

Inside Design Systems

From Vision to Implementation



Lukas Weiss

Frontend Developer

About Bits
since 2022

Focus
Web Applications
Design Systems
Research

Socials
 linkedin.com/in/lukasvice
 x.com/lukasvice



Design System



Design System

Guidelines

Brand Identity

Accessibility

Design principles

Style guides

Typography

Colors

Spacing

Patterns

Layouts

Form validation

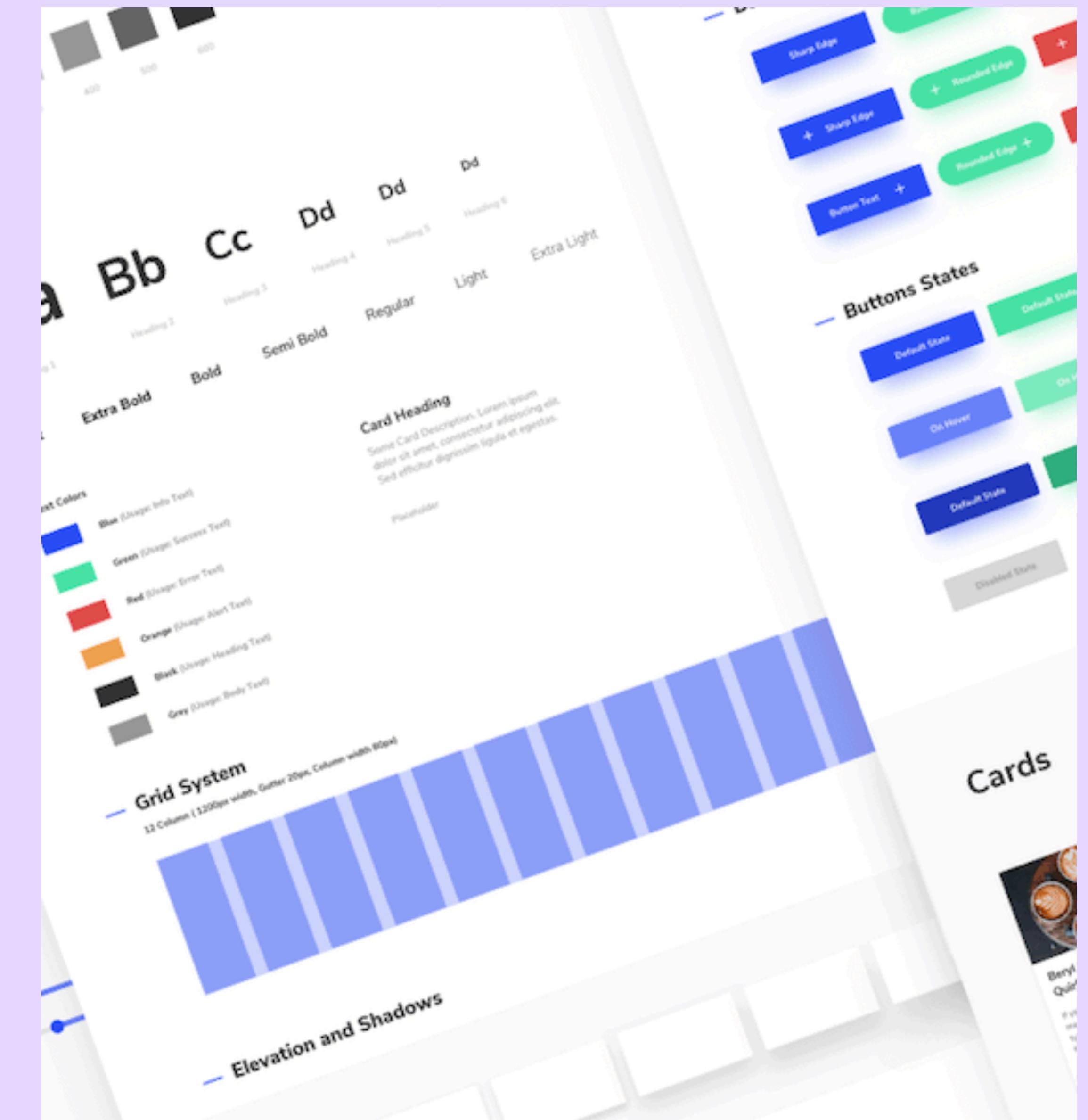
Pagination

UI Components

Design

Implementation

Documentation



Benefits

UI
consistency

Faster
production

Higher
quality

Best
practices

Shared
vocabulary

Future-
friendly

Component Library

- Foundations
- Components
- Icons
- Documentation
- Templates
- Recipes

The image shows two components from a design system library:

- Colors: Basics**: A card displaying color swatches for Neutral, Semantic Colors (Success, Info, Warning, Error), and a palette section.
- Fonts**: A card listing various font styles with their corresponding sizes, line heights, and weights.

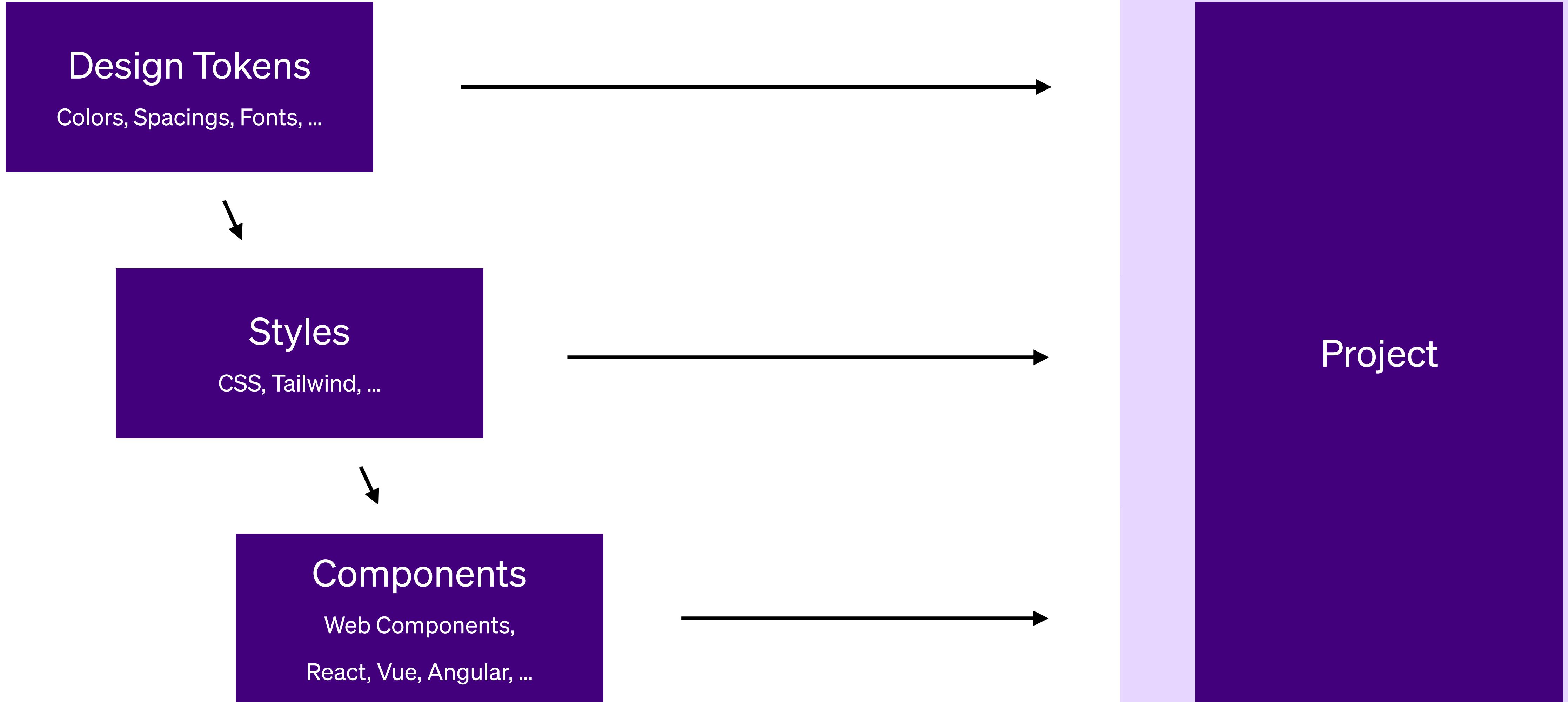
Colors: Basics (Left Card):

