

Design research document

Complementary app for sexual education

made by Branimir Borisov, November 2023

Table of content:

- 1. Introduction**
- 2. Research for suitable design for our Flutter mobile application**
- 2. Material 3 UI kit**
- 3. Theme, colours and fonts**
- 4. Shapes, spaces, shadows, outlines and images used in the app**

1. Introduction

We're creating an app to help teachers who work with blind students. The goal is to create a Flutter app that is easy to use and that is designed to be user-friendly and helpful, giving teachers tools and features that support their teaching in sexual education.

2. Research for suitable design for our Flutter mobile application

After a group discussion and a research on possible UI kits, we decided to use Material 3 UI Kit. It is a great choice for our app because it makes the app easy to use and it follows Google's design guidelines, so the app will look professional and maintain a consistent style. Plus, there are many online resources that will inspire us for the widgets we are planning to use. I got to know the UI kit from (<https://m3.material.io/>).

3. Material 3 UI kit

- What is Material Design?

Material Design is a design system built and supported by Google designers and developers. Material.io includes in-depth UX guidance and UI component implementations for Android, Flutter, and the Web.

- What is Material 3?

Material 3 enables personal, adaptive, and expressive experiences – from dynamic color and enhanced accessibility, to foundations for large screen layouts and design tokens.

This information is from: <https://m3.material.io/get-started>

- Where did I find the Material 3 Design Kit itself?

I found the UI kit in the Figma Community and I used the the Figma's plugin for Material Design icons.









The link to the UI kit (<https://www.figma.com/community/file/1035203688168086460>)

The link to the plugin (<https://www.figma.com/community/plugin/740272380439725040>)

3. Theme, colours and fonts

- Theme & Colours:

Application colors

Intense	Soft	
		Primary
		Secondary
		Connected
		Disconnected

	Dark purple
	Light purple
	Light pink
	Pink
	Semi-dark purple
	Grey - purple
	ON - green
	OFF - red
	ON - green - contrast

The colours were customised but initially taken from default Material UI Theme.

Link to the default theme: <https://m3.material.io/styles/color/system/overview#9e93d40d-7733-4c10-ba68-e3ffb529bb5c>

Link to the the customise option: <https://m3.material.io/styles/color/system/how-the-system-works#bad18447-5981-410b-9b6c-ba4b9cce7344>

- Fonts:

My choice: Roboto font

For the application I decided to use Roboto as a font in my app. This font is created by Google and is notable for its simple design, which blends straight lines and smooth curves. Roboto's variety in styles, ranging from light to bold, allows me to use it flexibly throughout my app, be it for eye-catching headlines or easy-to-read body text. Implementing Roboto gives my app a modern and trustworthy feel. It's a font that's both clear and contemporary, ensuring that my app looks up-to-date and well-crafted.

Overall, I think Roboto is a great choice for my app, making it look good while keeping the text clear for users.

Links:

<https://fonts.google.com/specimen/Roboto>

<https://en.wikipedia.org/wiki/Roboto>



4. Shapes, spaces, shadows, outlines and images used in the app

- Shapes:

The expanded M3 shape system uses a size-based scale with 7 styles which I will use in the following scenarios:

None (0 px) - used for Bottom app bars, Tabs and Lists

Extra small (4 px) - usually used for Text fields but I prefer to use 8 px for that

Small (8 px) - used for Text fields

Medium (12 px) - used for Cards

Large (16 px) - used for Floating text

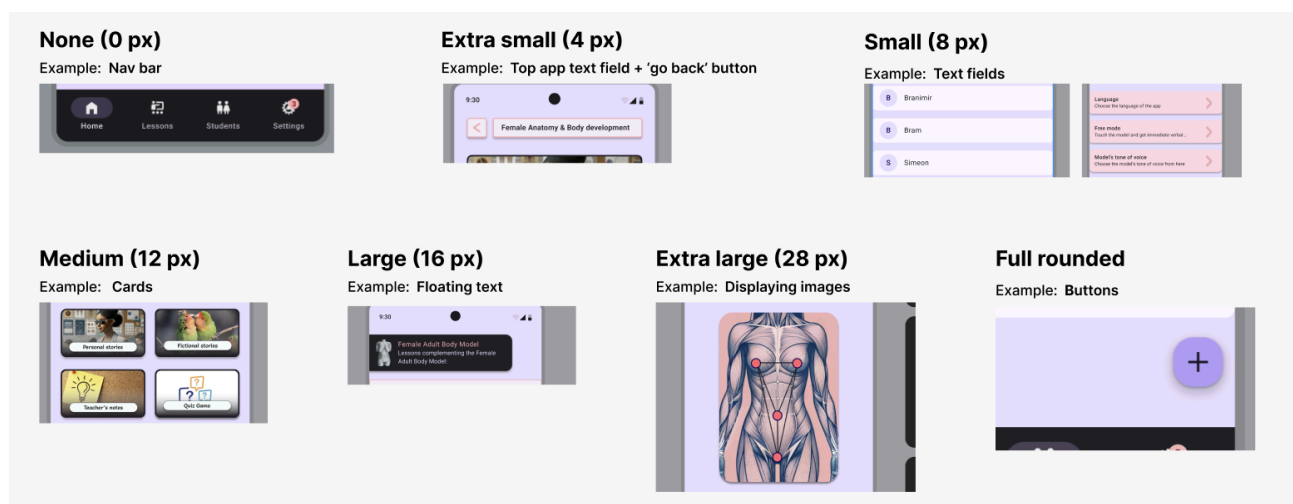
Extra large (28 px) - used for Displaying images

Full rounded - used for Buttons, Icon buttons, Sliders

Overview of Material 3 UI shapes: <https://m3.material.io/styles/shape/overview#81a1857b-add5-44eb-ab54-00ea191013f7>

Baseline shapes detailed info: <https://m3.material.io/styles/shape/shape-scale-tokens#b09934f1-1b0f-4ce4-ade6-4a1f138add6c>

Implementation of the mentioned shapes:

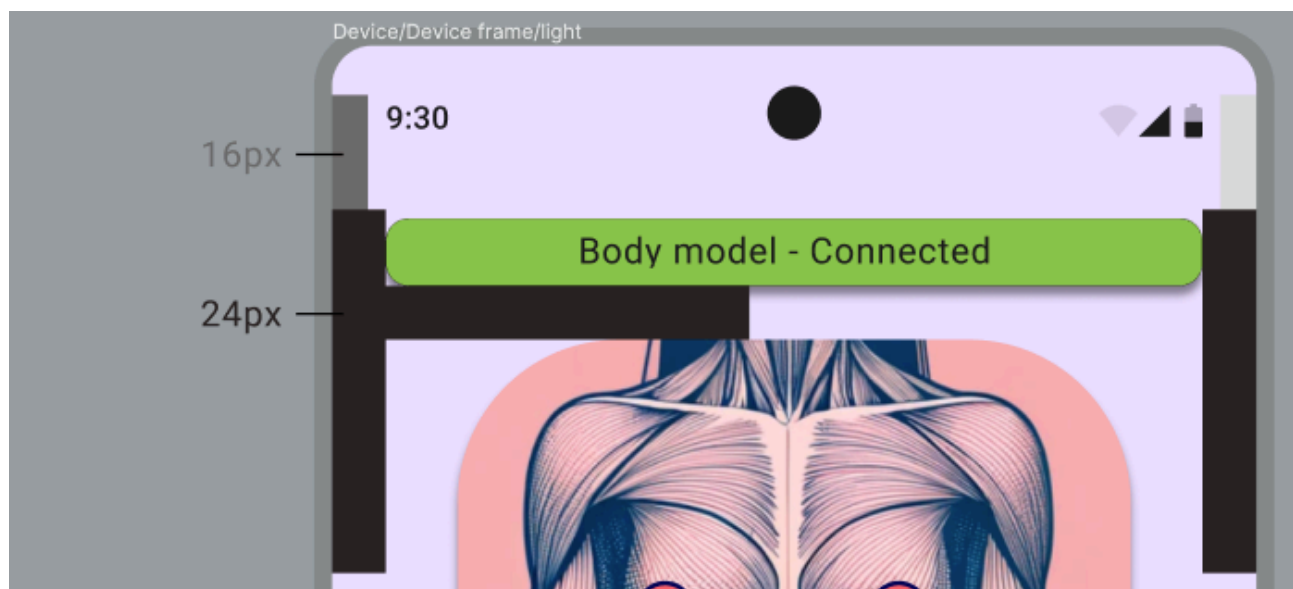


More info about the shapes: <https://m3.material.io/styles/shape/shape-scale-tokens#2de68fd7-fd0e-48e9-abf4-96d06ef48658>

- Spaces:

By following Material 3 UI kit, I picked the Medium and the Compact spacing layouts. The Medium spacing layouts have margins of 24px, while the Compact have only 16px.

Example from the First Iteration of the Hi-fi:



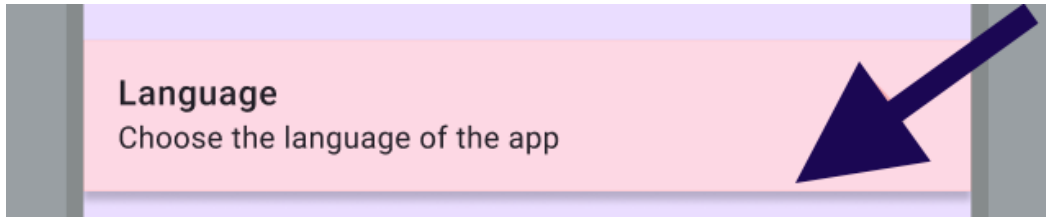
More about the Medium spacing: <https://m3.material.io/foundations/layout/applying-layout/medium#0a78287b-3f21-42e6-a08f-a8a199f9a8e3>

More about the Compact spacing: <https://m3.material.io/foundations/layout/applying-layout/compact#7c838611-d3f0-49c1-9140-1f983c9db0f6>

- Shadows:

Material 3 UI kit says when using shadows “Instead of applying shadows by default to all levels, use shadows only when required to create additional protection against a background or to encourage interaction”

That is why I added shadows in several places. I picked to use shadows type “Level 2” which means a shadow with 3px of dept. For colour of the shadow I used the colour of the navigation bar (colour #211F26) with intensity of 25%. You can see the shadow in the picture below:



Overview fo M3 Shadows: <https://m3.material.io/styles/elevation/overview#31b94605-a9fc-4b16-b494-23a42cd6a26f>

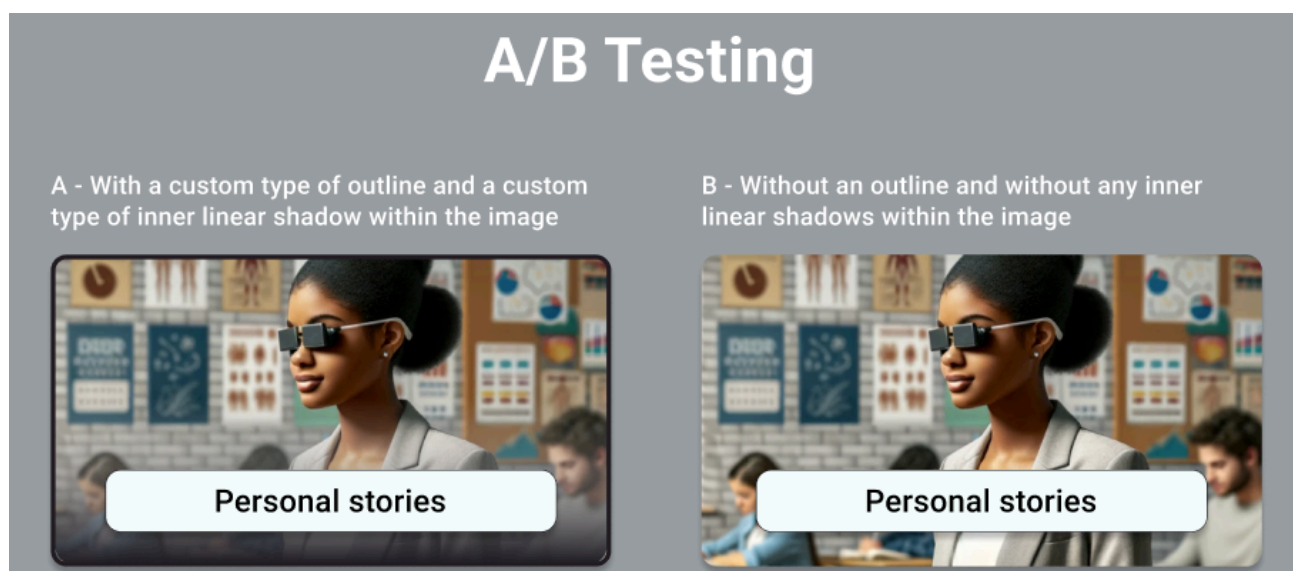
Levels of shadows where you can see the “Level 2” next to the rest types of shadows: <https://m3.material.io/styles/elevation/applying-elevation#7da4567a-61f1-43bc-825b-3bc49e9029a8>

- Outlines:

All Material 3 outlines in the original UI kit are build for input field, which we have only in one place - in the Teachers notes (a mode within each lesson).

Regarding the online presentation of images, the original Material Design 3 (M3) User Interface (UI) kit does not include any components or specifications. Additionally, the use of inner linear shadows in components like images is not mentioned or detailed anywhere within the M3 guidelines. That is why I decided to add a custom type of outline of pictures and a custom type of inner linear shadows in the images. To evaluate my decision, conducted an A/B testing.

The A/B testing:



The the A/B testing is clear: My custom modifications have significantly improved the visual appeal of the images, making them more attractive to users. Therefore, it's evident that these custom modifications contribute to a more user-friendly experience compared to the standard Material 3 approach.

- Images

Regarding the images, it's important to note that for some of them, I used the AI tool 'DALL-E', while others were taken from the free browser.

Examples of the different pictures:

