

UI5con

Horizon Theme Adoption

Design Tokens & Theming Variables

Dominik, Gerry, Stanley – SAP SE

July 6th, 2023

Agenda

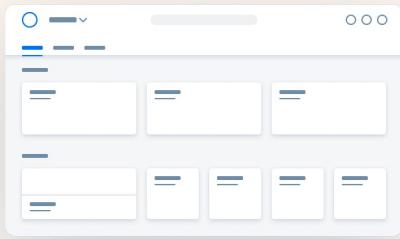
- **Horizon Adoption & Custom Themes**
- **Design Tokens**
- **Horizon Theme Updates**
- **Tokens & Theming Base Content**
- **Theming in UI5**
- **Outlook**

Horizon Adoption & Custom Themes

Gerry

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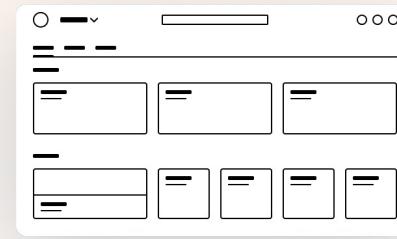
Standard Themes Provided by SAP



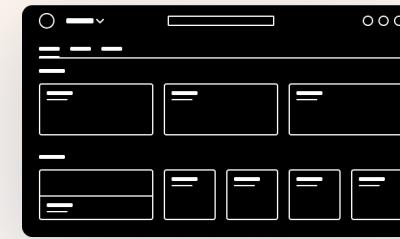
SAP Morning Horizon



SAP Evening Horizon



SAP High Contrast White
(Horizon)



SAP High Contrast Black
(Horizon)

SAP Fiori comes with an array of themes out of the box, which all cater to accessibility standards, fulfilling at least AA.

SAP Morning Horizon is planned to be the default SAP theme.

For each theme evolution, we offer AAA compliant high contrast themes.

Our other themes are: SAP Quartz Light, SAP Quartz Dark, SAP Belize, and SAP Belize Plus

Adoption Examples

The screenshot shows the SAP Fiori Home screen. At the top left is the SAP logo. On the top right are three dots and a user profile icon. Below the header, there's a blue bar with the text "My Home" and a "More" dropdown. The main content area has two sections: "To Dos" and "Interests".

To Dos

Release Service Entry Sheet 000000075
test 2

A yellow box contains a warning icon and the text "Medium Example Purchaser". Below this are two buttons: "Reject" (pink) and "Approve" (green).

Review
45000013

High

Interests

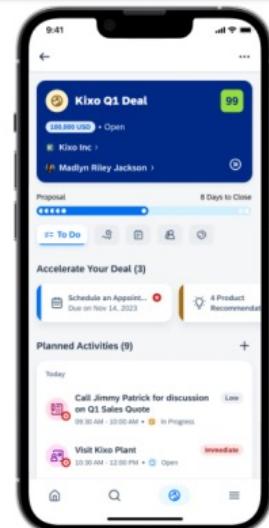
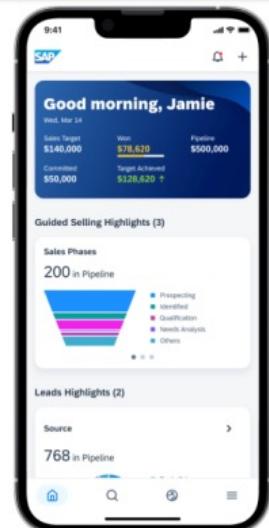
Intelligent Street Lights power the Future of Modern Cities

SAP News
October 07, 2021

Sales Processing Overview Internal S...

Sales Analytics Sales Rebates

The screenshot shows the SAP Sales Cloud interface. At the top, there's a search bar and a user profile for 'Josh Smith from Kixo'. The main area displays three charts: a funnel chart for 'Sales Phase' (Identified: 30%, Qualified: 22%, Value Proposition: 15%, Quotation: 18%, Decision: 6%, Close: 4%), a donut chart for 'Status' (Open: 36%, In Process: 24%, Stopped: 22%, Lost: 13%, Won: 6%), and a bar chart for 'Close Date' (01.2022: 20, 02.2022: 17, 03.2022: 10, 04.2022: 8, 05.2022: 5, 06.2022: 3). Below these charts, sections for 'Opportunities (43)' and 'Opportunity Identified' (Kixo SmartTab Deal, Future Vision Q1 Deal) are visible.



PUBLIC

Adoption Examples

The collage illustrates the SAP UI5 platform's adaptability across multiple devices and environments. It includes:

- Desktop Web View:** Shows the SAP Home page with a "Good afternoon!" banner, quick actions (My Learning, Opportunity Marketplace, My Profile, Request Time Off, My Team, Request Feedback, Use Feedback, Resign), approvals (Assignment Application, Job Requisition), and "For You Today" notifications.
- Mobile Web View:** A mobile phone displaying the SAP SuccessFactors app with a "Good morning!" banner, learning assignments, approvals, and "For You Today" notifications.
- Tablet View:** A tablet showing the SAP People Selector interface for "2023 Performance Goal Plan". It displays performance evaluations, people, and business goals.
- Mobile App View:** An iPhone showing the SAP Goals app with a "2023 Performance Goal Plan" dashboard, performance evaluations, and goals.
- Tablet View:** A tablet showing the SAP Opportunity Marketplace with sections for "Recommended Opportunities", "Broaden Your Experience", "Discover Open Jobs", "Learn New Skills", "Connect with People", and "Learn New Skills" again.
- Mobile App View:** An iPhone showing the SAP Opportunities app with a "Discover Open Jobs" dashboard, opportunities, and skills.

