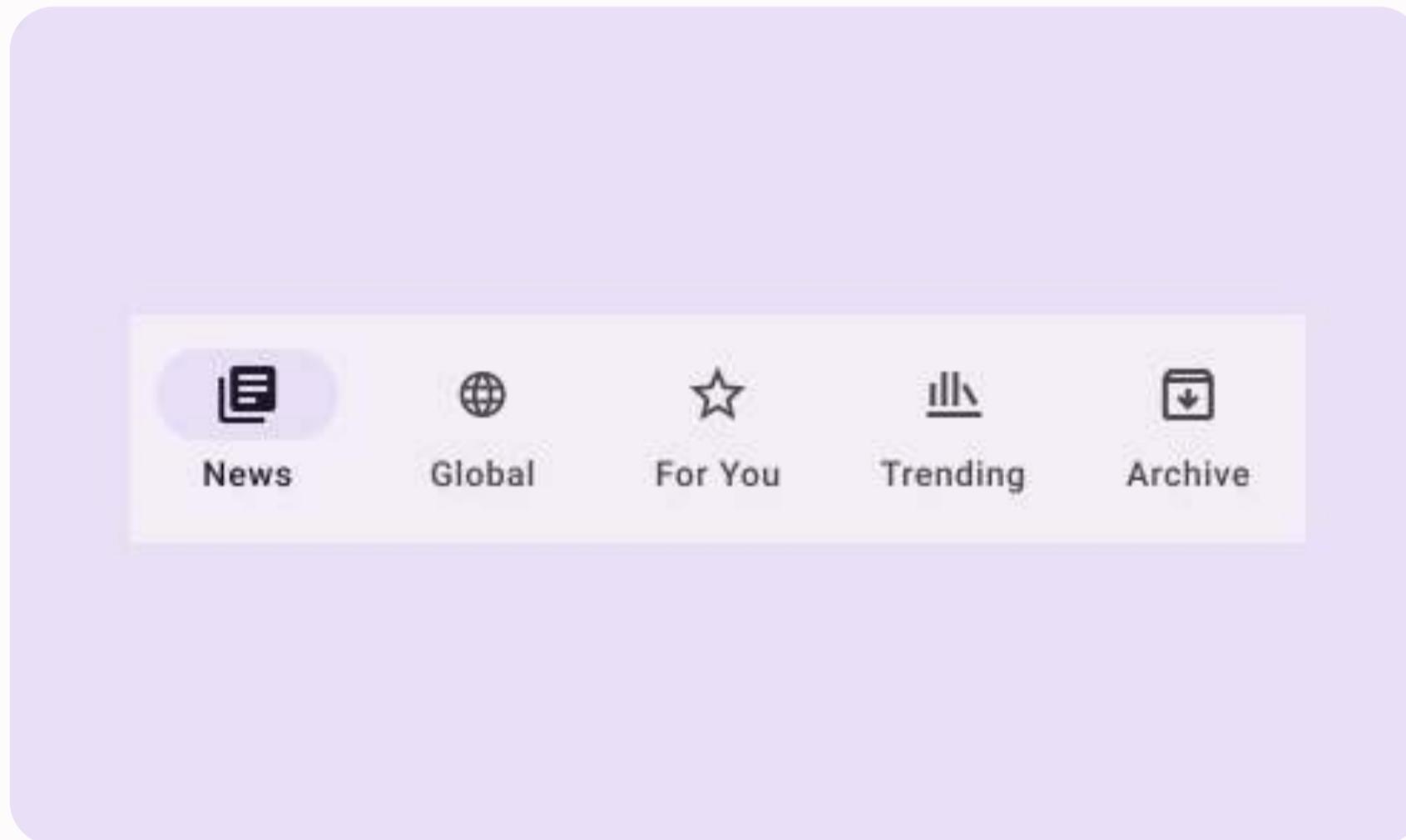
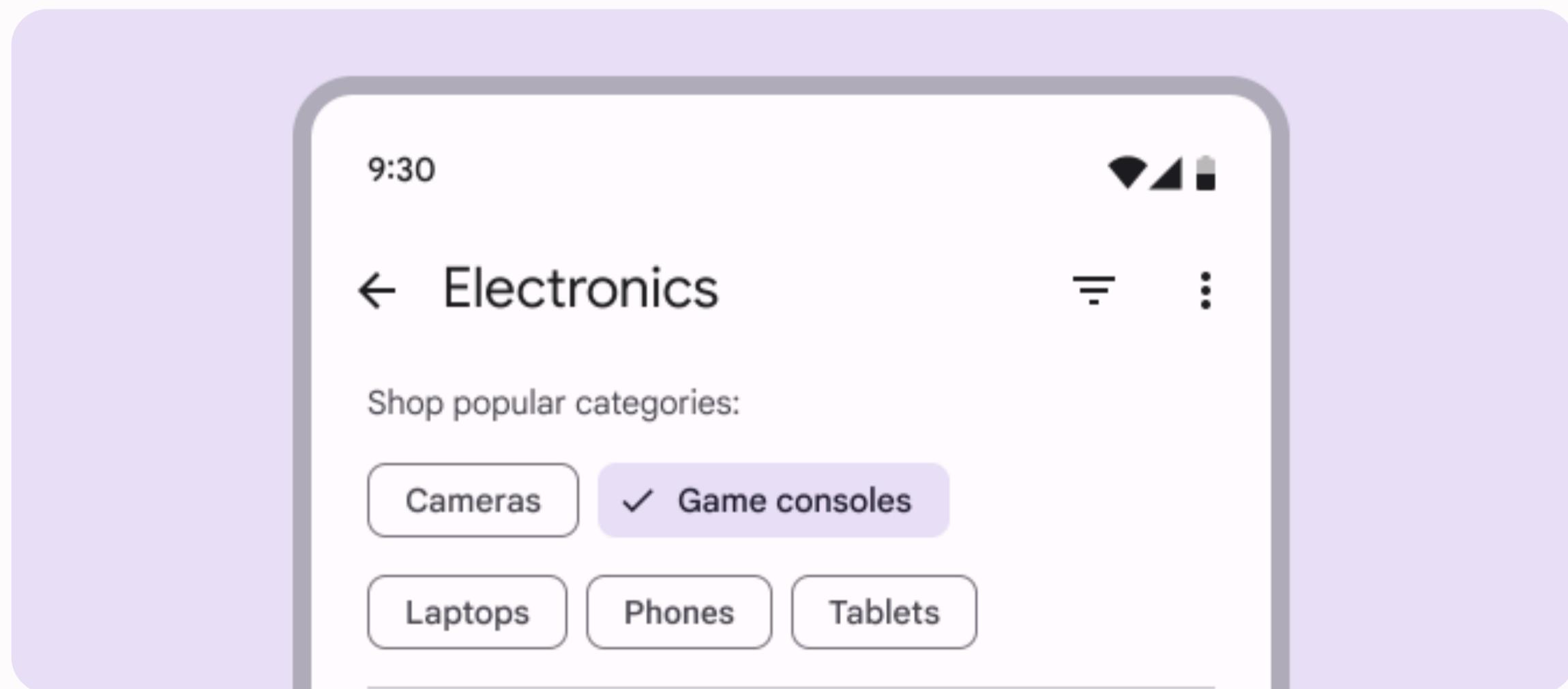
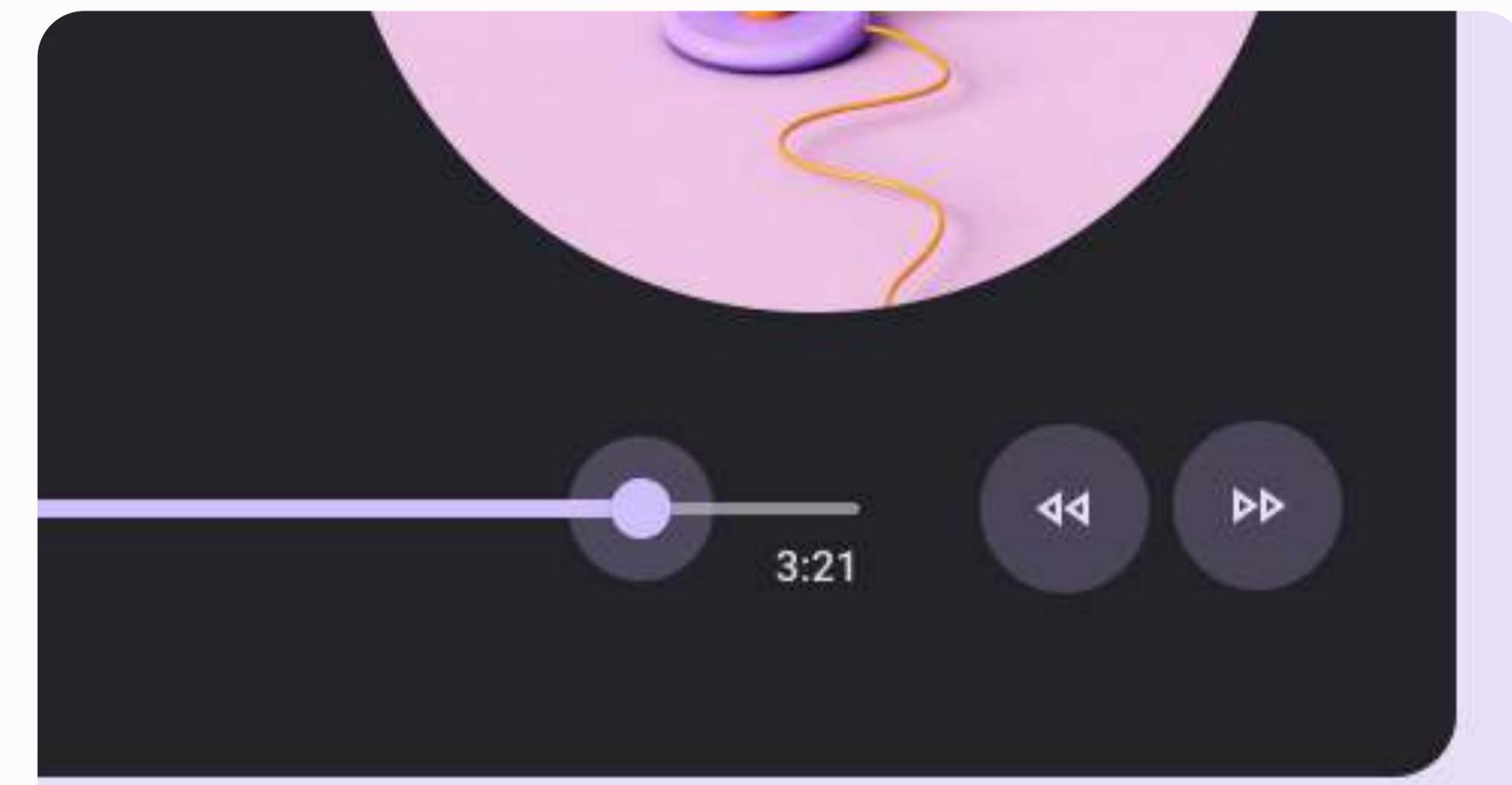


