

# How design tokens can bring us *closer*

Patrycja Radaczyńska, 2023

÷ **Babbel**

# What we will cover today

Disconnection

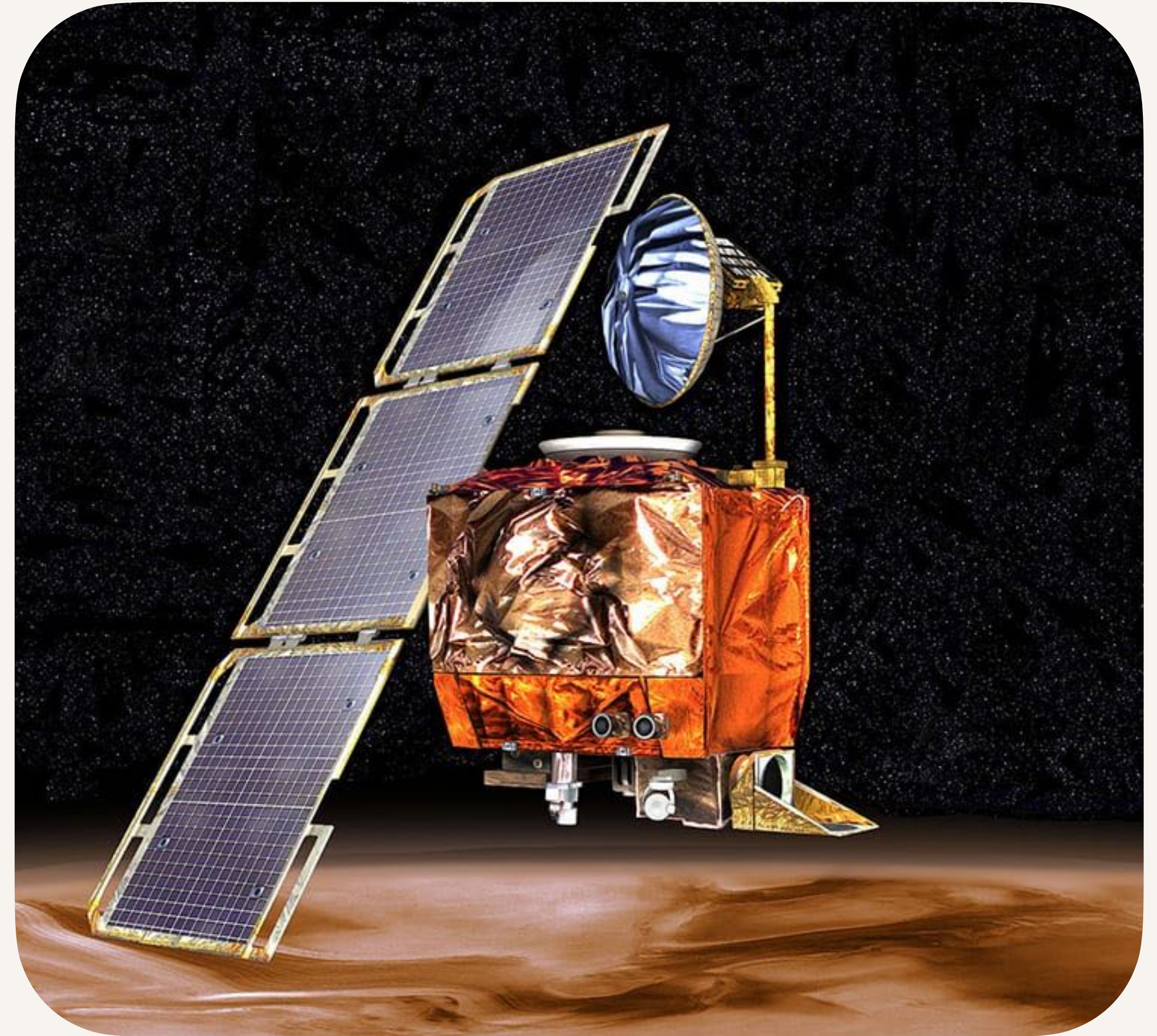
What are  
design tokens

One source  