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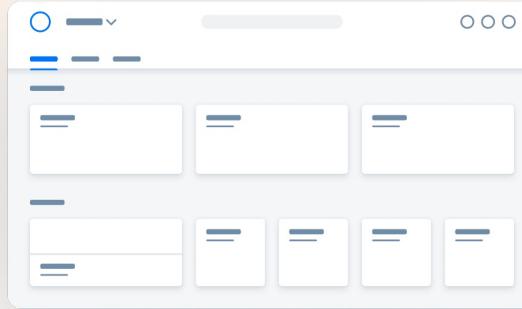
44

Theming Concept

Quick Theming

The theming concept enables customers to apply their own brand identity to the user interface. Theming can work across all SAP UI technologies.

Via Quick Theming, customers can simply replace the logo or change the main branding colors of the UI by replacing the default brand and base colors of the theme.



- sapCompany Logo
- sapBrandColor
- sapShellColor
- sapBackgroundColor



- sapCompany Logo
- sapBrandColor
- sapShellColor
- sapBackgroundColor

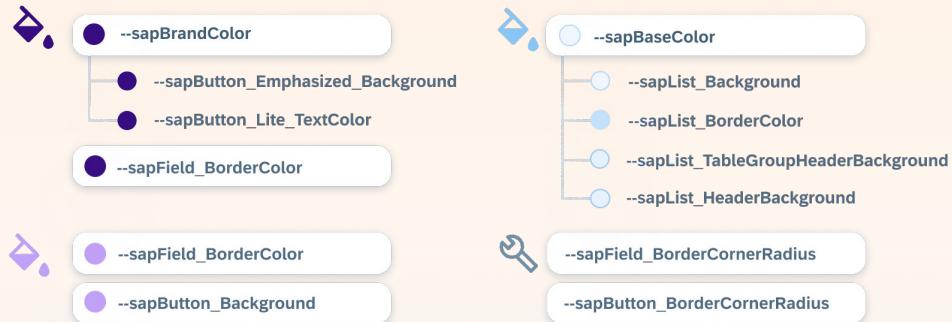
Detailed Theming

Customizing Control Groups or Specific Details

For customers that require more precise adaptations to their theme, the UI Theme Designer offers detailed theming.

Controls are grouped by their logic. For example input controls (input field, radio button, checkbox, ...), lists (list, table, ...), and so on.

This makes it easy to either change entire control groups, or only edit very specific parameters, without having to hardcode.



Control Group Examples

Example of SAP Horizon theme Control Groups

A screenshot of the UI Theme Designer interface showing the SAP Horizon theme. It displays various UI controls like buttons, checkboxes, and dropdowns, each with its corresponding control group names listed below it. To the right, there's a note: "Note: This is only an example. Additional control groups exist and control groups will contain more UI controls."

Note: This is only an example. Additional control groups exist and control groups will contain more UI controls.

Column Header
Group Header
List or Table Item

Example of Custom Theme Based on Horizon

A screenshot of the UI Theme Designer interface showing a custom theme based on the SAP Horizon theme. The visual style is identical to the SAP version, but the control group names are highlighted in purple, indicating they have been modified. The same note about additional control groups applies here as well.

Column Header
Group Header
List or Table Item

Design Tokens

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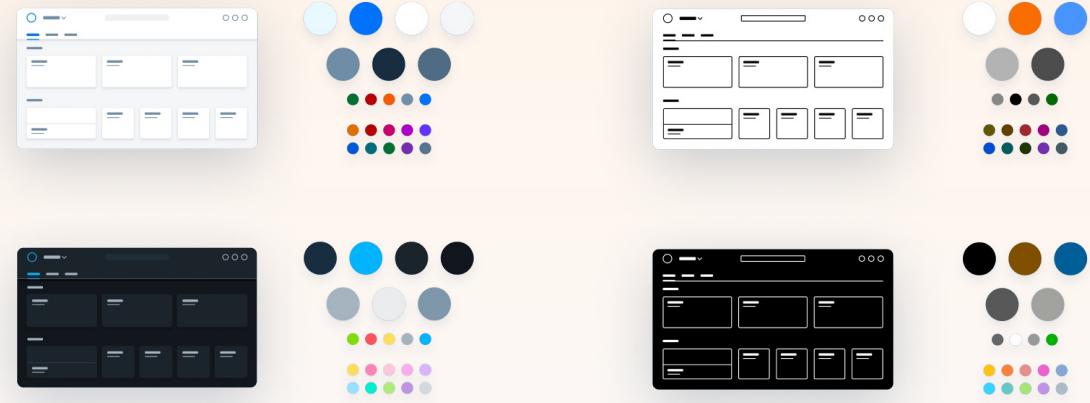
From Brand DNA to User Interface



SAP Brand Reference Colors (DNA)

Technology Agnostic Reference Colors
Independent of Use Cases

Reference colors are derived from the SAP company brand colors. These may change from theme to theme and **should not be used** in the CSS of UI controls.