Parmigiano-Reggiano (Parmesan cheese) or Pecorino (sheep's milk cheese). These are blended with olive oil. Pesto is thought to have two predecessors from ancient times, reaching into the Roman age. One is a similar paste called moretum, made of crushed garlic, cheese, salt, olive oil, vinegar, and herbs. Another is a popular sauce in Genoese cuisine from the Middle Ages called agliata, made by mashing walnuts and garlic.

Roles

Label

- smaller, utilitarian styles, used for things like the text inside components
- for very small text in the content body
- use the large label style for buttons



Customizing

Personalize your typescale

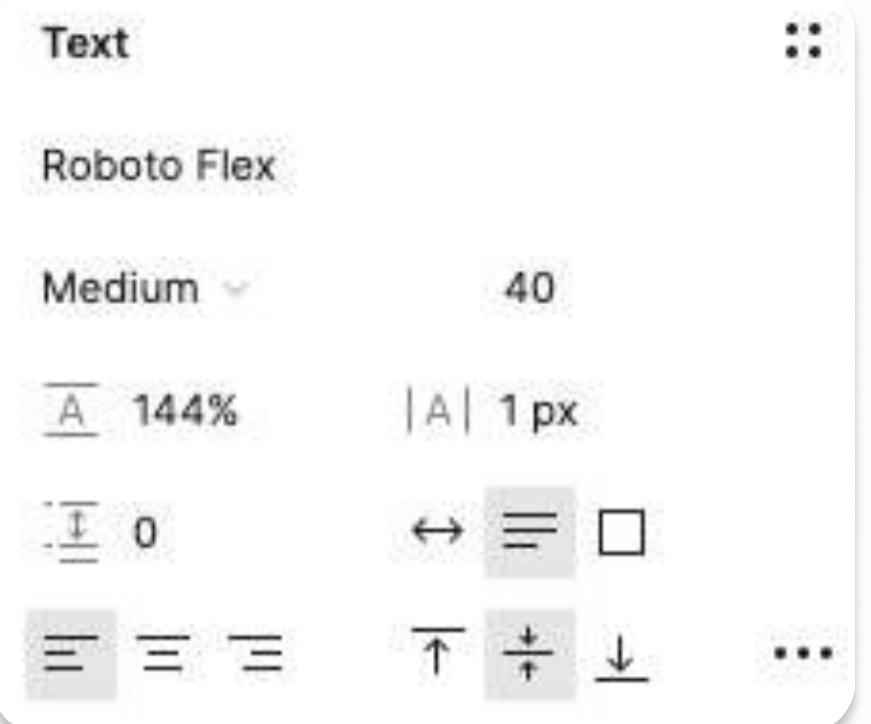
- adding your own default styles
- use the default font scheme as orientation for **sizing**
(e.g. size 14 for text)
- create an **impactful contrast** between sizes
(avoid small differences)
- just use a set of tokens (~5 is a good basis)



Customizing

Personalize your typescale

- choose your preferred typeface
- match type size and width
- line height and letter spacing values



Podcasts

Default

Podcasts

typeface

Podcasts

weight

Podcasts

Podcasts

line height

Podcasts

letter spacing

Podcasts
Podcasts

Customizing

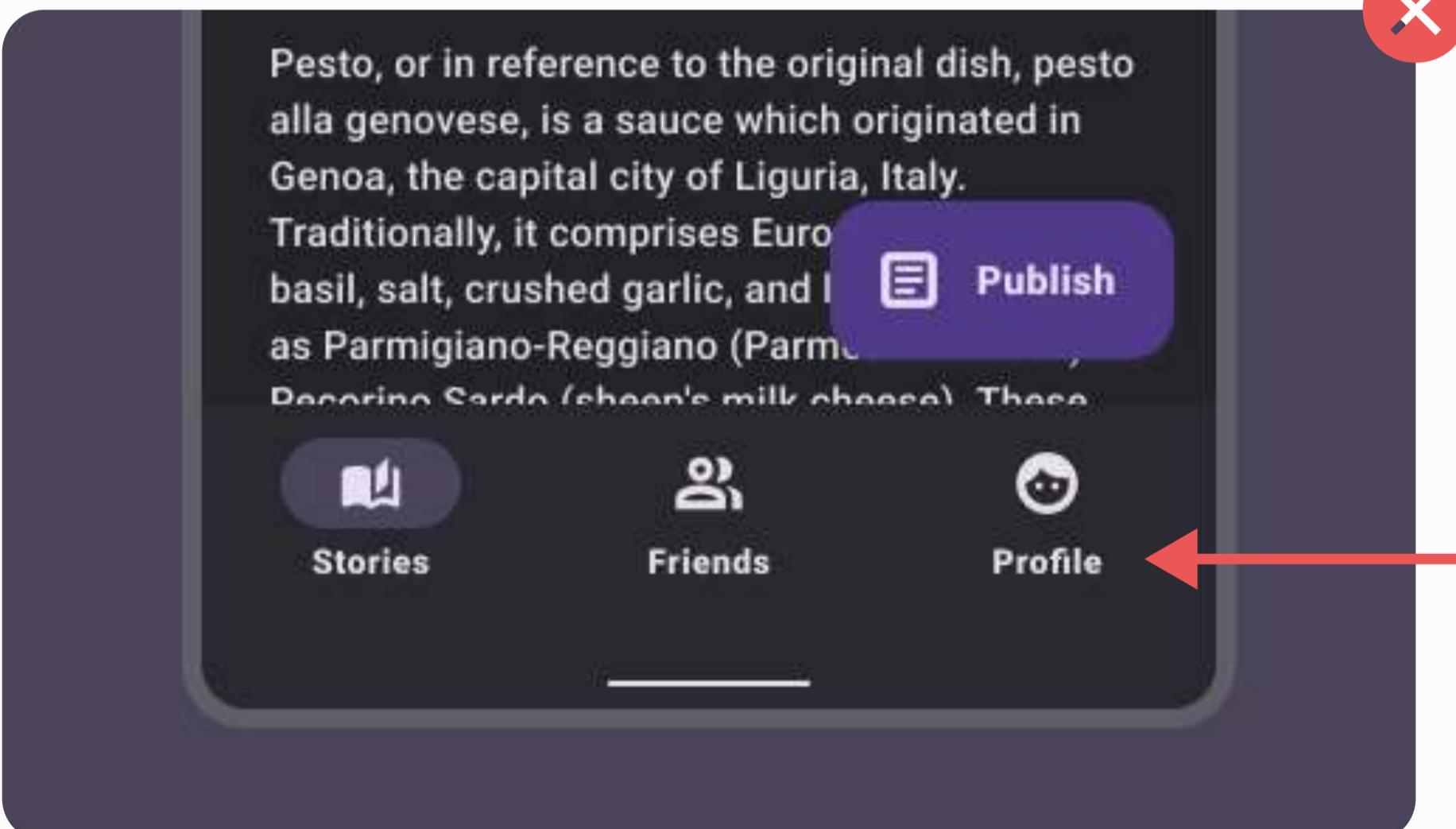
Personalize your typescale

- **weight:** overall thickness
- be careful with using lighter weight type for body text or small sizes
- better use lighter weights for larger font sizes (e.g. display)
- excessive weight at smaller sizes may affect legibility

The general consensus is that artists using digital turntables are just pushing random buttons when they perform live. But is that true? In the DMC Championships it's obvious that some artists ← are putting their various honed skills on display.