of truth

How it  
brought us  
closer  
together

Disconnection

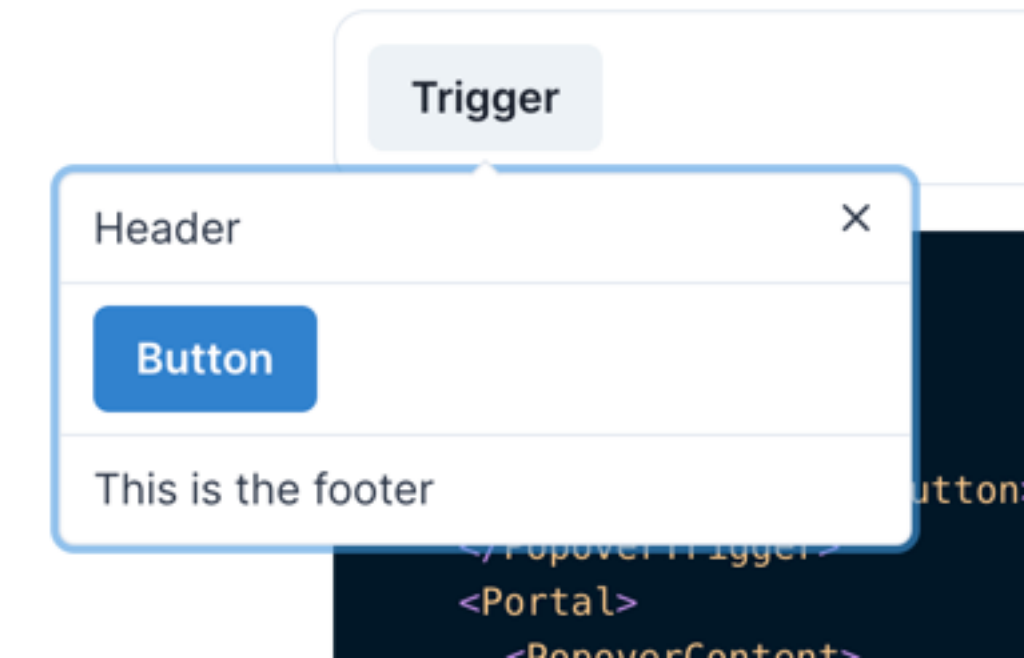
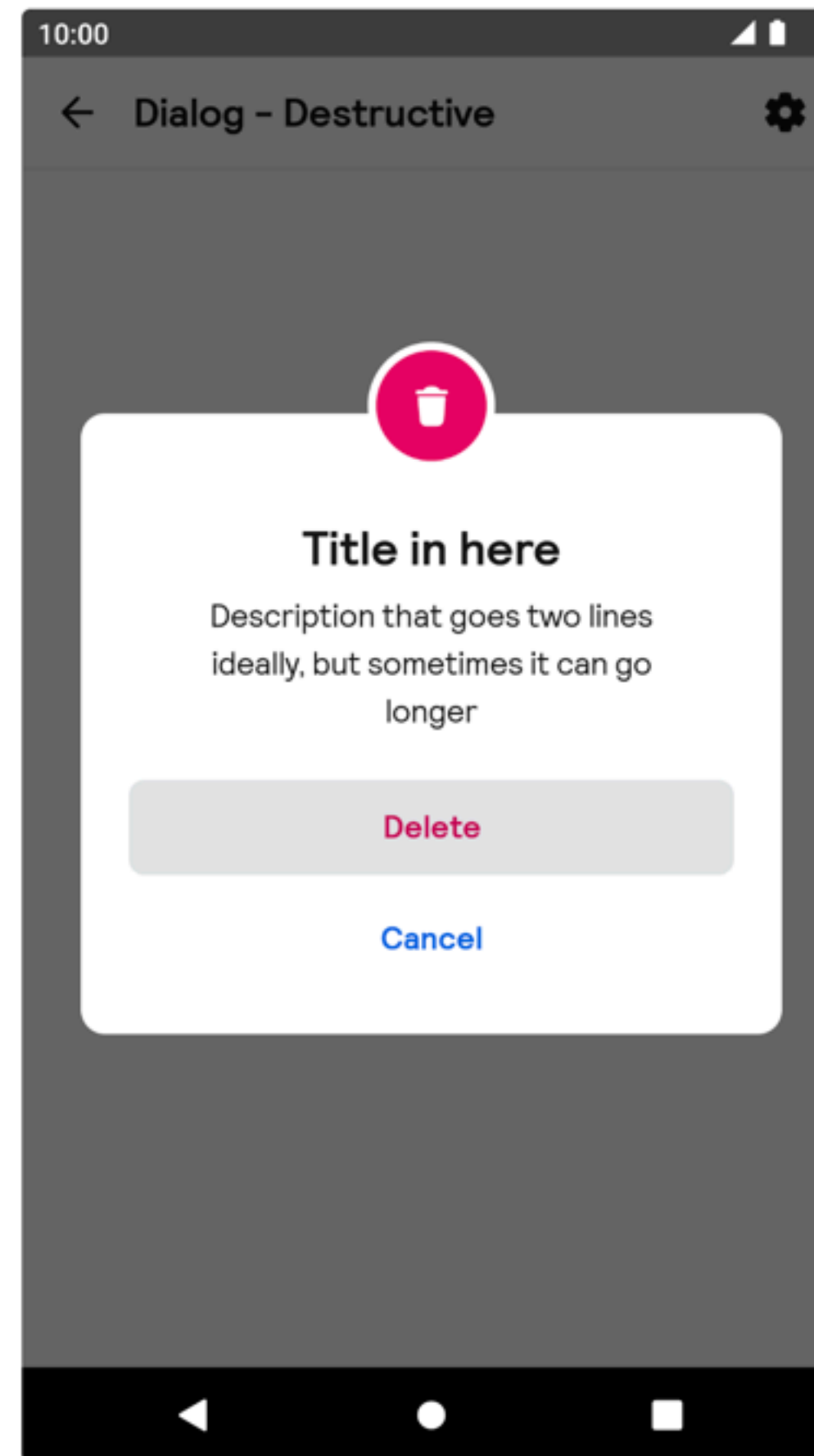
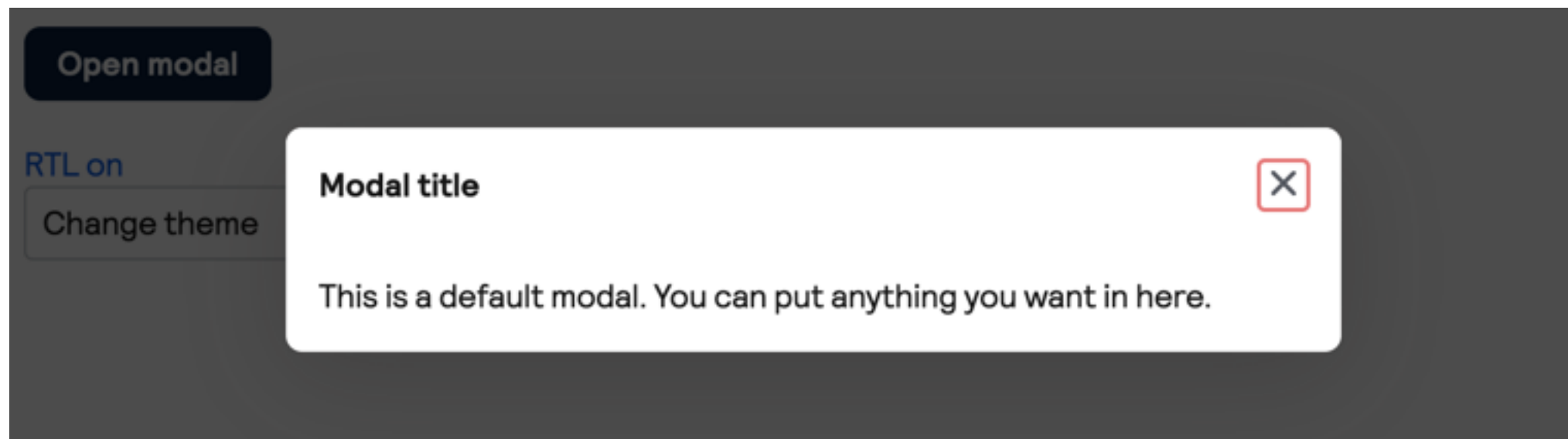
# Lost in translation