User Interface

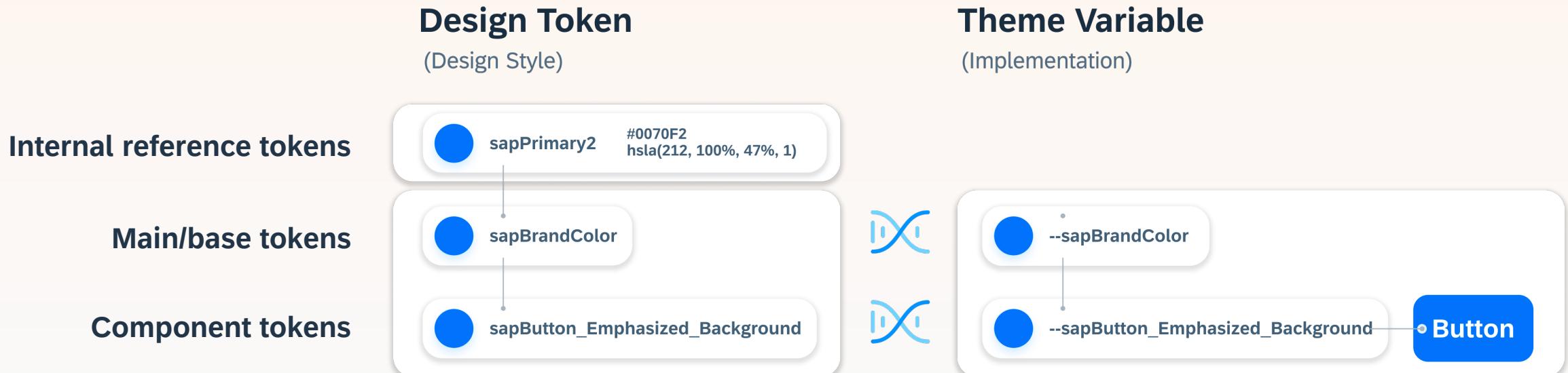
Semantic Meanings: Usage / Component Specific

Theme Specific: Light, Dark & High Contrast

Accessible Contrasts: WCAG 2.2 Requirements

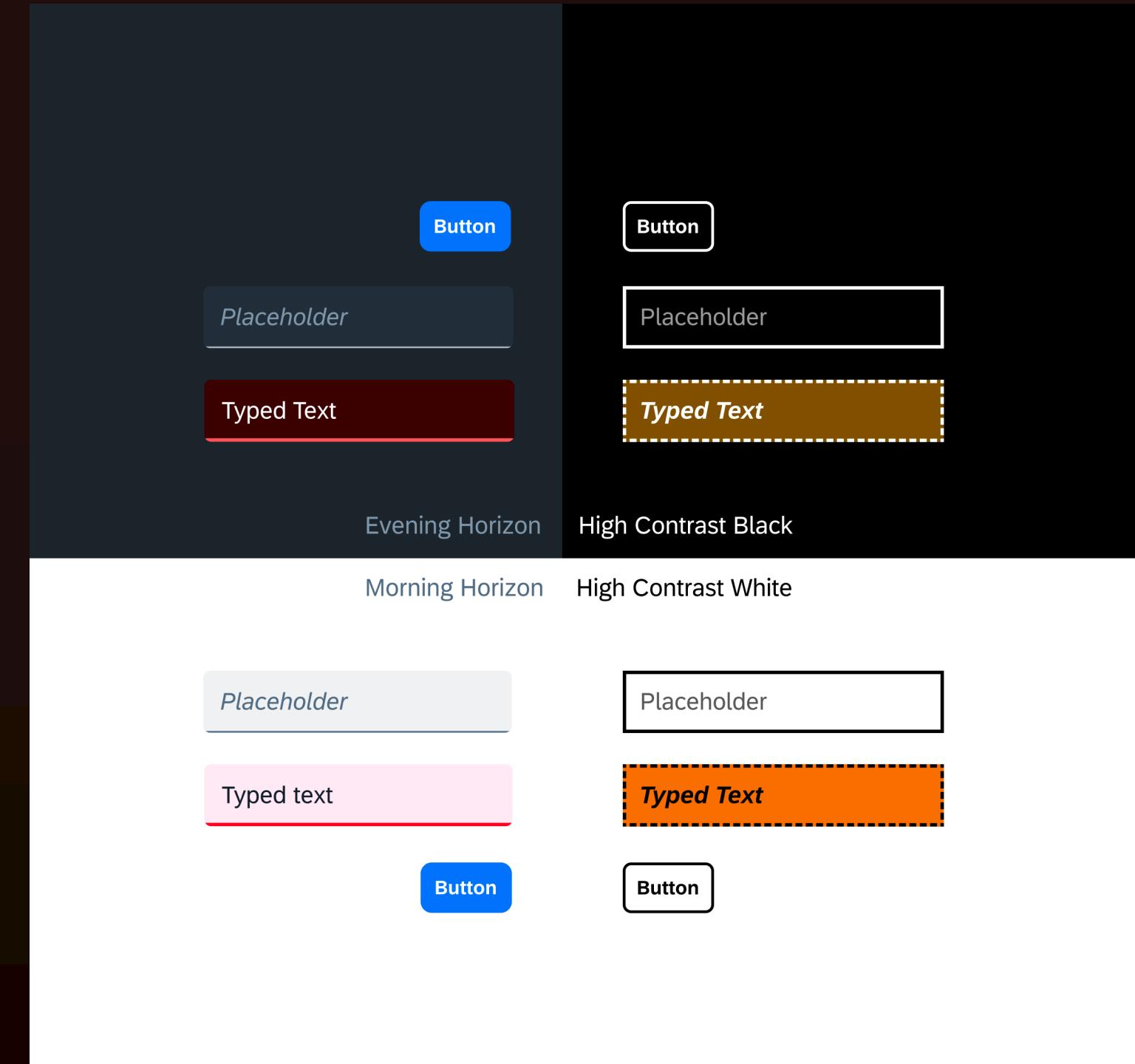
What are design tokens?

Design Tokens are reusable values that can be used to create styles for color, border radius, typography styles, spacing and more.



Tokens with Styles Per Theme

Theme tokens use names that remain stable from theme to theme and are 1:1 with the CSS variables provided for all SAP UI technologies.



Horizon Theme Updates

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Updates

General Contrast - Feedback & Iteration

Initial Design

- Multiple complaints that contrast is too low.
- Everything blends into each other when the white boxes melt into the light grey background
- Search field is not visible enough

The image shows two side-by-side screenshots of the SAP Home page. The left screenshot, labeled 'Initial Design', has a light grey background and features white cards for 'To Dos', 'Interests', and 'Apps'. The right screenshot, labeled 'Update Design', has a white background and features cards with more distinct shadows and colors. The 'To Dos' section includes cards for 'Review Purchase Order Accruals' (Medium Priority) and 'Contract is ready as source of supply' (High Priority). The 'Interests' section includes a card for 'Intelligent Street Lights power the Future of Modern Cities' (SAP News, October 07, 2021) and a 'My Inbox' card. The 'Apps' section shows categories like 'Accounts Receivable Overview', 'Commercial Projects', 'Reports & Dashboards', 'Self Service', 'Asset Accounting Overview', 'Employee Master Data', 'Extensibility', 'Identity & Access Management', 'Communication Management', 'Asset Accounting Overview', 'Employee Master Data', 'Extensibility', 'Identity & Access Management', 'Self Service', 'Launchpad', 'Accounts Receivable Subtitle', and 'Commercial Projects'.

Initial Design

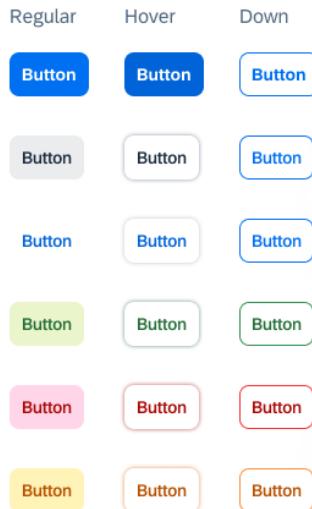
Update Design

- Homepage background color contrast improvements
- Shadow enhancements – adjusted styles help bring more contrast and affordance
- Search Field borders bring affordance and WCAG compliance

Updates

Button components - Redesign based on feedback

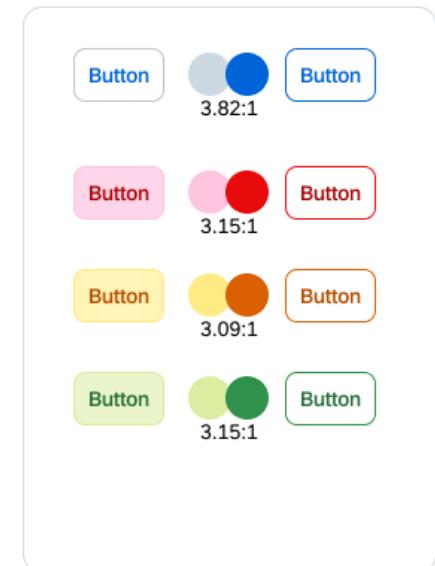
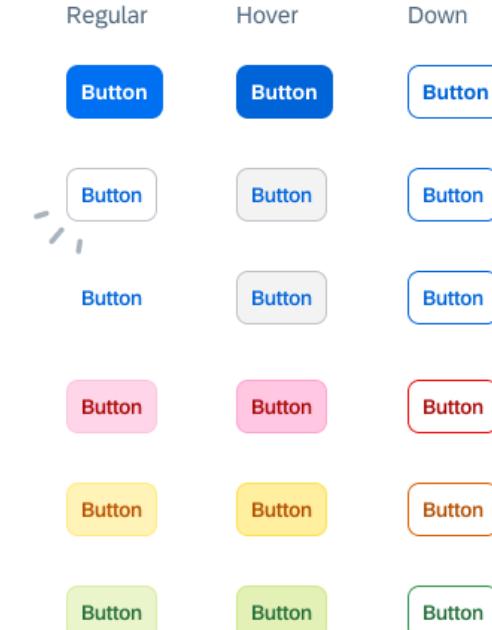
Initial Design



"The Standard button in Quartz was at least blue and the current design for a standard button is grey which is still very close to a simple text or note on the UI. Even though we had other actions on the page with standard buttons the user did not identify the actions." - Stakeholder

"Secondary Button is visually not strong enough against Tertiary Button and feels like disabled. On the other hand, Primary Button is visually too strong compared to "Accept/Reject Buttons", therefore we would like to have a new button variant." - Stakeholder

Design update based on Feedback

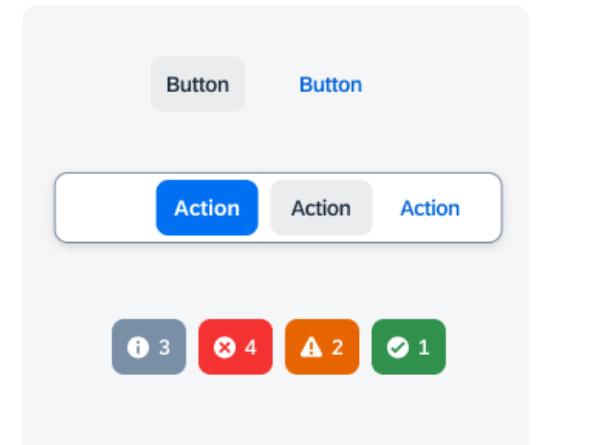


Updates

Button Components Feedback & Iteration

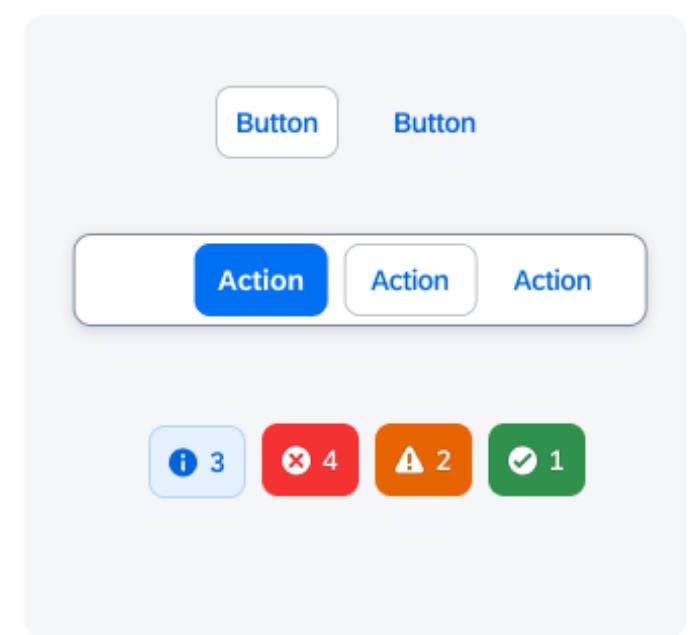
Initial Design

- Grey on grey issues – Buttons do not appear interactive
- Grey button looks inactive next to emphasized or transparent buttons.
- Messaging info grey button not consistent with blue “information” states.



Update

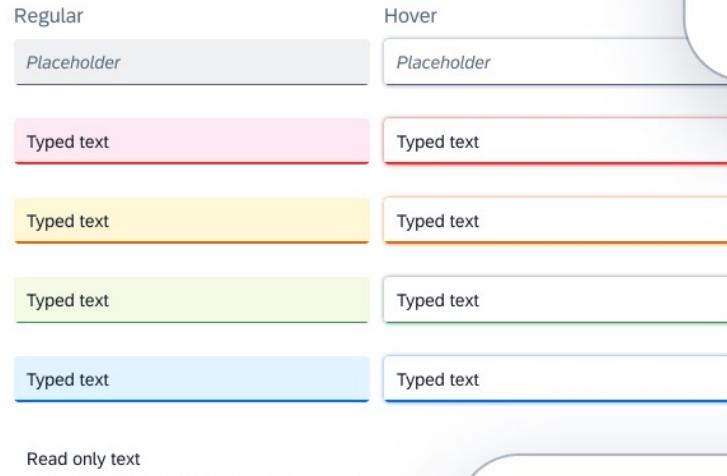
- new design of the default button with updated border color and text color with more visual affordance. WCAG 2.2 compliant.
- Added secondary blue (light blue to not conflict with emphasized button) to replace the dark grey information button (message popover).



Updates

Field Components Feedback & Iteration

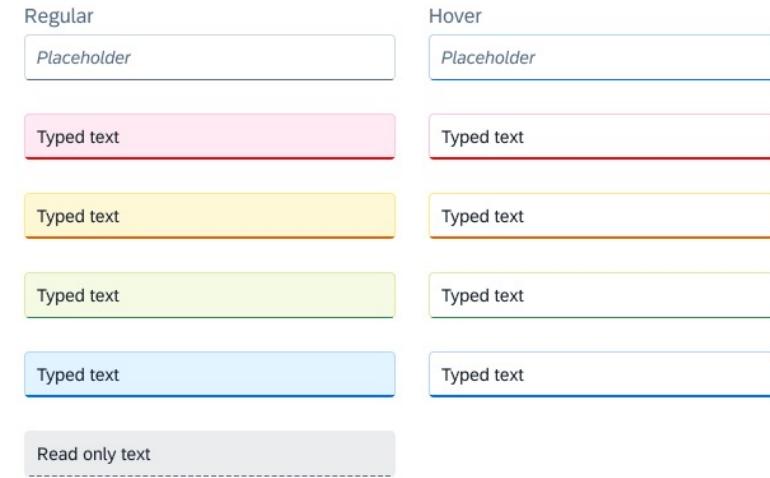
Initial Design



**“Many of the major technologies have issues to apply shadows, they get cut off.”
- All SAP Technologies**

“The read only have only a dashed line and are confusing people. In former themes they have grey backgrounds but now editable is grey which is also confusing.” - Stakeholder

Design update based on Feedback

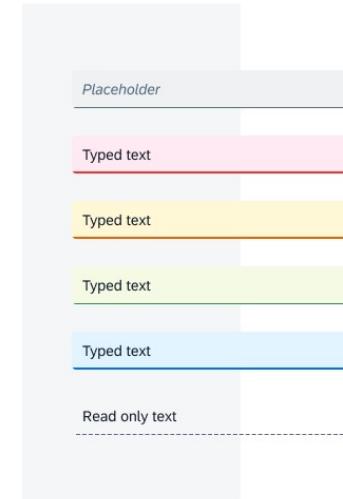


Updates

Input components - Redesign based on feedback

Initial Design

- Grey on grey issues
- Customers expect grey fields to be read only.



SAP Manage Automatic Payments Apps Search in "Saps"

Automatic Payment Parameters

Run Date: 12/22/2022 Identification: ABCDE

Basic	Payment Controls
Posting Date*	Company Code*
12/23/2022	0003 or 0004... 0007
Docs. Entered Up To*	Next Payment Date*
12/23/2022	MMddyyyy
Customer Items Due By	Payment Method*
MMddyyyy	ZUK
Exchange Rate Type	
Additional Log	
NO	

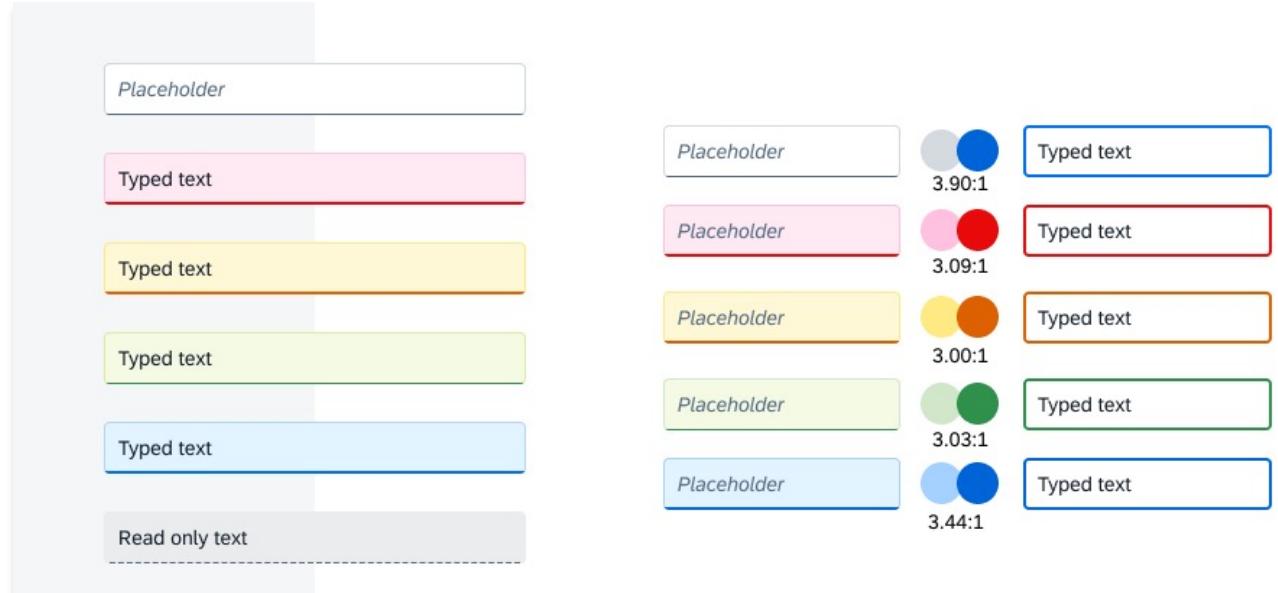
General Information

External Document ID: <input type="text"/> * BPPTT-1748 TOLER...	IMT PO Number:
SF Payment Request:	
Invoice Date: <input type="text"/> * 02/06/2023	Receipt Date: * 02/06/2023

Updated Design

- New design works on both grey and white backgrounds
- Input fields have more interactive visual affordance. Compliant to WCAG 2.2

Mass change via design variables across products and technologies that are connected to Base Theming Content.



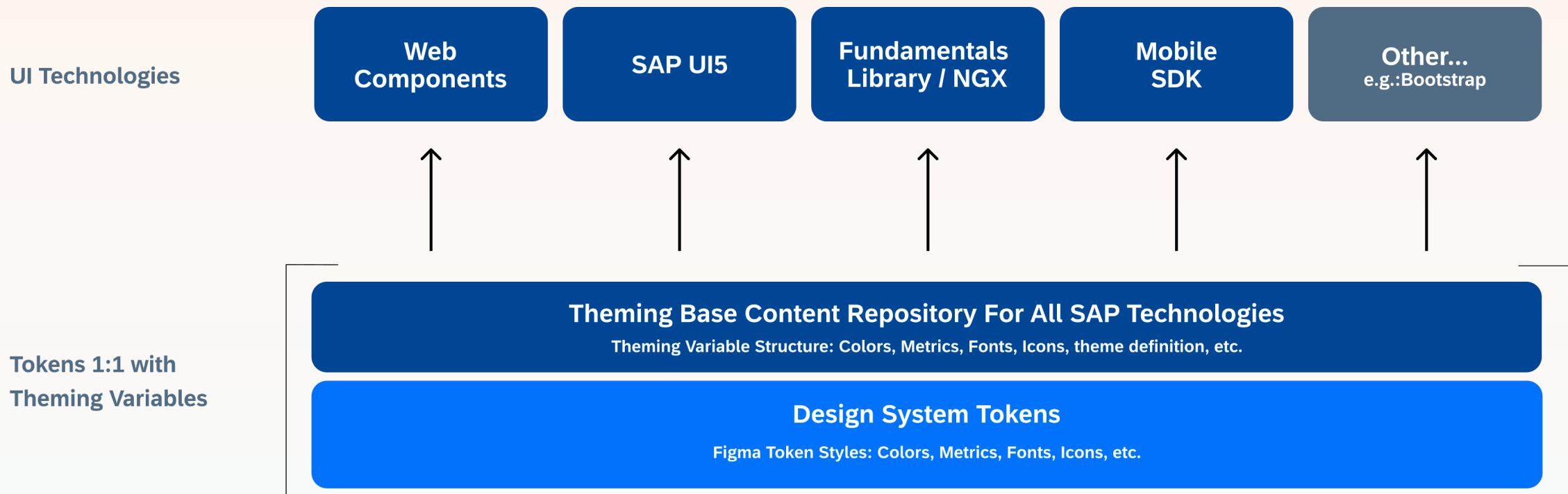
Tokens & Theming Base Content

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Theming Base & UI Technology Overview

The SAP Theming Base Content repository provides all of the foundational theme assets for all of the main SAP UI technology frameworks.



Demo

Theming in UI5

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Smart Cascading

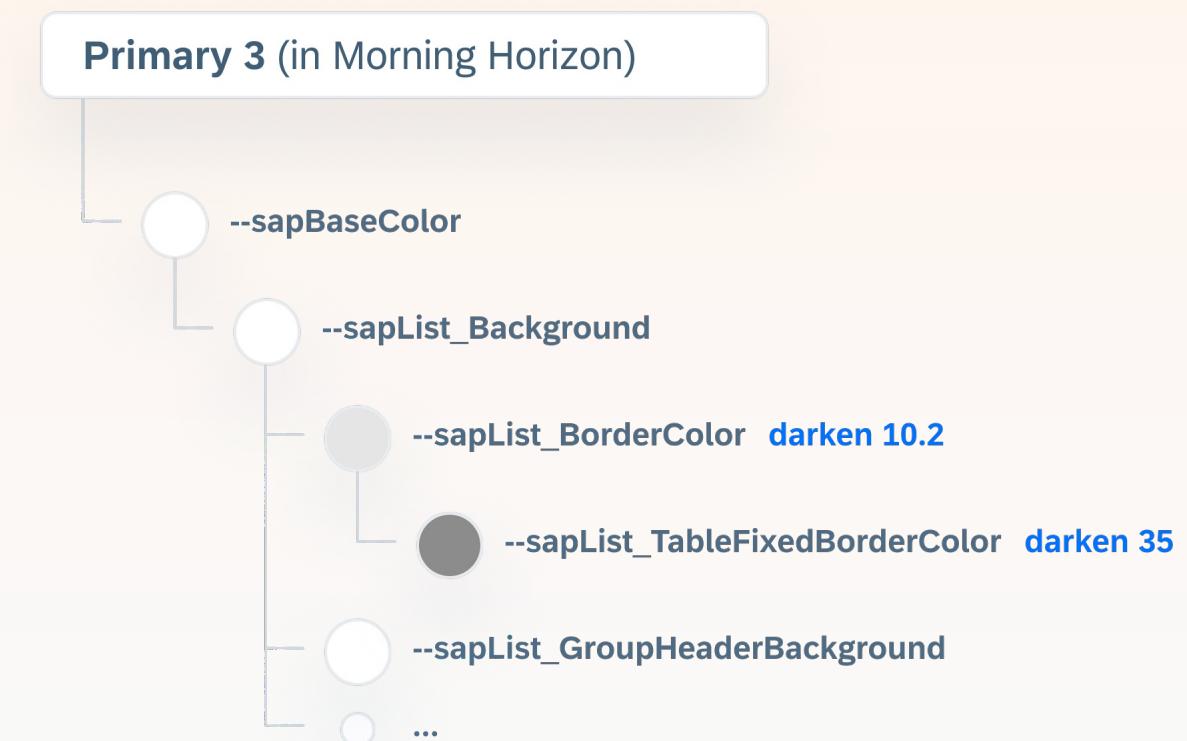
Calculating Mapping Instead of Hardcoding

Interdependencies are a must for theming.

Through linking together parameter variables that are related to each other, we achieve a visual system that inherits values.

This way, changing only a few key colors can give you a whole new look in no time, while keeping the possibility of changing the most nitty gritty details.

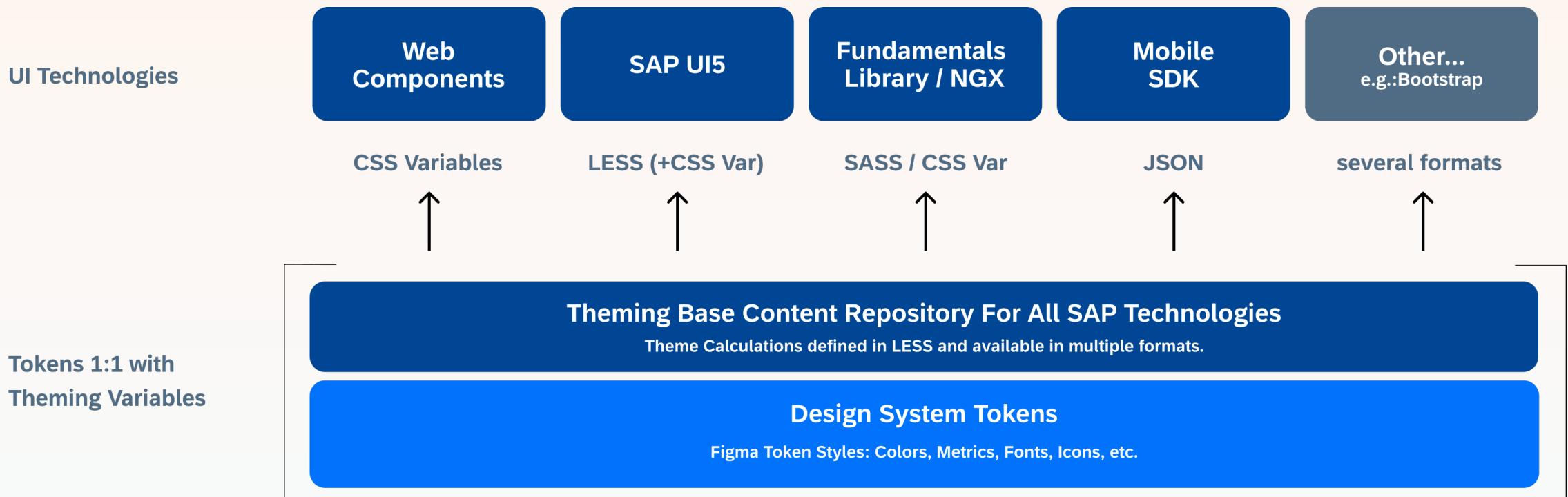
Theme calculations are defined in LESS but are then available in several formats.



Theme Parameter Toolbox

Cross Technology Variable Formats

Theming variables are available in multiple formats to ensure full coverage of SAP UI technologies.



Outlook

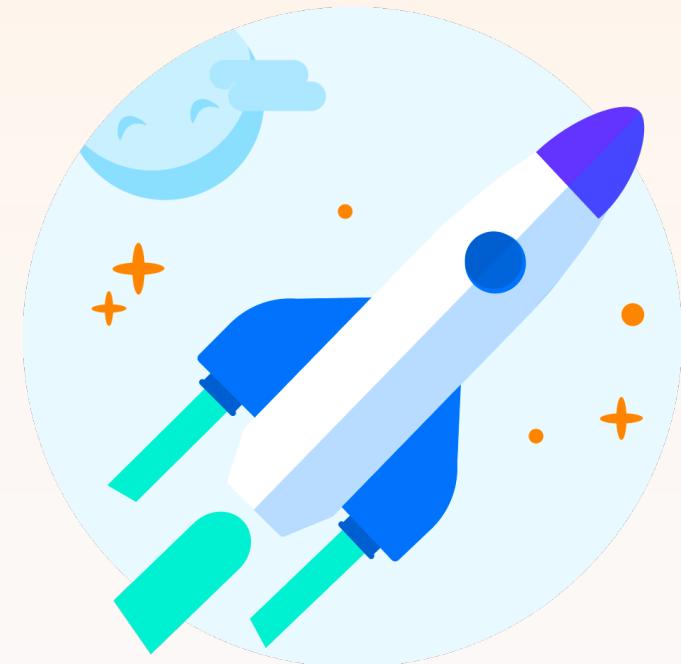
Outlook & Future Possibilities

Work in progress

- Preparing the planned Horizon theme update

Future Research Topics*

- Make design tokens externally available
- Allow customers / partners to use tokens to create custom themes from figma (json export)
- Import custom themes (json) to UI theme designer and apply across all SAP technologies.
- Availability of CSS variables for consumption in UI5



*Please Note:

The outlook here gives a short overview of what our teams are researching. The results of research activities may not be delivered or be available on any existing SAP technology roadmap.

Resources

Dive into the details

- [SAP Design Token Guidelines](#)
- [Fiori UI kit & Figma styles built with design tokens](#)
- [Theming Guidelines Web / iOS / Android](#)
- [UI Theme Designer Feature Video](#)
- [Theming Walkthrough Process](#)
- [SAP Theming Base Content](#)
- [UI Theme Designer - SAP Community](#)
- [SAP Fiori Roadmap Update 2023](#)

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Thank you!

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SAP SE