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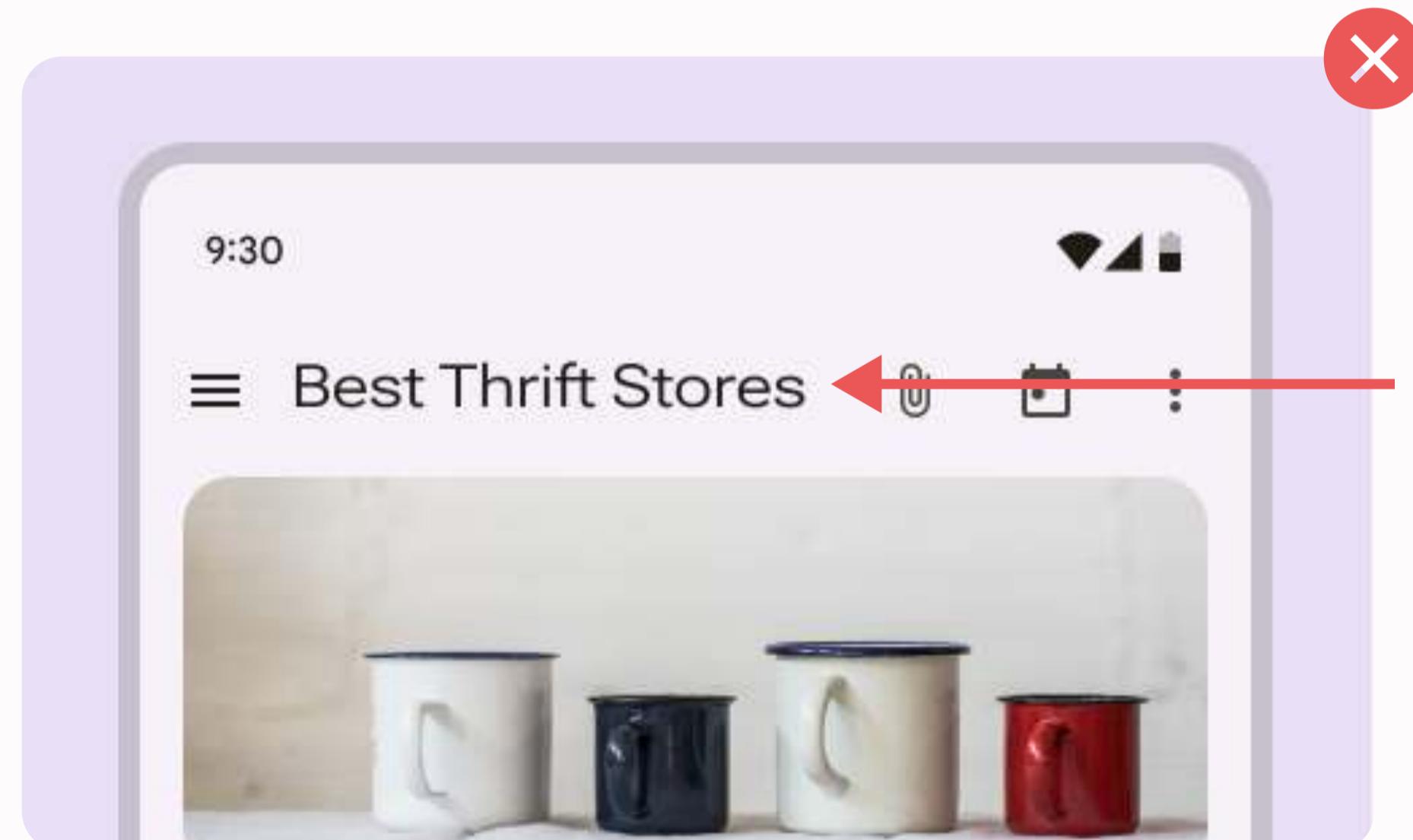
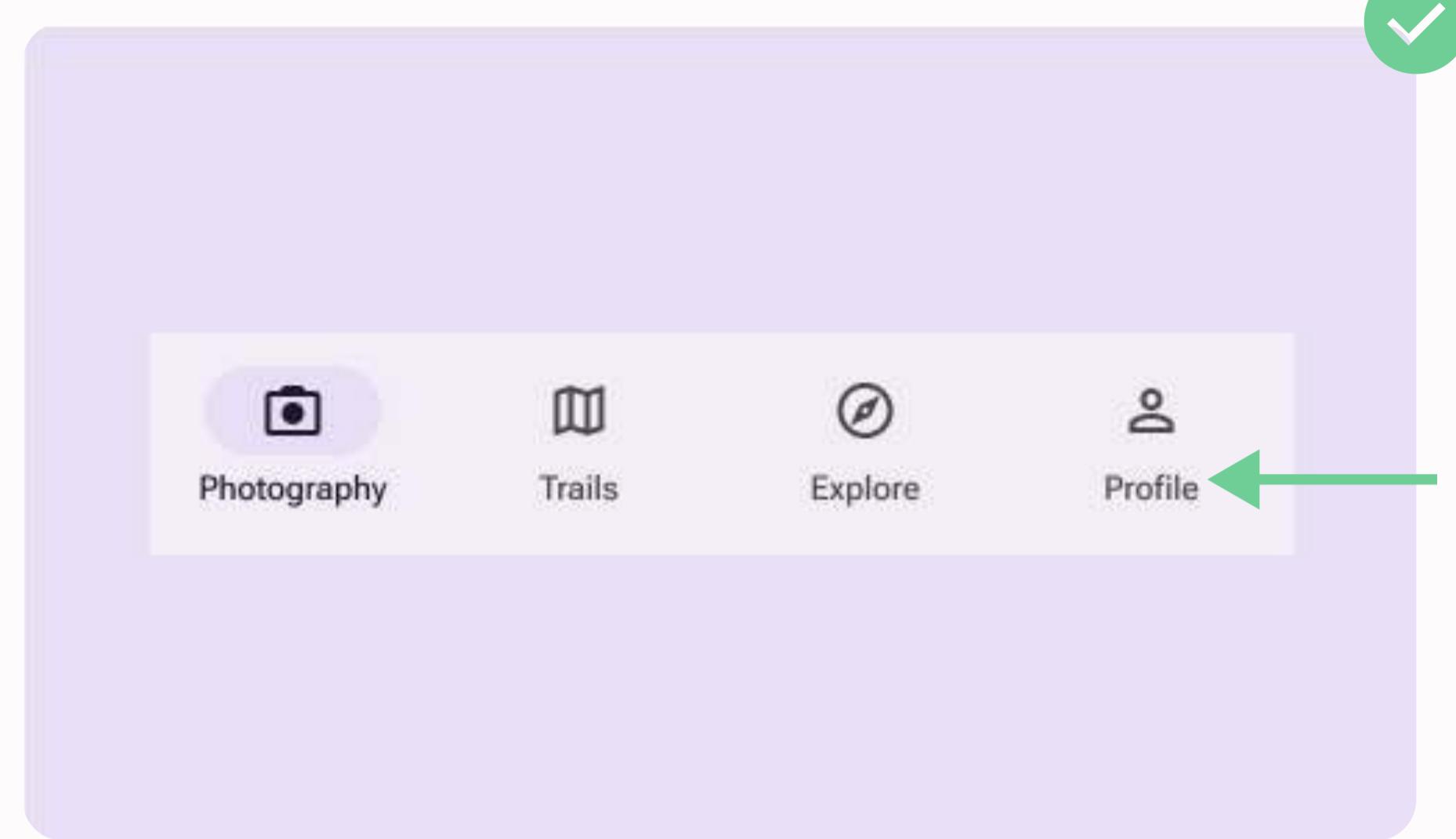
We decided to send in an undercover reporter to the American EDM festival to find out what the whole DJ industry is really



Customizing

Personalize your typescale

- **width:** horizontal space for characters
- avoid stretch them at limited space
- thinner width allows more character to fit at small sizes