- Neutral**: A series of grayscale swatches from white to black.
- Semantic Colors**:
 - Success**: Green shades.
 - Info**: Blue shades.
 - Warning**: Yellow shades.
 - Error**: Red shades.
- Palette**: A grid of color swatches for Pink, Purple, Indigo, Cyan, Lime, and Orange.

Fonts (Right Card):

	Size	Line Height	Weight
Title 42 Bold	42px	58px	Bold
Title 32 Bold	32px	40px	Bold
Title 24 Bold	24px	36px	Bold
Title 24 Medium	24px	36px	Medium
Subtitles			
Subtitle 20 Bold	20px	30px	Bold
Subtitle 20 Medium	20px	30px	Medium
Subtitle 18 Bold	18px	28px	Bold
Subtitle 18 Semi Bold	18px	28px	Semi Bold
Subtitle 18 Medium	18px	28px	Medium
Subtitle 18 Regular	18px	28px	Regular
Body			
Body 16 Semi Bold	16px	24px	Semi Bold
Body 16 Semi Bold Underline	16px	24px	Semi Bold
Body 16 Regular	16px	24px	Regular
Body 16 Regular Underline	16px	24px	Regular
Body 14 Semi Bold	14px	22px	Semi Bold
Body 14 Semi Bold Underline	14px	22px	Semi Bold
Body 14 Regular	14px	22px	Regular
Body 14 Regular Underline	14px	22px	Regular
Captions			
Caption 12 Semi Bold	12px	18px	Semi Bold
Caption 12 Semi Bold Underline	12px	18px	Semi Bold
Caption 12 Regular	12px	18px	Regular

Technical Structure



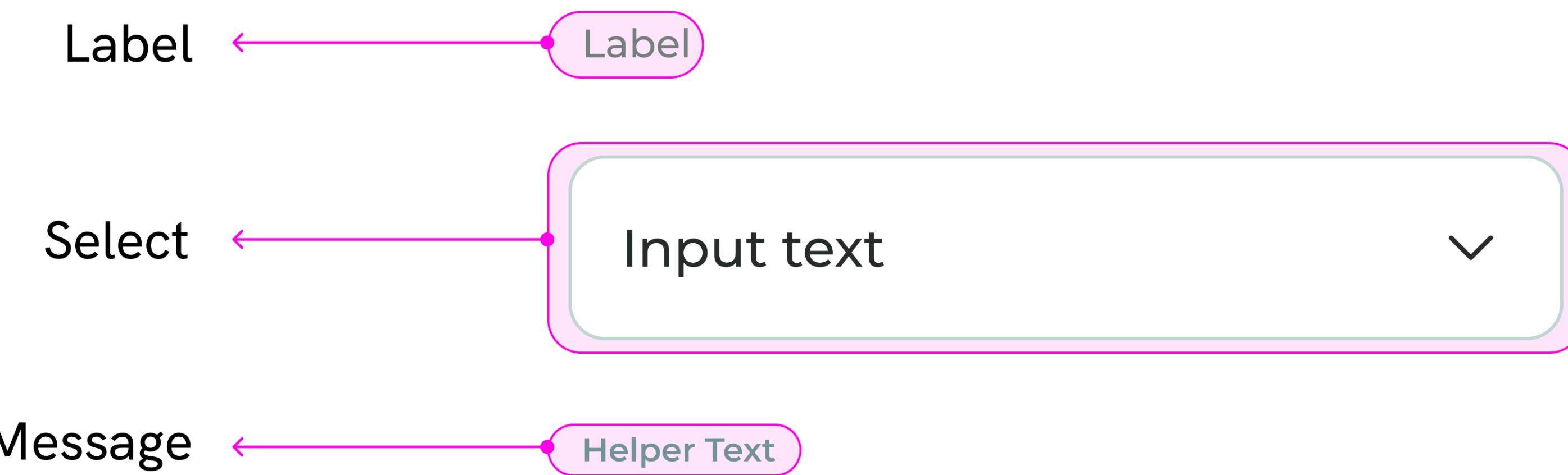
Component Organization

Primitive
Components

Core
Components

Convenience
Components

Primitive Components

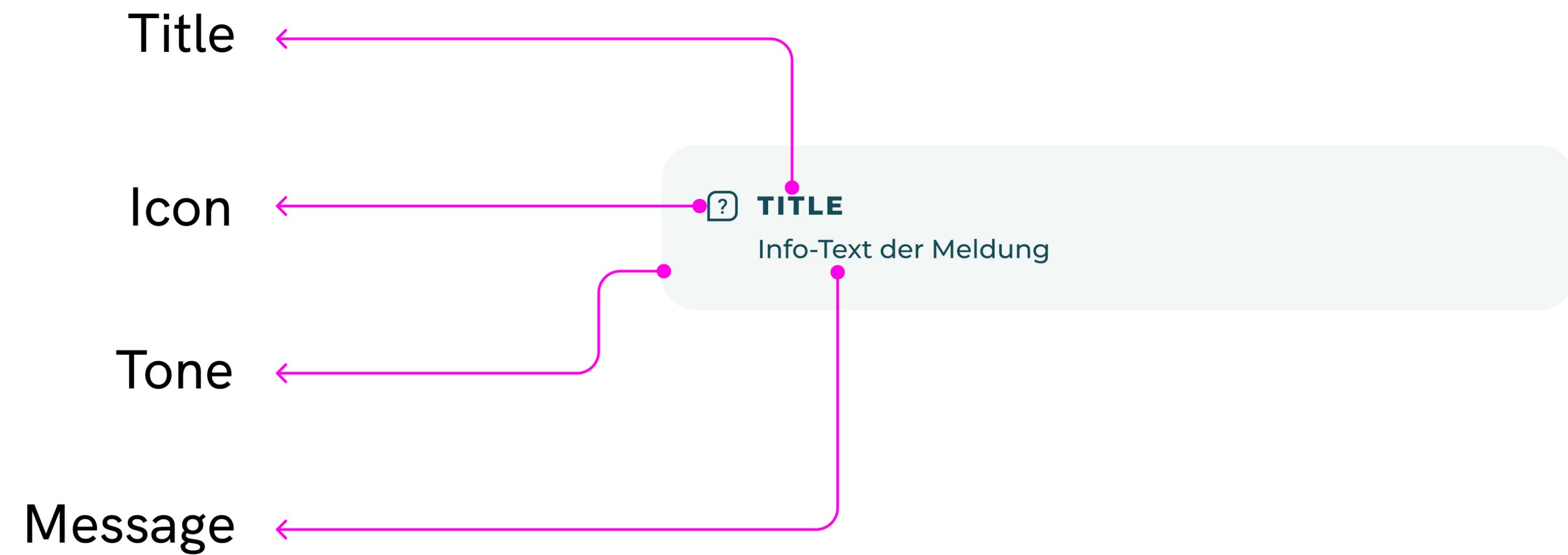


Core Components



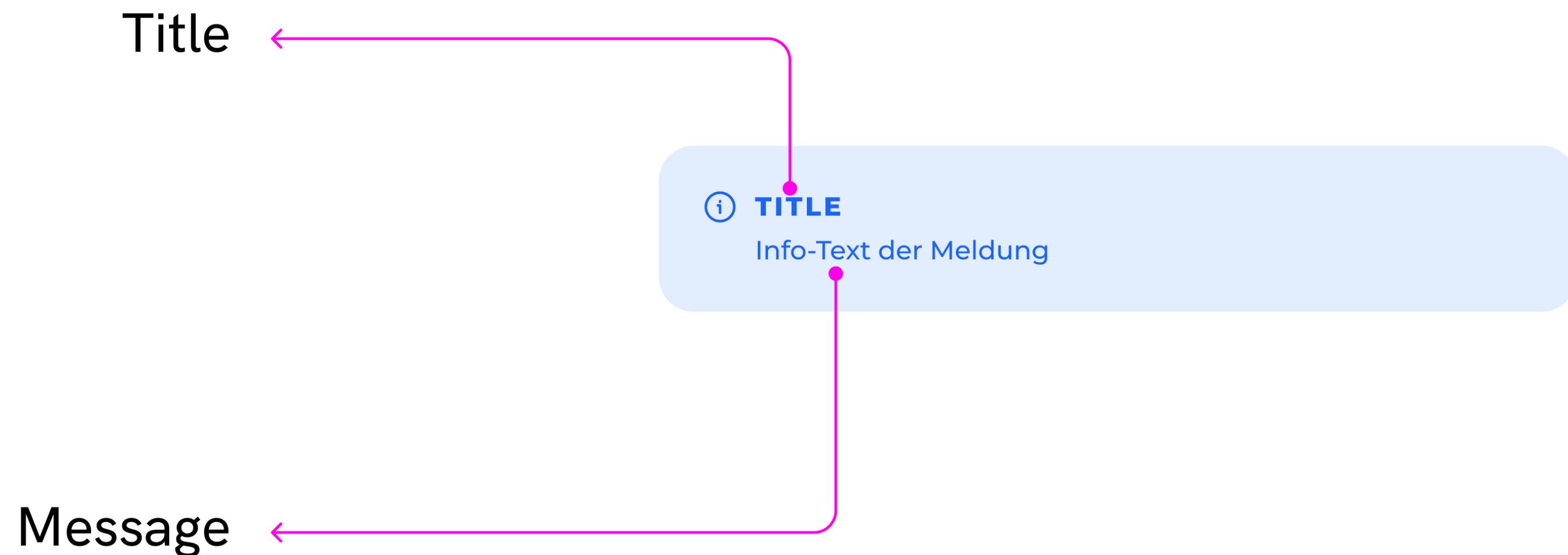
Convenience Components

Alert



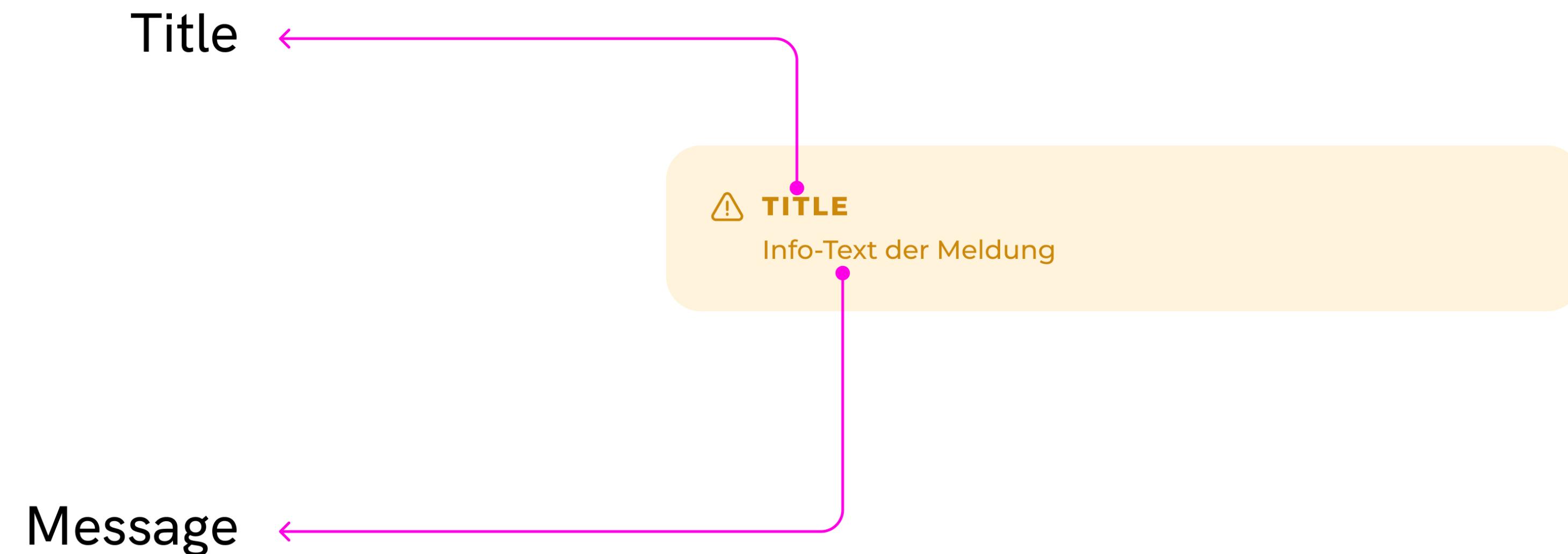
Convenience Components

AlertInfo



Convenience Components

AlertWarning



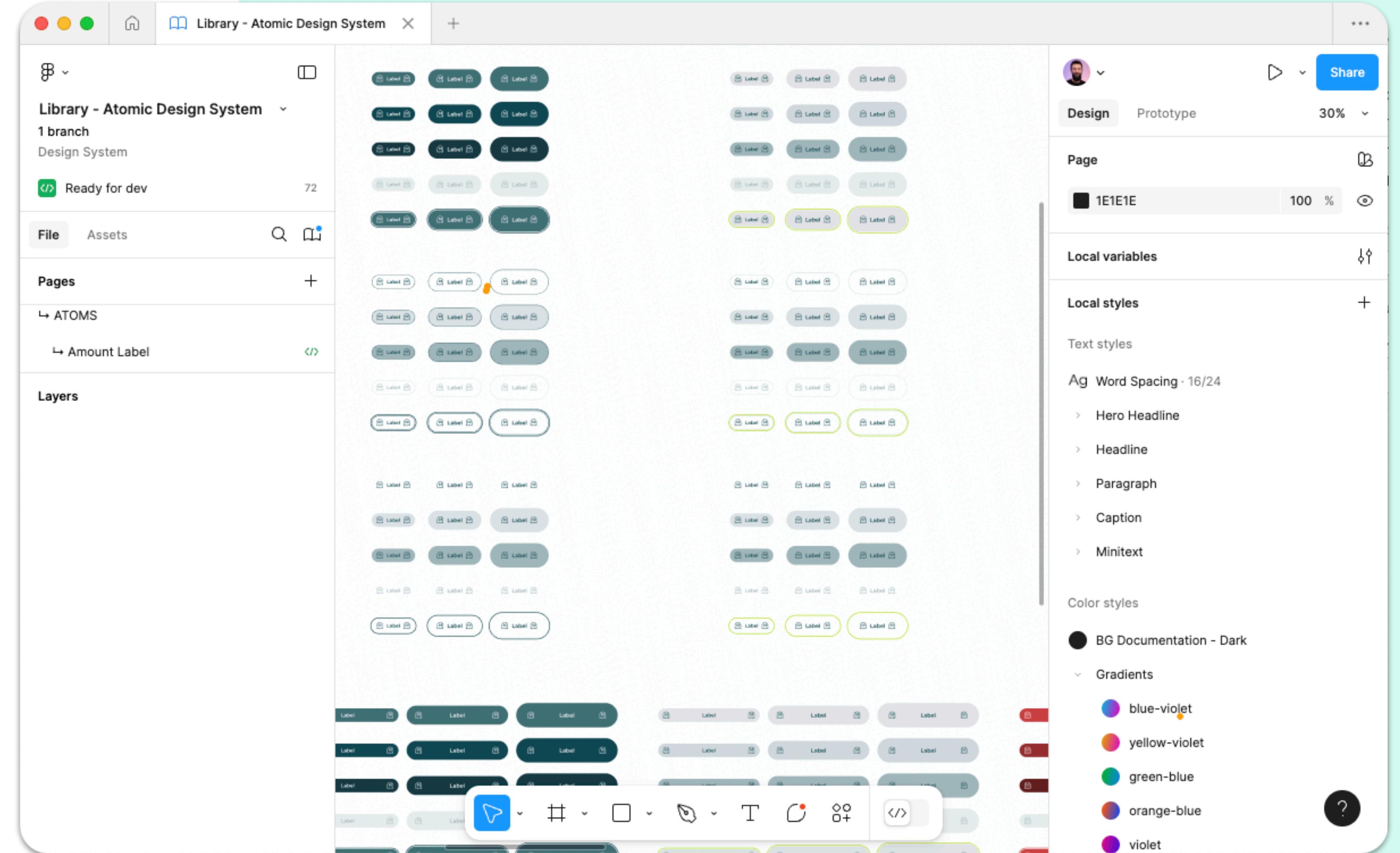
Tools



Figma

Design tool

- Vector-based
- Cloud-based
- Real-time collaboration
- Version control
- Build shared libraries



Storybook

Web UI Tool

- Web-based, open source
- Component development
- Documentation
- Testing

The screenshot shows the Storybook interface. On the left, there's a sidebar with a search bar and a navigation tree. The tree under 'COMPONENTS' includes 'react-hook-form', 'util', 'accordion', 'alert', 'badge', 'breadcrumbs', and 'button'. The 'button' node has a 'Docs' section expanded, listing variants: Default, Variant Solid, Variant Ghost, Variant Transparent, Size Small, Size Medium, Size Large, Disabled, Loading, Icon Start, Icon End, Fit Hug, and Fit Block. The main panel displays the 'Button' component with a large preview showing a 'Default Button'. Below the preview is a 'Props' table:

Name	Description	Default	Control
children		-	Default Button
className	Any CSS class to adjust the style. string	-	Set string
size	Defines the size of the button. "SM" "MD" "LG"	-	<input type="radio"/> SM <input type="radio"/> MD <input type="radio"/> LG
disabled	If true, the component is disabled. boolean	-	Set boolean

Design Systems

Off The Shelf

Pros

- Ready-to-use components
- Battle-tested
- Well-documented
- Maintained
- Community

Cons

- Design may not match
- Hard to adapt to own needs and style
- No control over direction
- Covers a lot you don't need
- Uncertainty about maintenance

Design Systems From Scratch

- Full control over styling
- Full control over functionality
- Only required features
- Opinionated components

Using Headless libraries

- Unstyled components
- Functionality without styles
- More flexibility
- Only use what you need
- Wrap to provide own API

Examples

Headless UI, React Aria, Floating UI, Tanstack

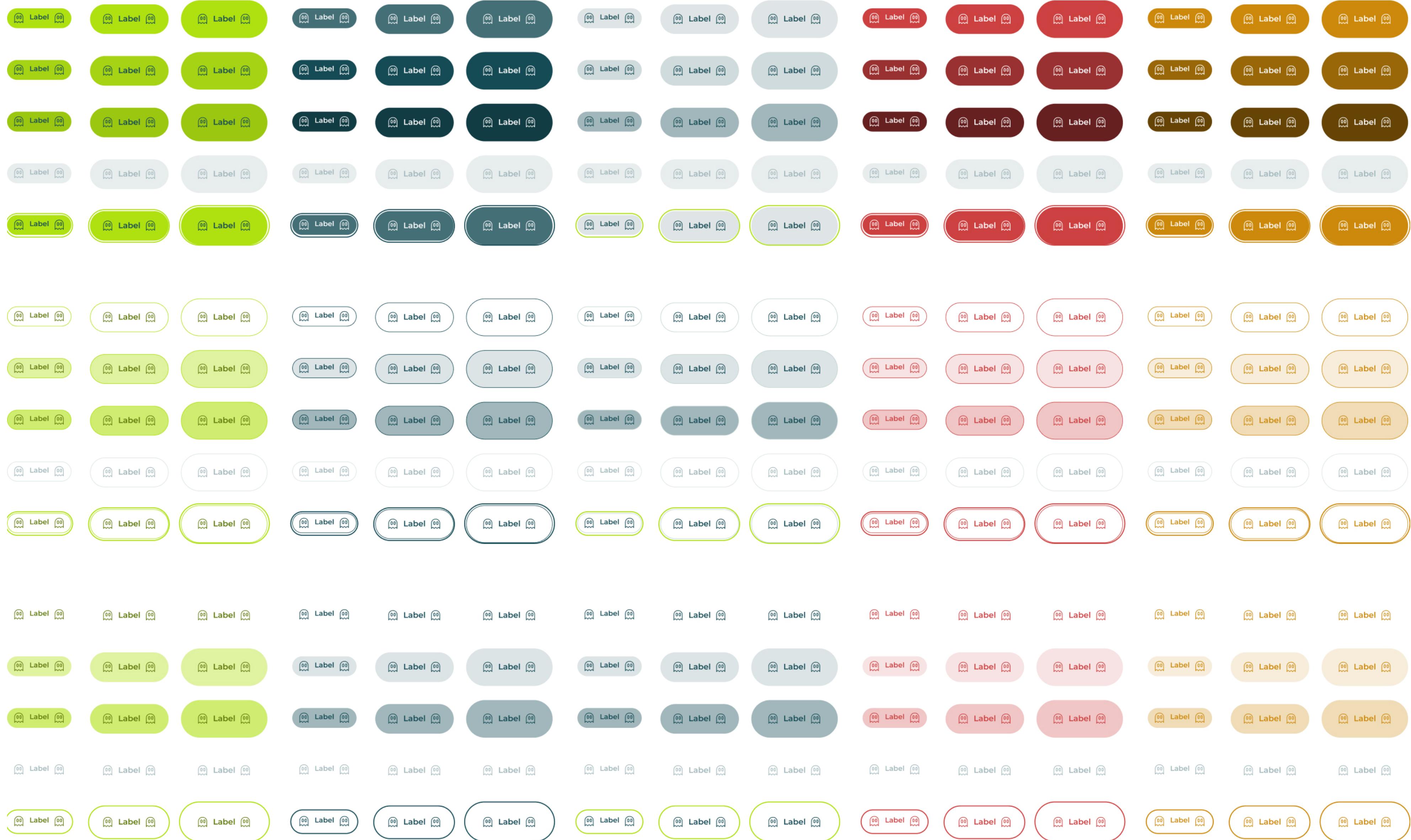
From Design To Implementation



Button Design

Figma

- Base
- States
- Sizes
- Tones
- Variants



Button Implementation

Storybook

- Web implementation
- Documentation
- Examples

Button

The screenshot shows a Storybook component named 'Button'. At the top, there is a search bar with three magnifying glass icons. Below it is a preview area containing a single button labeled 'Default Button'. To the right of the preview is a 'Show code' button. Below the preview is a table titled 'Props' listing the properties of the 'Button' component.

Name	Description	Default	Control
children	-	Default Button	<input type="button" value="Default Button"/>
className	Any CSS class to adjust the style. string	-	<input type="button" value="Set string"/>
size	Defines the size of the button. "SM" "MD" "LG"	-	<input type="radio"/> SM <input type="radio"/> MD <input type="radio"/> LG
disabled	If <code>true</code> , the component is disabled. boolean	-	<input type="button" value="Set boolean"/>
tone	Defines the tone of the button. "PRIMARY" "SECONDARY" "NEUTRAL" "SUCCESS" "WARNING" "CRITICAL" "INFO" "NEGATIVE"	-	<input type="button" value="Choose option..."/>
variant	Defines the variant of the button. "SOLID" "GHOST" "TRANSPARENT"	-	<input type="radio"/> SOLID <input type="radio"/> GHOST <input type="radio"/> TRANSPARENT

Button Usage

Logout Button

Component instance

Library - Atomic Design System

Created 3 months ago

Compare changes

Type	<input checked="" type="checkbox"/> Solid (default)
Tone	<input checked="" type="checkbox"/> Primary
Size	<input checked="" type="checkbox"/> small
State	<input checked="" type="checkbox"/> Default
Block	<input checked="" type="checkbox"/> False
Ico-left	<input checked="" type="checkbox"/> False
Label	<input type="text"/> Speichern & Beenden
Ico-right	<input checked="" type="checkbox"/> False

Speichern & Beenden

<Button

```
variant={ButtonVariant.Solid}  
tone={ButtonTone.Primary}  
size={ButtonSize.Sm}
```

>

Speichern & Beenden

</Button>

Build Better User Interfaces Using Design Systems