*Source: Nasa website*

# Lost in translation

Are we talking about the same thing?



# Lost in translation



# What are design tokens?

Design tokens are the visual design atoms of the design system — specifically, they are named entities that store visual design attributes. We use them in place of hard-coded values (such as hex values for color or pixel values for spacing) in order to maintain a scalable and consistent visual system for UI development.

# What are design tokens?

A variable is a container for a value, like a number we might use in a sum, or a string that we might use as part of a sentence.

*<https://developer.mozilla.org/>*

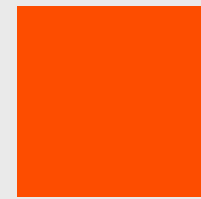
# What are design tokens?

```
TS example-component.tsx ×  
1  import React from "react";  
2  
3  💡 This is my variable that I will reuse  
4  const elementValue = "example value that will be reused";  
5  
6  const MyComponent = () => <p>{elementValue}</p>  
7  const MyOtherComponent = () => <div>{elementValue}</div>
```



# What are design tokens?

#FE4D01



reference.color.orange.500



semantic.color.brand.default



button.primary.background.default



## Raw value

*The raw value of a design decision. Like a color, a radius in rem or PX or a font styling*

## Reference tokens

*All possible design tokens that represent the foundational design principles*

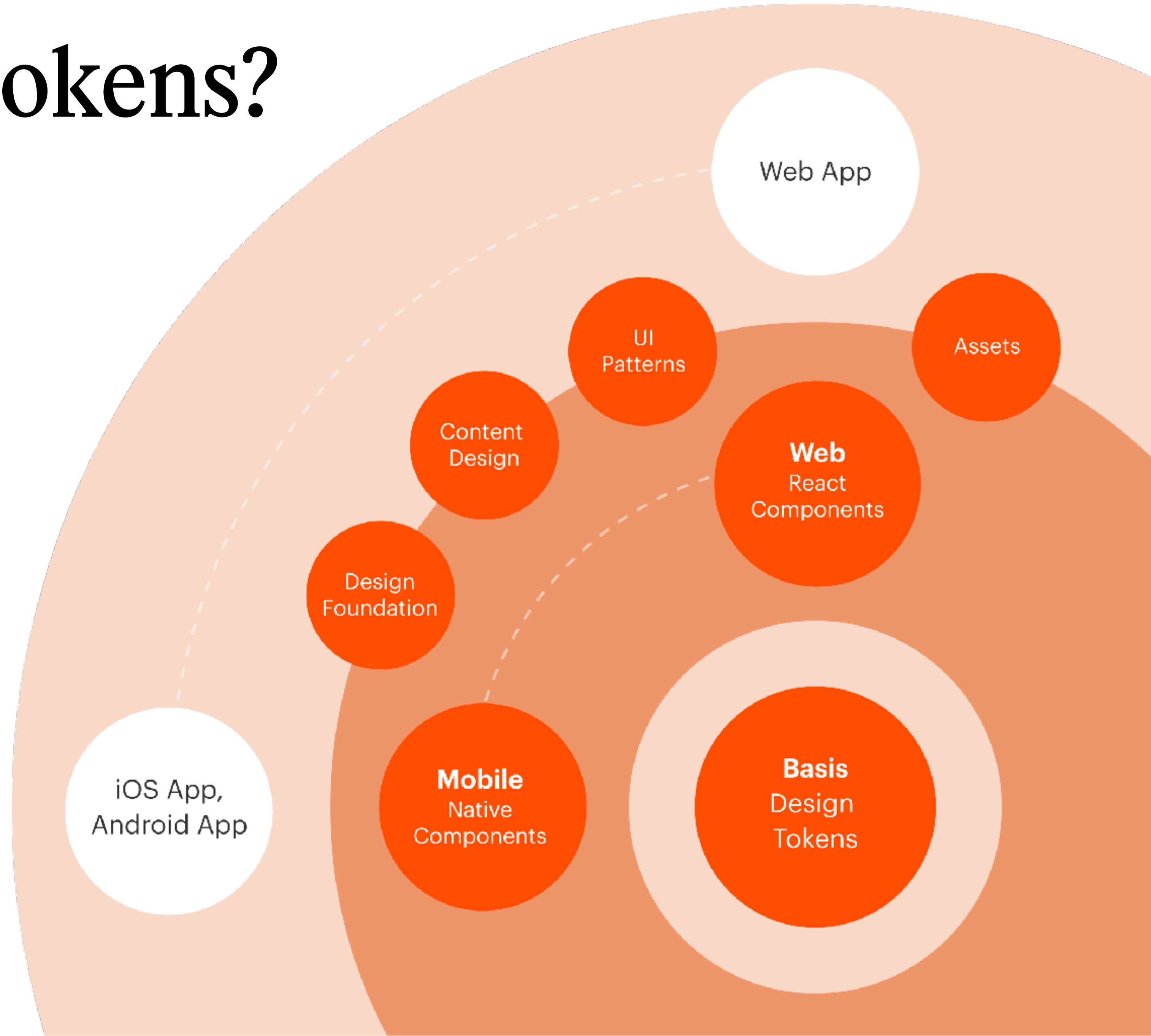
## Semantic tokens

*Reduced set of the design tokens with a clear purpose (semantic) derived from the design language.*

## Component tokens

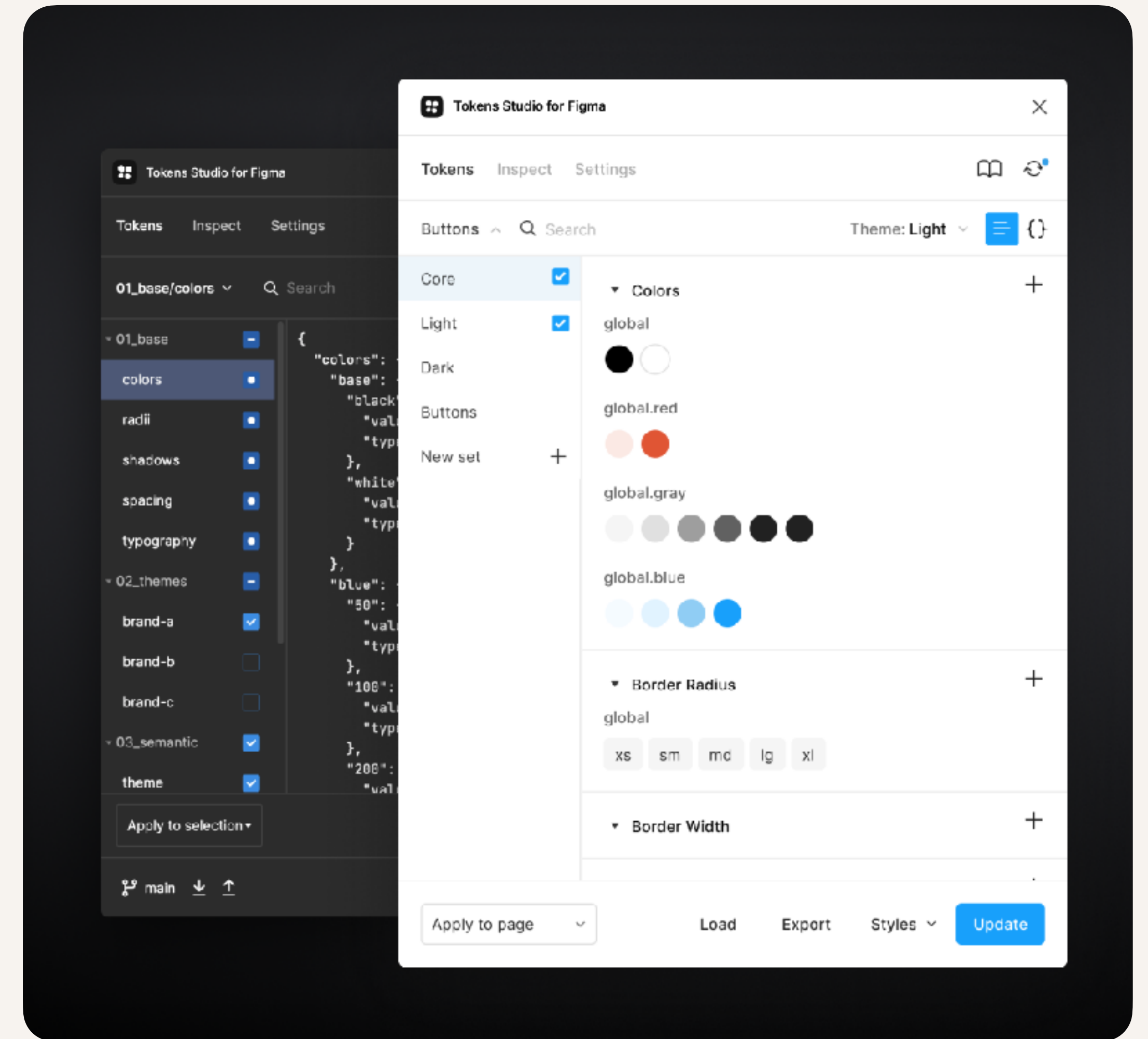
*Referencing to semantic tokens and defining the anatomy (property) of a component.*

# What are design tokens?



# Connecting dots

How we make sure that are all using the same tokens?



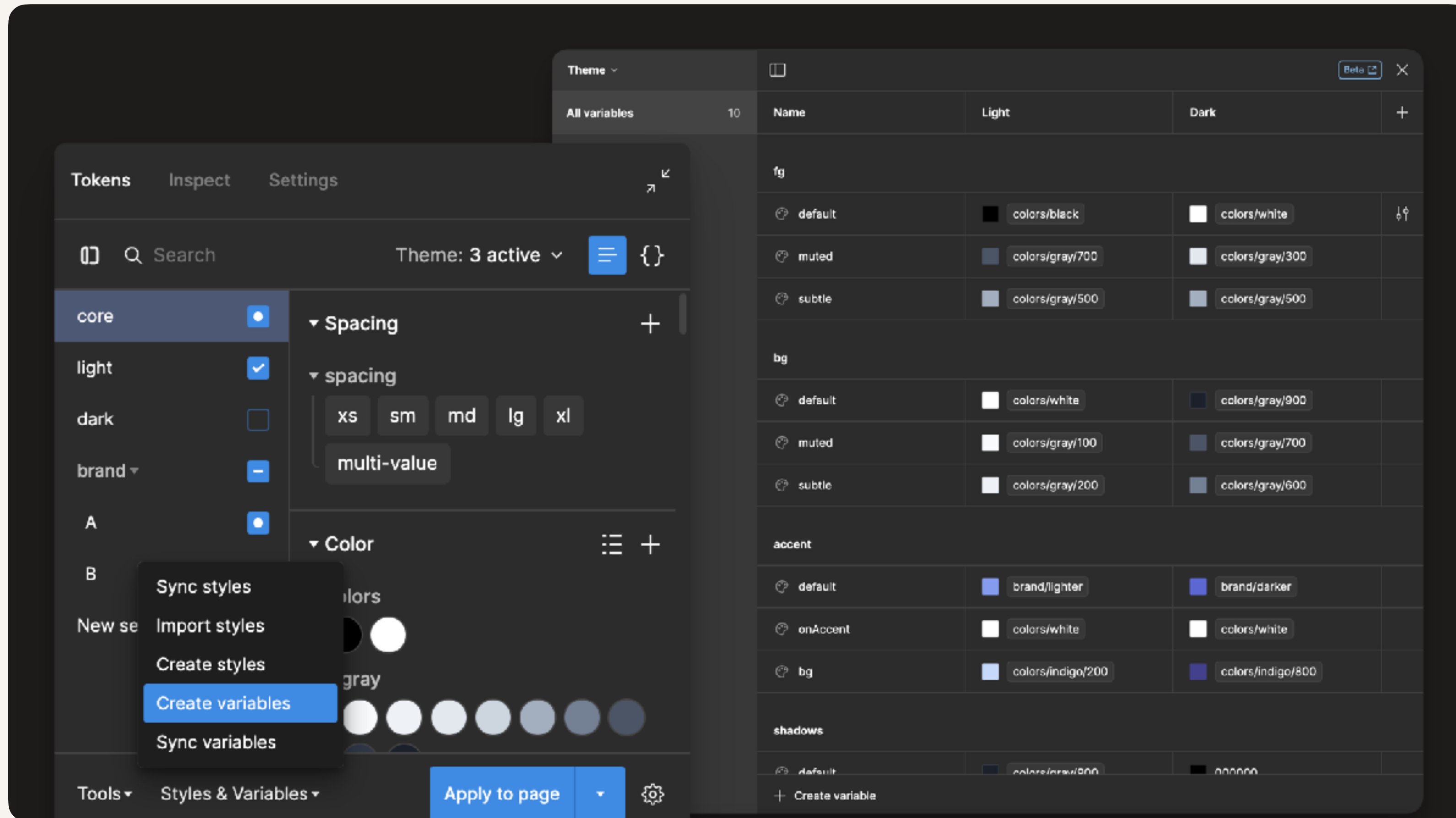
Source: Tokens Studio website

# Connecting dots



From Tokens Studio to Figma  
variables and components in the  
Figma library

# Connecting dots



Source: Tokens Studio website

# Connecting dots



# Connecting dots

```
{ } tokens-demo.json ×
1  {
2    "reference": {
3      "orange": {
4        "orange500": {
5          "value": "#FE4D01",
6          "type": "color",
7          "description": "..."}
8      }
9  }
10 }
11 }
12
```

```
{ } tokens-demo.json ×
1  {
2    "reference": {
3      "orange": {
4        "orange500": {
5          "value": "#FE4D01",
6          "type": "color",
7          "description": "..."}
8      }
9  },
10 },
11 "theme": {
12   "light": {
13     "brand": {
14       "default": {
15         "default": {
16           "value": "{reference.orange.orange500}",
17           "type": "color",
18           "description": "..."}
19         }
20       }
21     }
22   }
23 }
24 }
```

Q them

No results in this file

### Figma Tokens

Tokens Inspect Settings

color Search Theme: None Listing

```
{
  "theme": {
    "light": {
      "feedback": {
        "error": {
          "border": {
            "value": "#E9353EFF",
            "type": "color"
          },
          "background": {
            "value": "#FFD6D8FF",
            "type": "color"
          },
          "foreground": {
            "value": "#88070EFF",
            "type": "color"
          }
        },
        "success": {
          "border": {
            "value": "#22BF70FF",
            "type": "color"
          },
          "background": {
            "value": "#DAFBEDFF",
            "type": "color"
          },
          "foreground": {
            "value": "#0D5939FF",
            "type": "color"
          }
        }
      }
    }
  }
}
```

Apply to page Load Export Styles Update

Design Prototype Inspect

Background

F5F5F5 100%

Local styles

Color styles

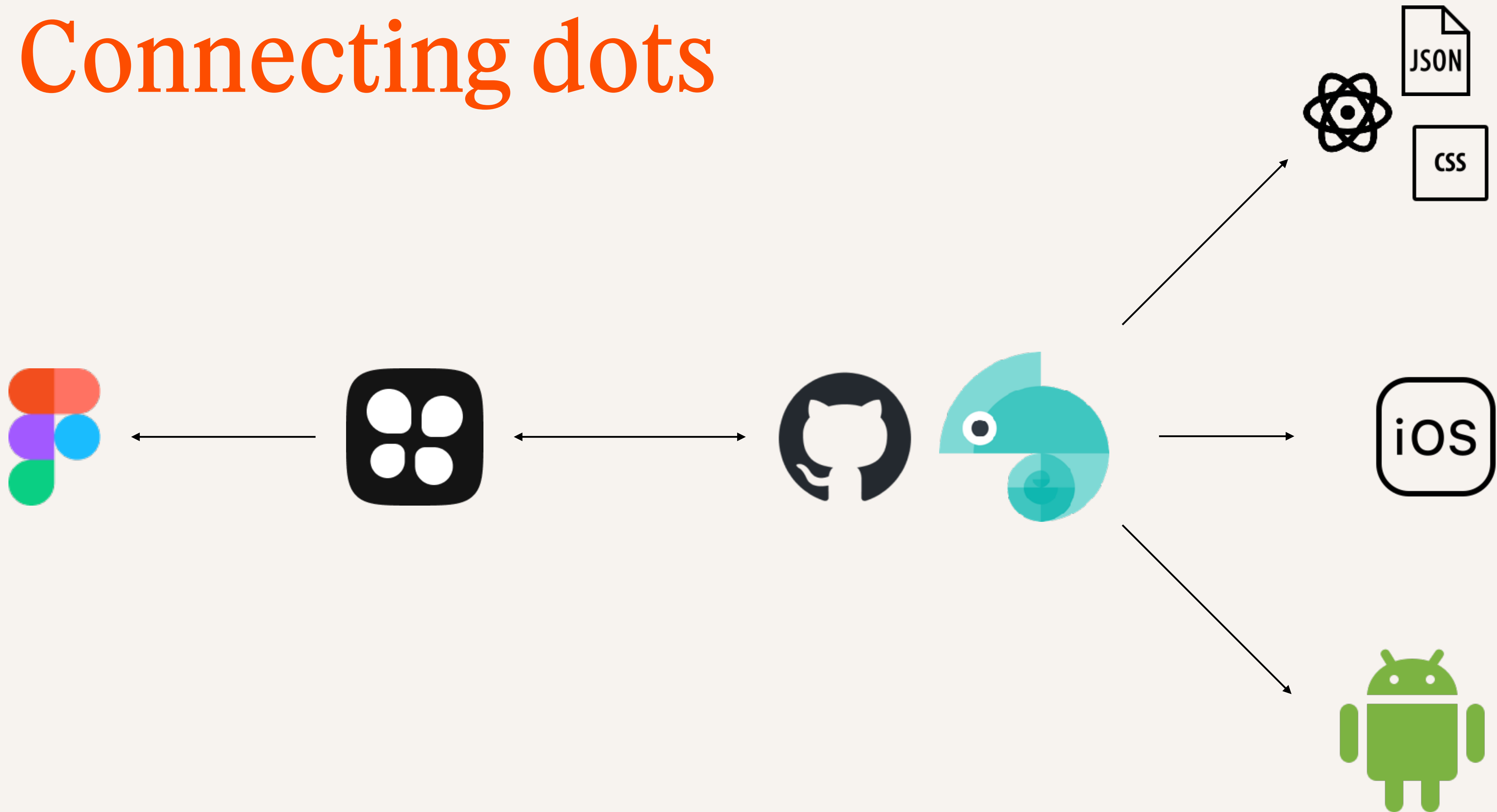
theme

Export

descript



# Connecting dots



- DESIGN-TOKENS
  - size
  - viewports
    - breakpoints.json
    - border.json
    - migration.json
    - theme.json
  - scripts
    - figma
      - build-ruby-gem.sh
      - create-testing-variant.js
      - download-fonts.mjs
      - generate-ts-signatures.js
      - get-fonts-metadata.js
      - preprocessStudioTokens.mjs
    - semantictokens\_android
    - src
    - temp-dist
    - tests
    - tokens-studio-properties
      - tokens-2.1.json
    - .env
    - .env.template
    - .gitignore
    - .nvmrc
    - .prettierrc
    - Changelog.md
    - config.json
    - CONTRIBUTING.md
    - design\_tokens.gemspec
    - index.js
    - jest.config.js
    - package-lock.json
    - package.json
    - README.md
    - strictConfig.js
    - tsconfig.json
  - OUTLINE
  - TIMELINE

```

tokens-studio-properties > {} tokens-2.1.json > {} reference > {} color > {} orange > {} orange600 > type
32      },
33      "orange350": {
34        "value": "#FE824D",
35        "type": "color"
36      },
37      "orange400": {
38        "value": "#FE7134",
39        "type": "color"
40      },
41      "orange450": {
42        "value": "#FE5F1A",
43        "type": "color"
44      },
45      "orange500": {
46        "value": "#000000",
47        "type": "color"
48      },
49      "orange550": {
50        "value": "#E54501",
51        "type": "color"
52      },
53      "orange600": {
54        "value": "#CB3E01",
55        "type": "color"
56      },
57      "orange650": {
58        "value": "#B23601",
59        "type": "color"
60      },
61      "orange700": {

```

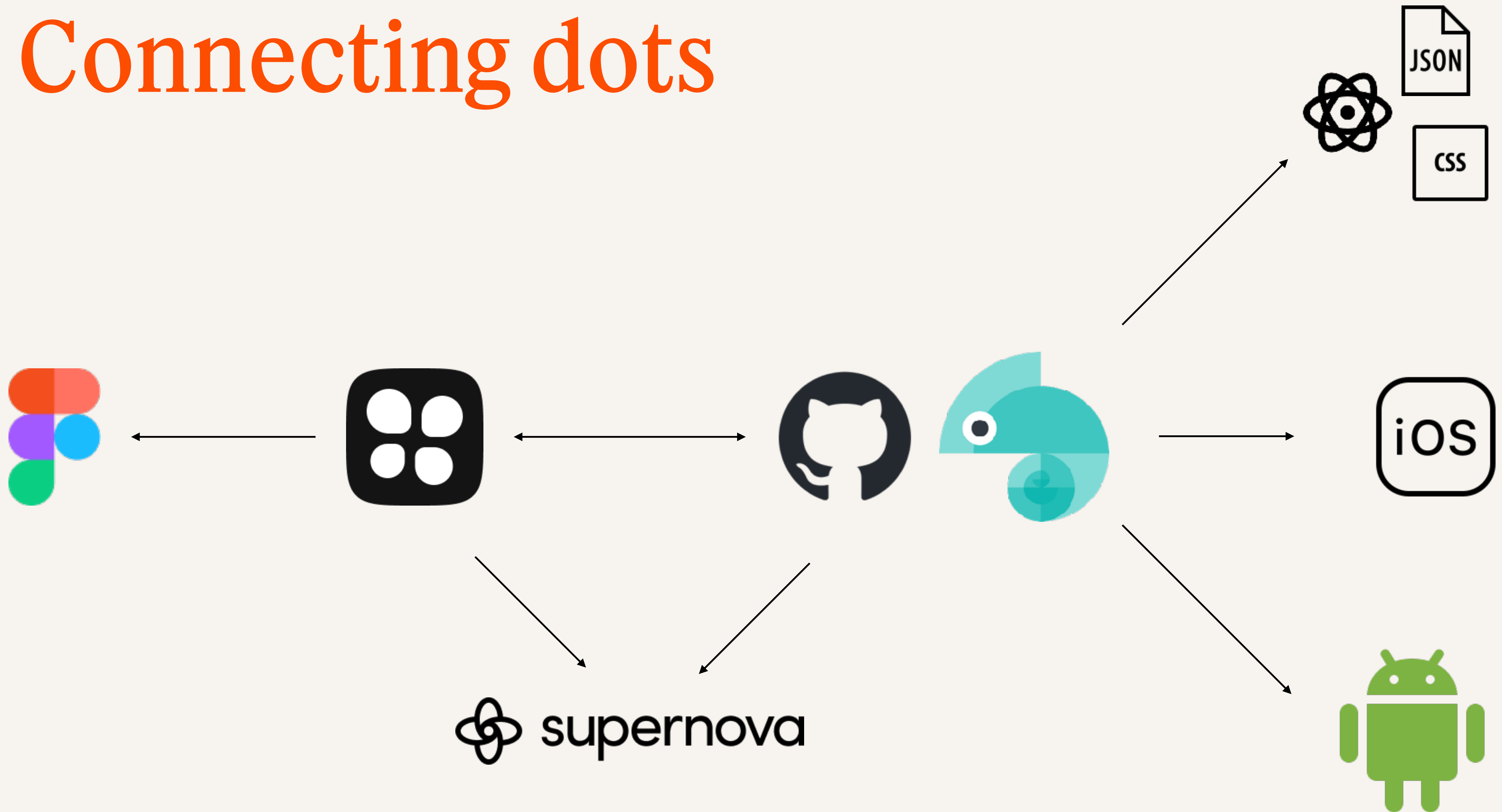
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

zsh [warning icon] + - [icon] [icon] [icon] [icon] [icon] [icon]

design-tokens git:(test-2.1-tokens) [ ]

descript

# Connecting dots



# Connecting dots

The image shows two overlapping screenshots. The top-left screenshot is from Tokens Studio for Figma, displaying the 'Edit credentials' dialog. The bottom-right screenshot is from the Babel Tokens interface, showing a 'Color' token list.

**Tokens Studio for Figma (Figma Tokens) - Edit credentials**

**Add new Supernova credentials**  
Allows you to push tokens into specific brand and theme in a selected design system. [Read more](#)

**Name**  
Supernova connection

**Supernova Access Token**  
.....

**Design System URL**  
`https://cloud.supernova.io/ws/babbel/ds/28138-grammar-testing/latest/design-system-data/29292-default/tokens/colors`

**Supernova <-> Tokens Studio mapping**

```
[
  {
    "tokenSets": ["reference", "semantic Light"],
    "supernovaBrand": "Default"
  }
]
```

**Babel Tokens - Color**

Name	Value	Dark theme	Token set	Description	Last edited
reference					
black	#000000	<input type="checkbox"/> None	None		4 minutes ago
white	#FFFFFF	<input type="checkbox"/> None	None		4 minutes ago
transparent	#FFFFFF 6%	<input type="checkbox"/> None	None		4 minutes ago
orange					
grey					
tangerine					
tangerine100	#FFE0D2	<input type="checkbox"/> None	None		4 minutes ago
tangerine200	#FFD6C4	<input type="checkbox"/> None	None		4 minutes ago
tangerine300	#FF9EA1	<input type="checkbox"/> None	None		4 minutes ago
tangerine400	#FFA788	<input type="checkbox"/> None	None		4 minutes ago
tangerine500	#FE9567	<input type="checkbox"/> None	None		4 minutes ago
tangerine600	#D37251	<input type="checkbox"/> None	None		4 minutes ago

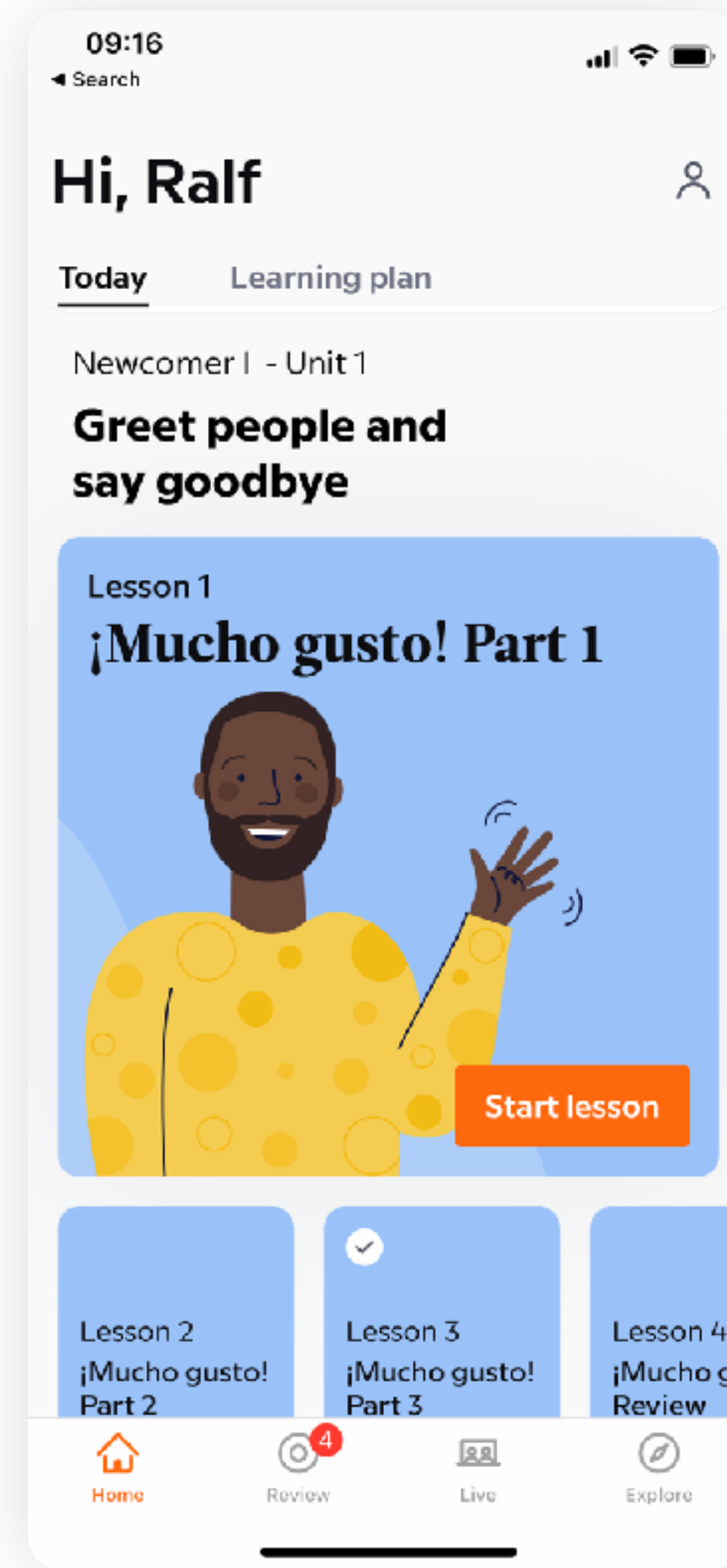
# Connecting dots

The image shows a screenshot of the Grammar design system documentation page. The page has a white sidebar on the left with a navigation menu and a main orange content area. The sidebar menu includes: Start, About Grammar, What's happening n/a, Designing n/a, Developing n/a, Contributing n/a, Design Foundation, Content Guidelines n/a, Tokens, Components, Patterns, and Assets. The main content area features a large orange background with the text "Welcome to Grammar" and "The Babbel Design System". Below this, it says "Design and build the Babbel language learning ecosystem." There are three black buttons labeled "Design", "Build", and "Learn". A white arrow points from the "Build" button to a white card that displays the sentence "I'm from Zürich." with individual words in separate boxes: "Ich", "Zürich", "aus", "un", "et", "und", "bin". Above the "Design" button, the letters "ahc" are displayed in a white font, enclosed in a blue dashed box. To the right of the "ahc" text, there is a mobile app mockup showing a green screen with an ice cream cone and the text "Buonappetito: 2/3". At the bottom of the page, there is a small section with the text "Ciao! Salut! Hallo!" and a small image of a fox jumping over a dog.

# How it helped us

- We use the same colours across all the apps
- We fixed many inconsistencies across the product
- We are ready to propagate any upcoming changes very quickly
- Design system gained visibility and adoption.
- We were able to provide our users with the dark mode

# How it helped us



Something so small as  
tokens have a  
superpower to bring  
us closer together