Display Large
Display Medium
Display Small

Headline Large
Headline Medium

Headline Small

Title Large
Title Medium

Title Small

Label Large
Label Large

Label Medium

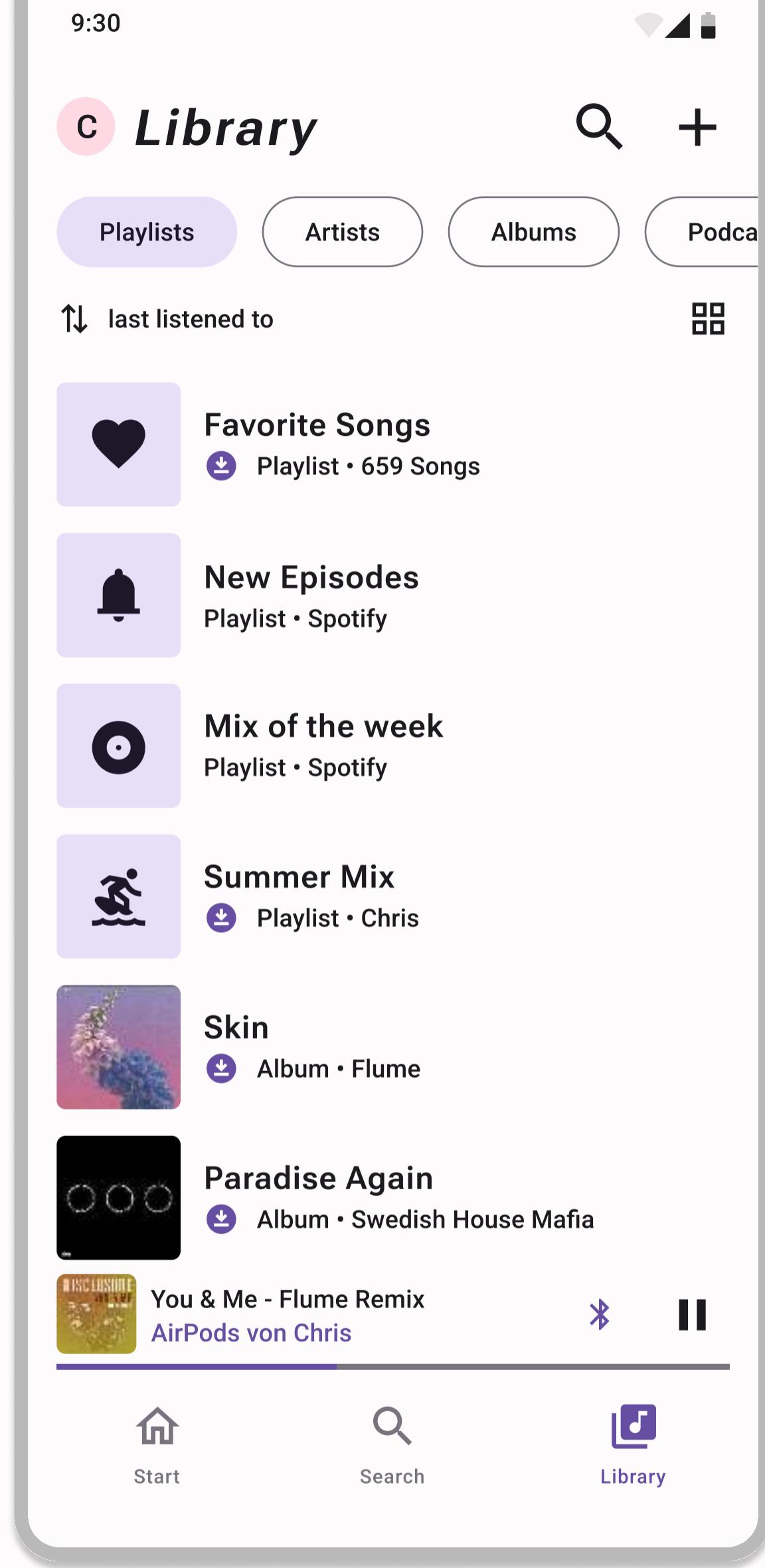
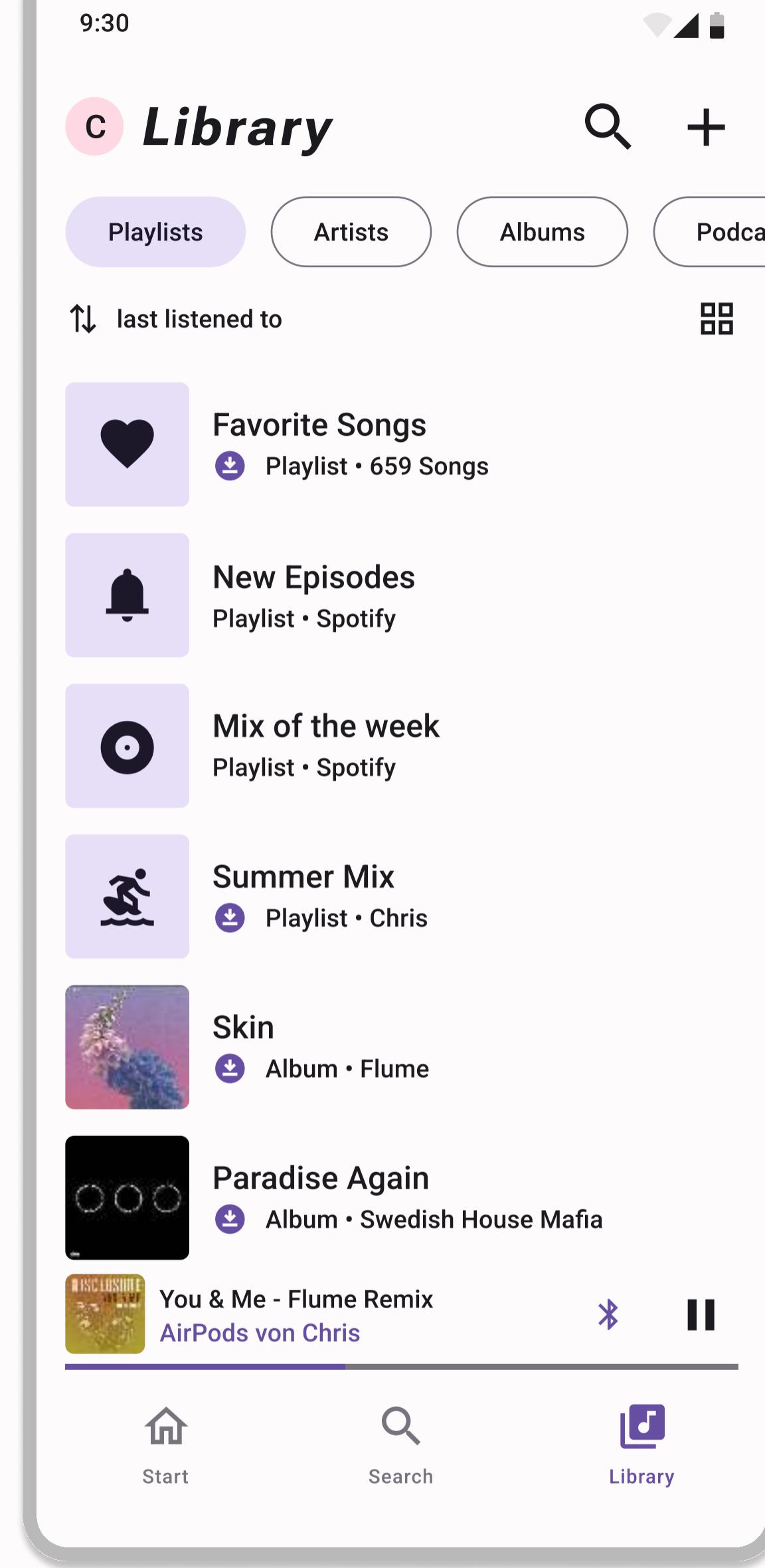
Label Small

Body Large
Body Medium
Body Small

Headline Medium

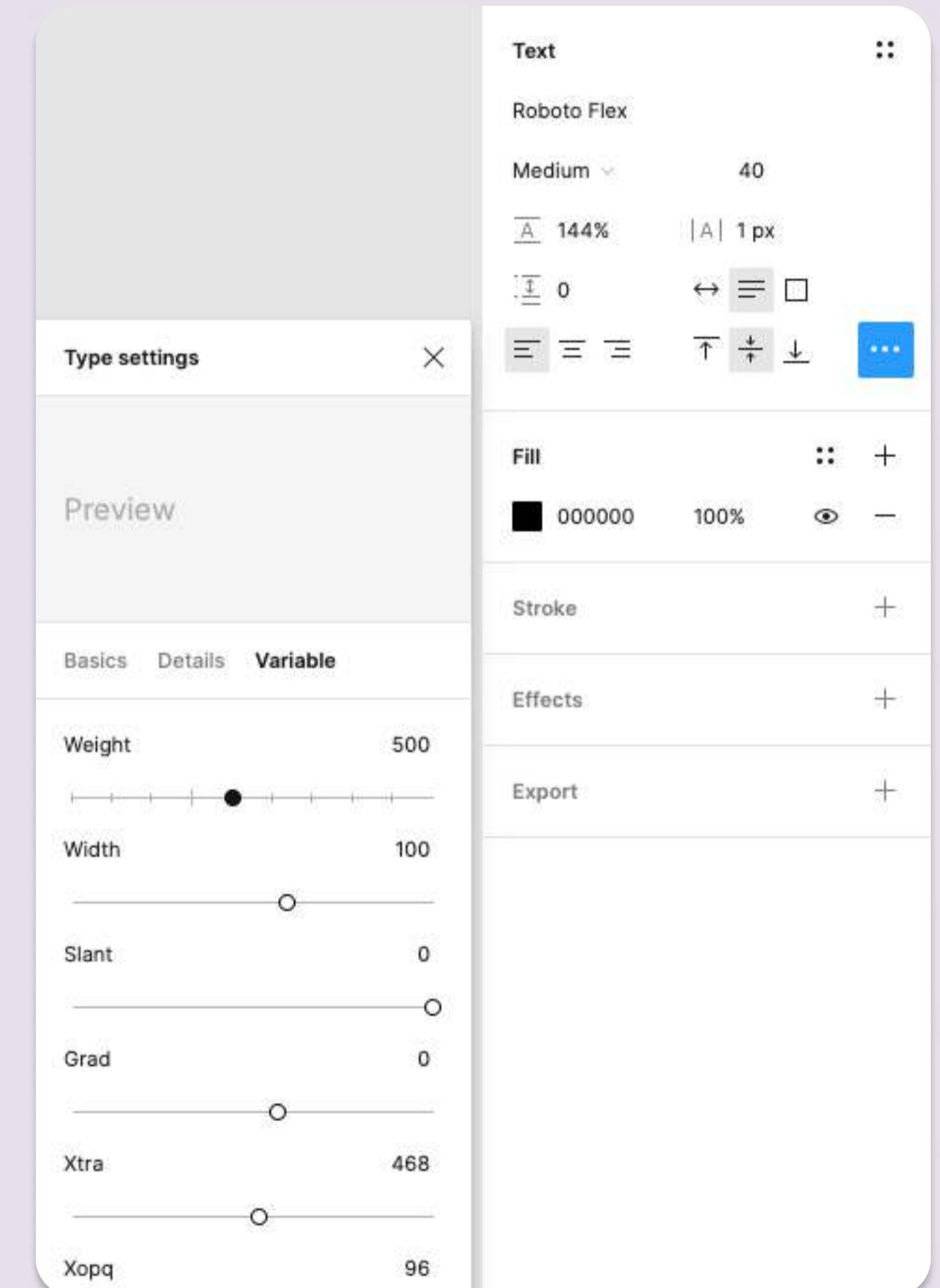
Title Medium

Label Large



Practical Part

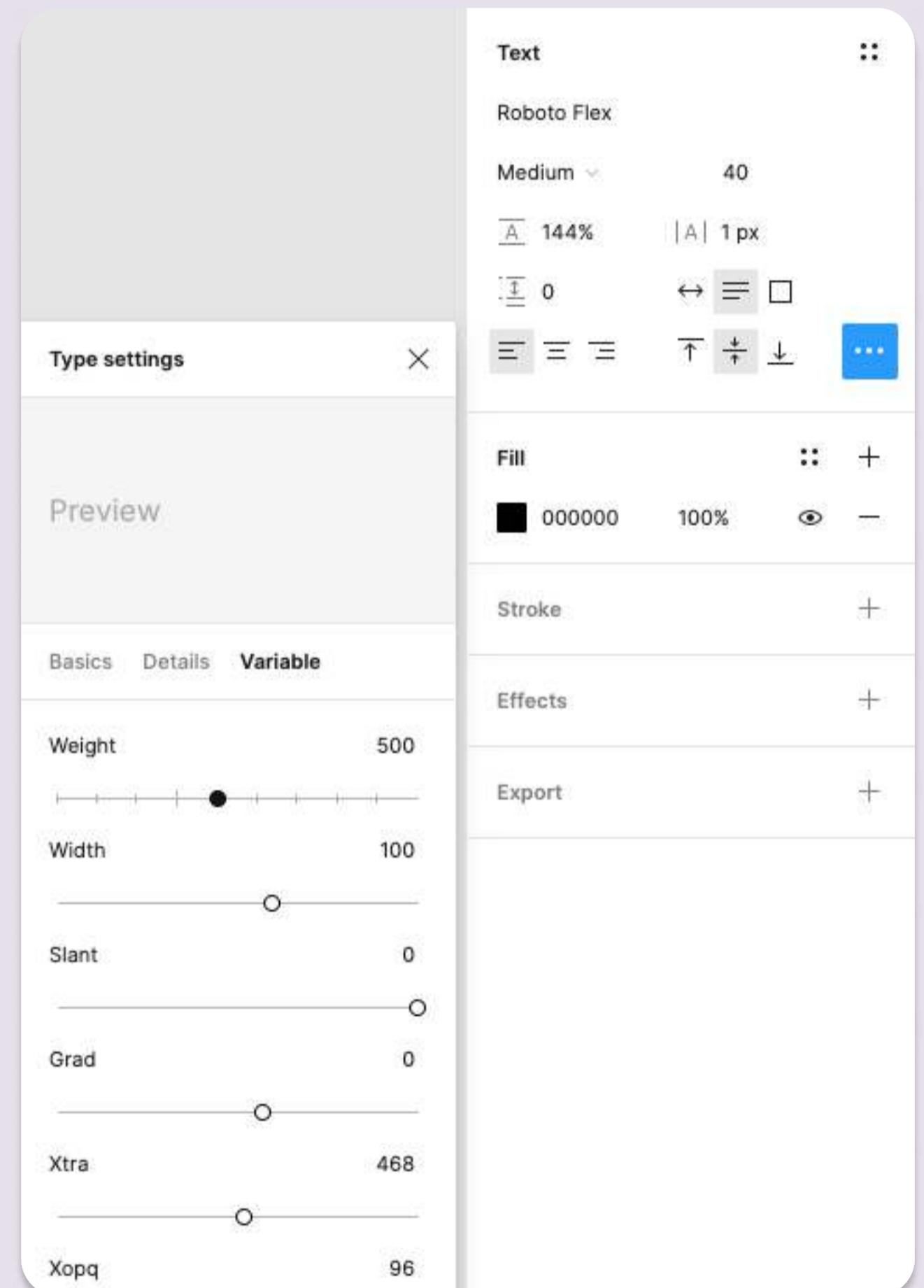
Personalization and applying fonts

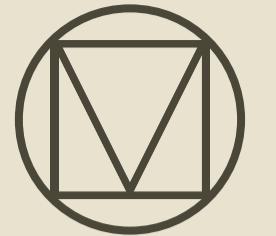


Takeaways

Typography

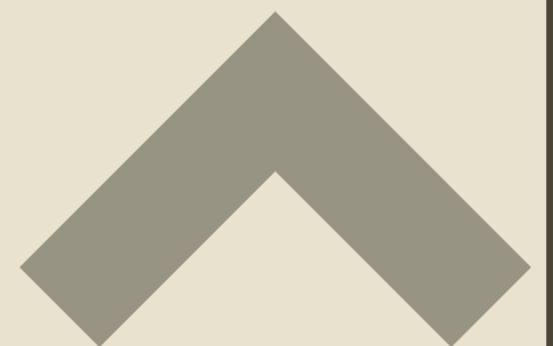
- use or create font **tokens** for your app
- just use a set of text styles that provide impactful **contrast** between sizes
- large styles (**display, headline, title**) can be expressive with a lighter font weight, but should be shorter
- smaller styles (**body, label**) should be easy to read and are used for longer text, buttons, labeling





MATERIAL DESIGN

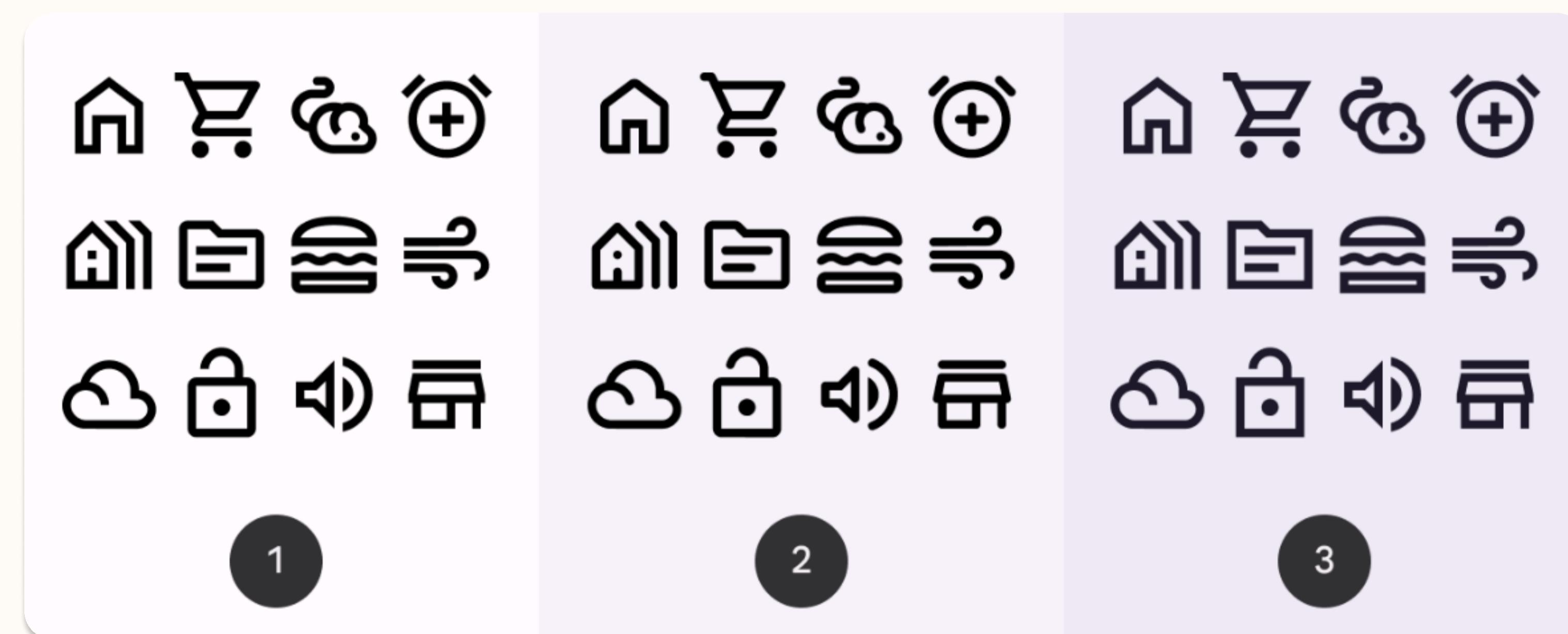
Icons



Material Symbols

Styles

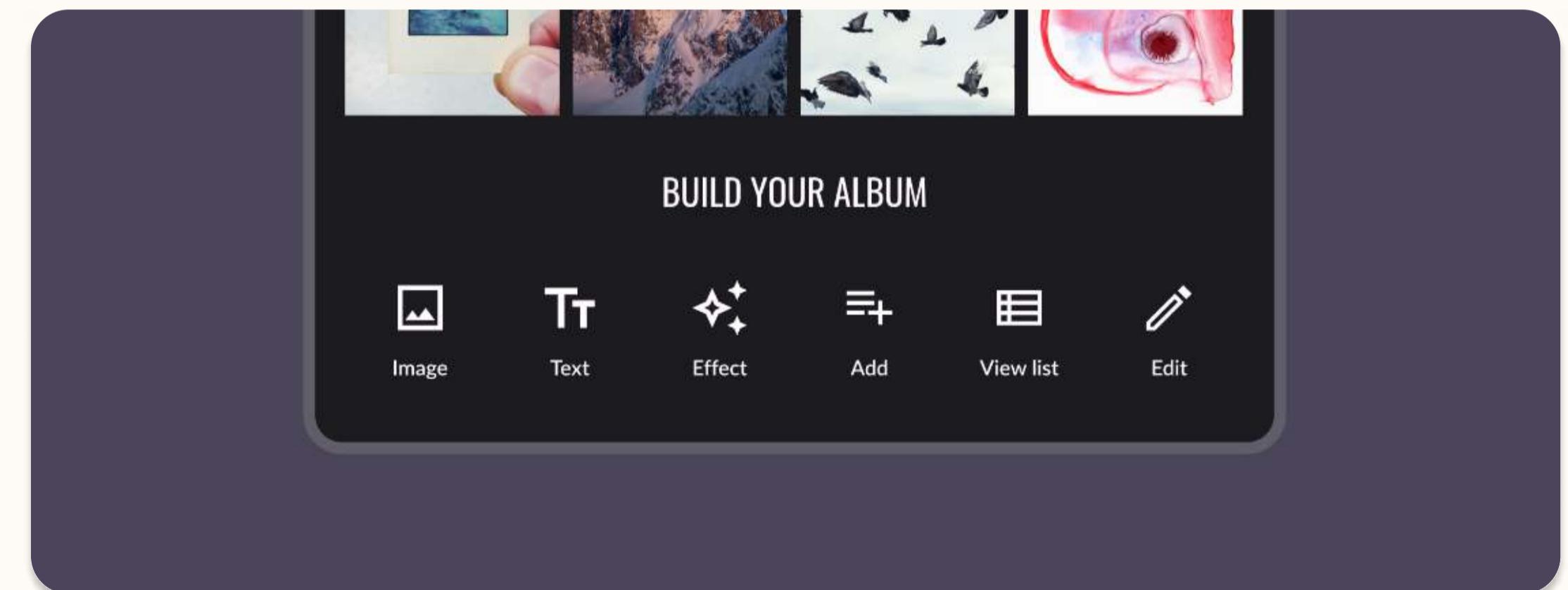
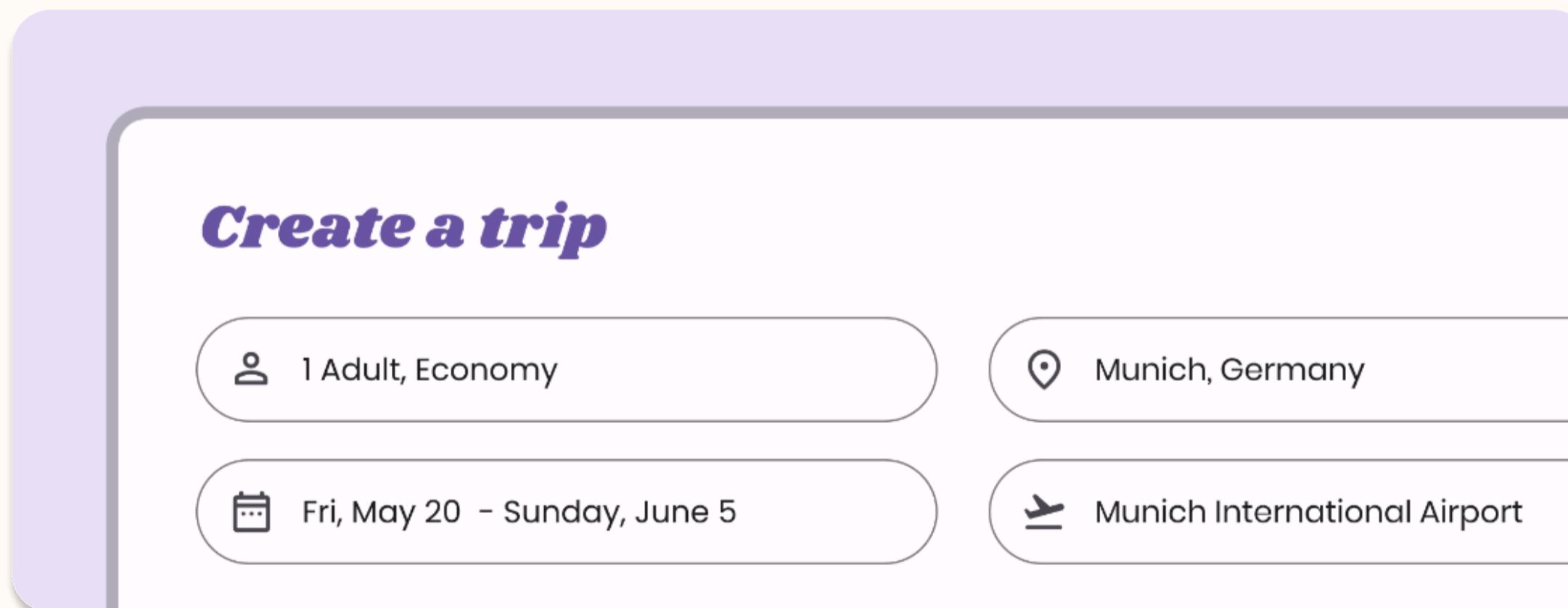
- outlined (1), rounded (2) and sharp (3)
- all symbols are in the SVG format (vectors)



Shape

Rounded vs sharp

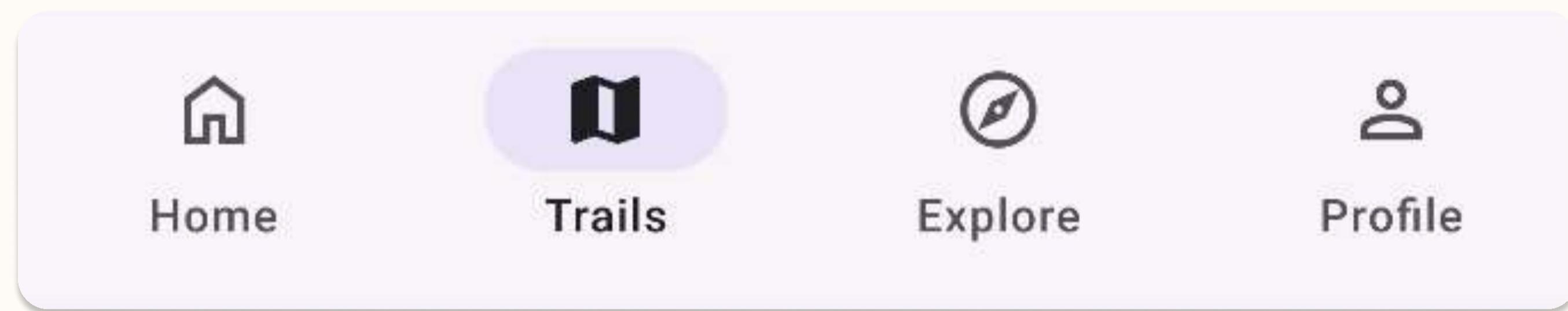
- in the left example rounded icons and buttons are used
- in the right example the sharp icons reflect the apps rectangle design



Fill

Outlined vs filled

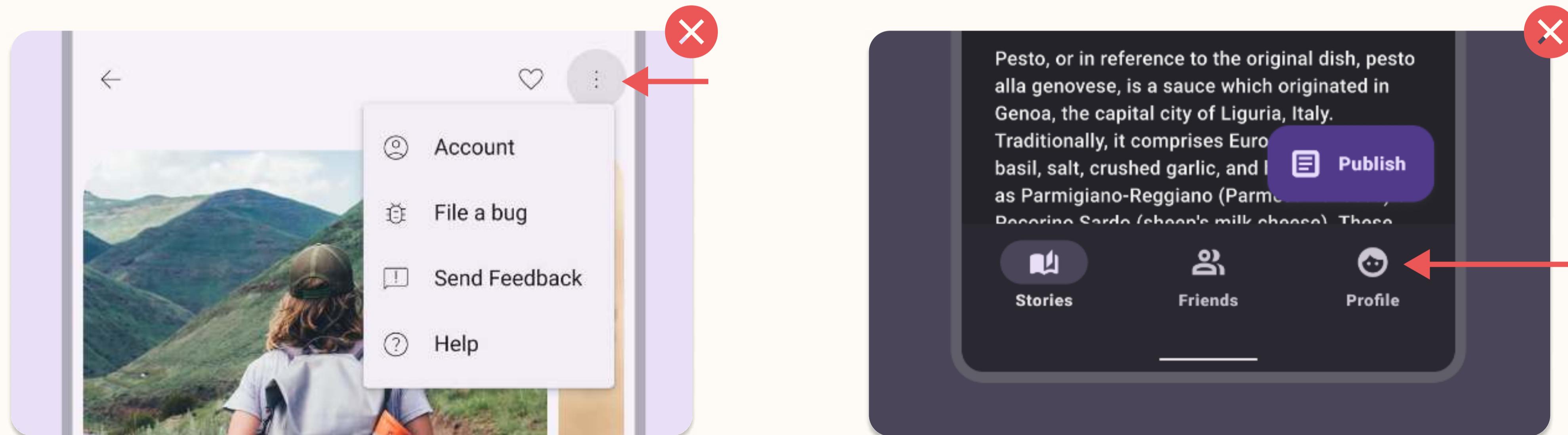
- outlined icons for unselected states
- filled icons for selected states



Do and do not

Weight

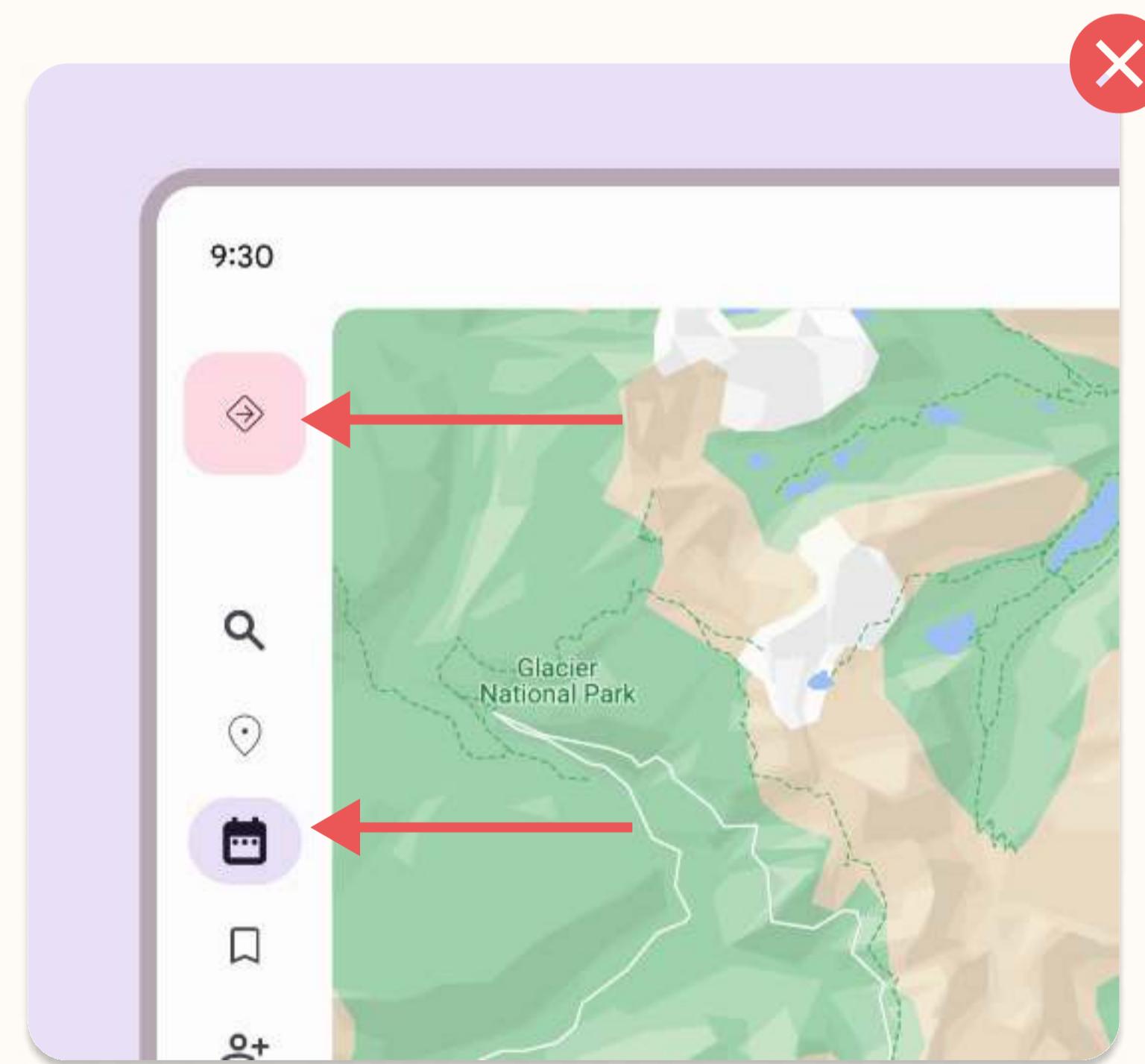
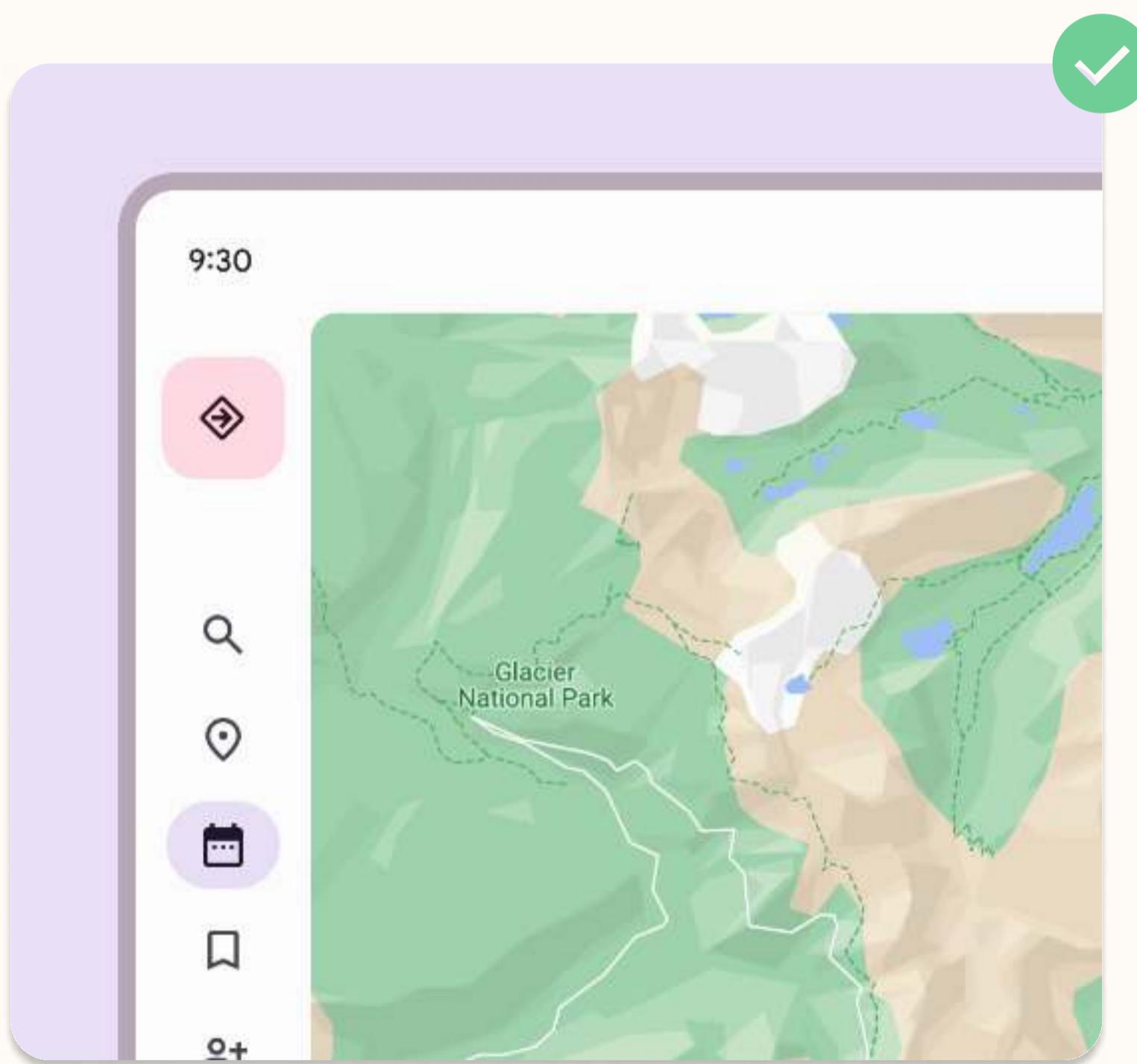
- 400 is the regular weight
- do not use the lightest weight for the standard size of 24dp
- be careful with excessive weight for the standard size of 24dp



Do and do not

Weight

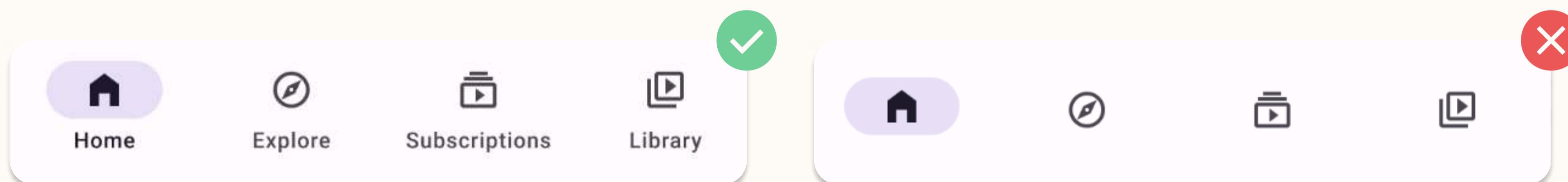
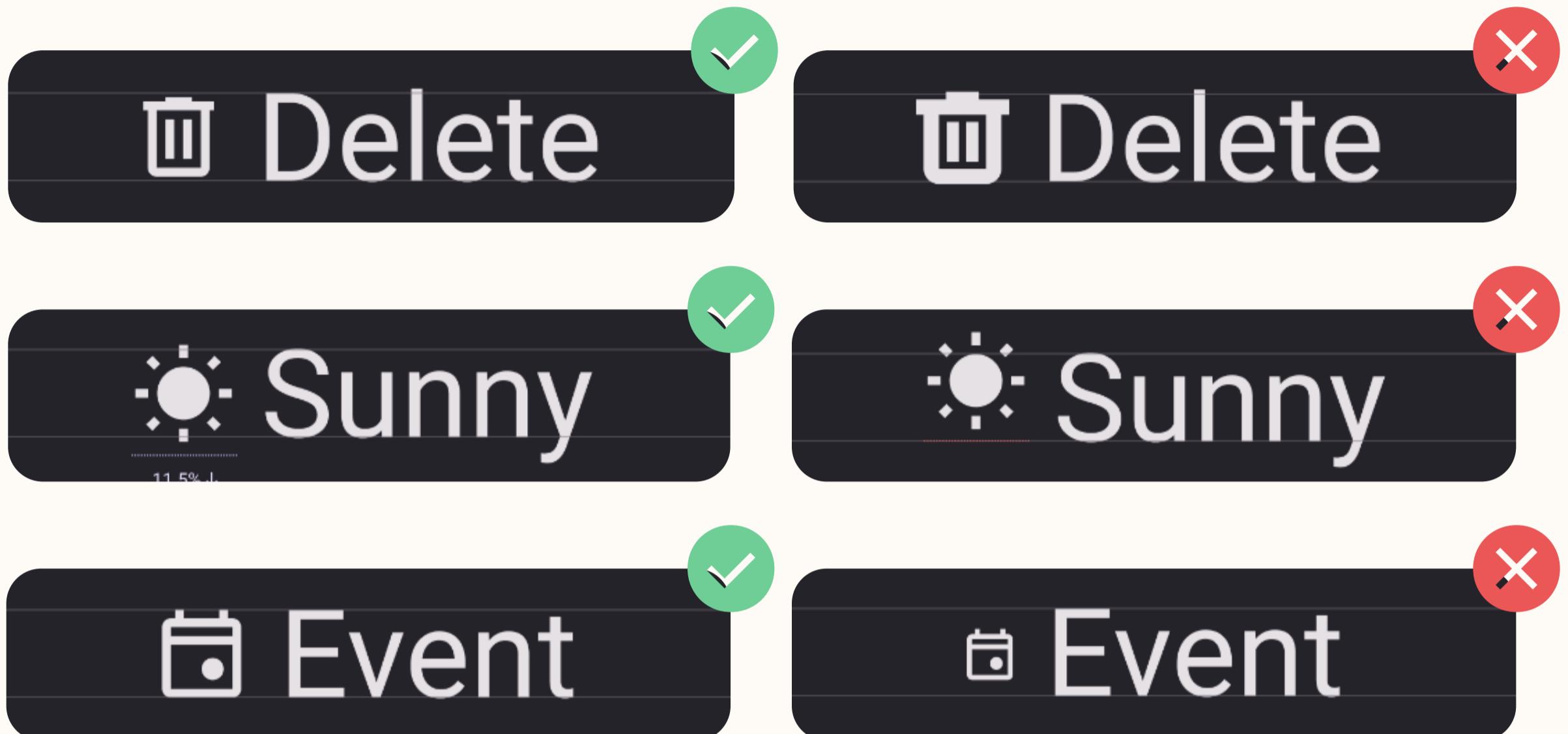
- do not mix different weights
- apply weights consistently



Do and do not

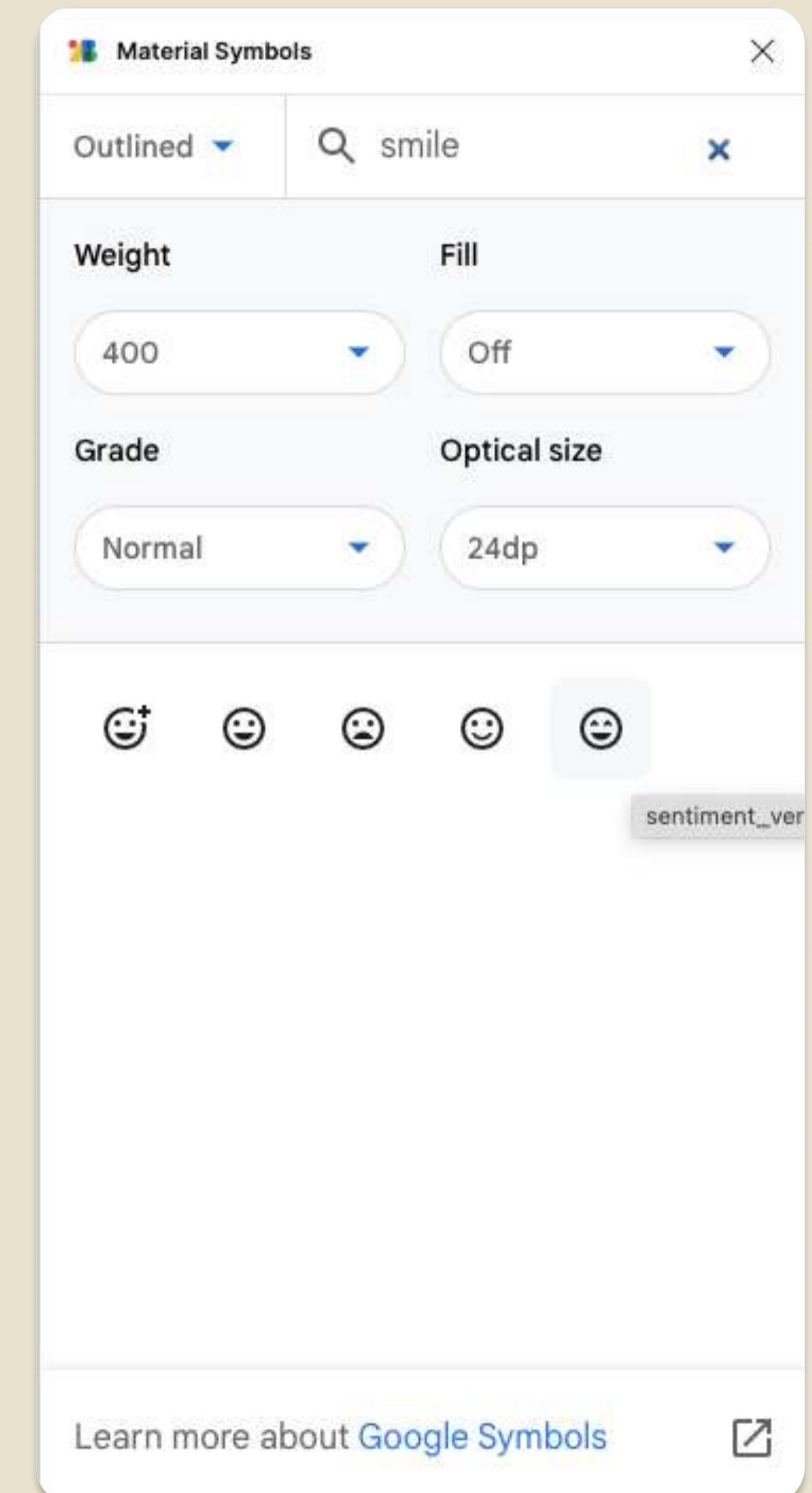
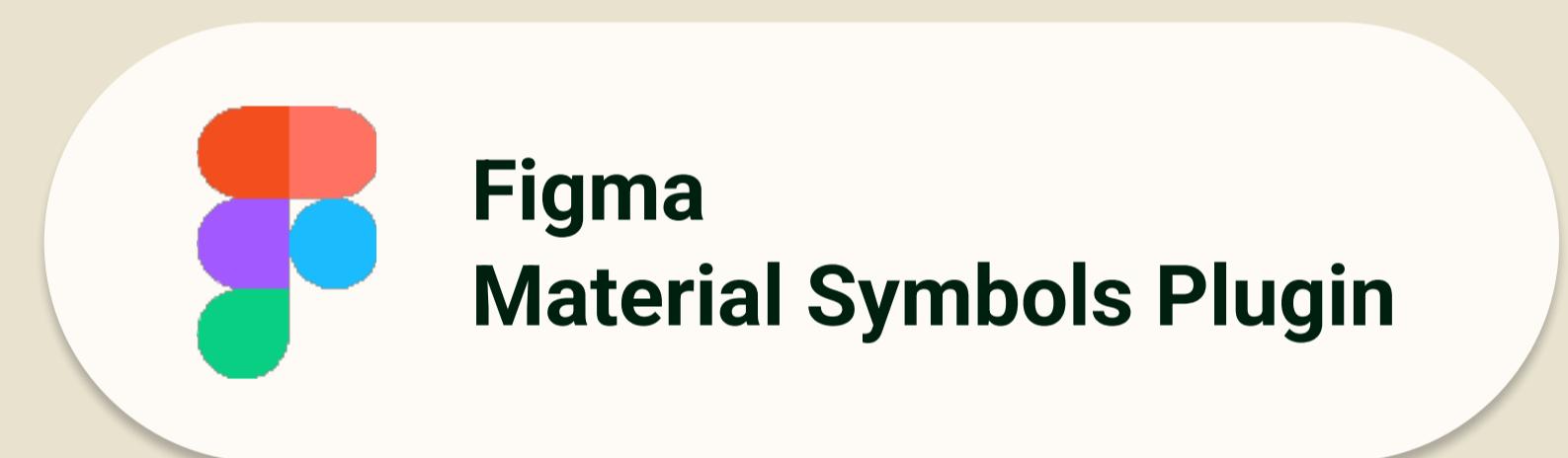
Pairing with typography

- use the same weight for icons and text
- icons should not be smaller than text
- icons should be in line with text
- use labels



Practical part

Icons



Takeaways

Icons

- Icons are small graphics used to symbolize common actions, files, devices, and directories
- can be dynamically customized include: weight, fill, optical size, and grade
- accessible via:

