Best Practices for Theming and Branding of SAP NetWeaver User Interfaces

SAP Product Management
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Agenda

Overview
Best Practices & Recommendations
Branding of SAP UI Clients
Theming of major SAP UI Technologies
Outlook
Summary
Terminology

- **PERSONALIZATION** available to end users of an application providing the option of adjusting it to suit personal requirements or preferences.

- **CUSTOMIZING** available to administrators of a system or an application at customer’s side providing the option of adjusting it to suit the customer’s requirements or preferences. Customizing changes are valid for all users in the same client and shall be used for client-dependent fine tunings.

- **CONFIGURATION** available to developers providing the option of adjusting a system or application to suit the customer’s requirements or preferences. Configuration changes are valid for all users in the whole system and shall be used for major UI refinement valid for all application users.

- **THEMING** process of adjusting the look & feel or graphical appearance details of the User Interface with as little impact and customization to functionality as possible. Simple theming affects colors, fonts and font-sizes, or padding-sizes with changes to a minimum set of parameters.

- **BRANDING** process of applying a product or company brand to the User Interface. It can be as simple as changing the site image/logo, background image and a few colors or it can be quite extensive using HTML, CSS, page layouts, custom UI parts and controls or custom themes.

- **UI ADAPTATION** process of adjusting User Interfaces to the customer’s requirements or preferences that differ from the standard delivery.
Overview
How you may experience SAP User Interfaces

SAP GUI with classic transaction

SAP NetWeaver Business Client with Web Dynpro application

SAP NetWeaver Portal with SAP application
What you are looking for:
Consistent, intuitive user interfaces in company’s design

Consistent look & feel according to your corporate style guide:
- Visually appealing applications and sites following corporate design
- Flexible and simple customization of the user interface according to new design guidelines
- Design team or external agency provides HTML/CSS draft
- Simple adjustments via configuration tools
- Flexible tools to create complete custom UI designs
The major SAP UI clients are:
- SAP GUI
- SAP NetWeaver Business Client
- SAP NetWeaver Portal Client

Shell (Client)
- Navigation
- Functions (e.g. side panel, favorites)
- Search integration
- Theme/ Branding
- Authentication / session handling

Canvas (Content)
- Communication
- Rendering
Example SAP NetWeaver Portal
Shell and canvas

Potential content in canvas area:
• SAP Applications: GUI for HTML, Web Dynpro ABAP, Web Dynpro Java
• Reports (BW)
• Web Content (WPC, OpenText)
• Documents (KM)
• Collaboration: Workspaces, Wiki, Forums
• Forms
• third party content and web apps
Levels of customization
Various options to customize the visual experience

<table>
<thead>
<tr>
<th>Area</th>
<th>Elements</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Services</td>
<td>Favorites, history, help, full page mode, search, navigation (forward/back)</td>
<td>Framework page configuration</td>
</tr>
<tr>
<td>Framework &amp; Page Layout</td>
<td>Columns, rows, container for content</td>
<td>Page layout editor</td>
</tr>
<tr>
<td>Design Theme</td>
<td>UI elements: colors, fonts, images, padding, frames, position, dimension</td>
<td>Theme editor, portal desktop, display rules</td>
</tr>
<tr>
<td>Navigation &amp; Menu</td>
<td>Navigation structure, menu</td>
<td>Roles, URL, Quicklink, permissions</td>
</tr>
<tr>
<td>Content</td>
<td>Application, reports, web content, etc.</td>
<td>Theme Editor, Unified Rendering</td>
</tr>
</tbody>
</table>
A portal theme defines the visual appearance of the portal desktop: for example font type, size, colors, and images of the various UI elements on the screen.

SAP Standard (Streamline)

SAP High Contrast Black

SAP High Contrast

SAP Corbu (new)

SAP Chrome
Theming process overview

1. Collect requirements for look & feel (style guides incl. color palette)
2. Create UI mock-ups (HTML / CSS) for a custom theme
3. Customize the framework (shell)
4. Customize the content / integrated applications (canvas)
5. Run usability tests
6. Enjoy
Best Practices & Recommendations
General recommendations for the theming process

✓ Theme Infrastructure: document the current version of the styles / themes in your landscape and check their technical dependencies (e.g. Business Suite / Portal)
  → upgrade to latest version of portal / UR style sheet if required

✓ Important SAP notes: make yourself familiar with relevant SAP notes for theming / UR

✓ Enhancements: check the latest improvements/ deltas for unified rendering (lightspeed) and new theming tools

✓ Custom theme: create a custom theme by configuration via the theme editor (based on standard theme); develop a completely own framework page or theme only if really needed

✓ Testing: perform thorough usability / consistency tests prior to go-live or upgrade (e.g. check complex controls, size, gradients, padding in different browser versions)
Theme Interoperability
Dependencies between various theme versions

- SAP portal serves as central theme provider in your landscape and provides theme support for various UI technologies out of the box (according to version interoperability matrix below).
- SAP Portal should have at least same or newer style sheet version of all integrated applications*.
- For details check SAP notes 1446099, 1000889, 1306235

<table>
<thead>
<tr>
<th>Portal Release (with latest SP/Patch)</th>
<th>Web Dynpro ABAP / Java (minimum release)</th>
<th>SAP GUI for HTML 7.2 (Web GUI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0</td>
<td>7.0</td>
<td>not supported</td>
</tr>
<tr>
<td>7.01</td>
<td>7.01, 7.11</td>
<td>not supported</td>
</tr>
<tr>
<td>7.02</td>
<td>all releases</td>
<td>all releases</td>
</tr>
<tr>
<td>7.3</td>
<td>all releases</td>
<td>all releases</td>
</tr>
<tr>
<td>7.31</td>
<td>all releases</td>
<td>all releases</td>
</tr>
</tbody>
</table>

*Example
To correctly run Web Dynpro ABAP 7.02 applications with custom theme, the portal needs to be on release 7.0 EhP 2 or higher (containing the required style sheet classes and theme generator).
Example landscape from theming perspective
SAP UI technologies and their style sheet versions

Example: “upgrade of ERP backend to SAP ERP 6.0 EhP5 / SAP Basis 7.0 EhP 2”

a) Portal 7.02 SP 5  ➔ upgrade UR styles to SP 11 or higher (in particular UR version 7.31.6.16)
b) Portal 7.0  ➔ upgrade to Portal 7.02 SP 11 or higher (incl. required UR style classes and theme generator version)

Note
UR style sheets have their own versioning that is independent of the portal and the backend: <Major version>.<minor version>.<SP>.<patch.generation run>
exemple: Major version=7, minor version=31 ,SP=06, patch=16
SAP GUI for Windows 7.30

Overview

- Classic SAP client for launching ABAP transactions (Dynpro)
- Local installation with relevant icons and style information

Further information

- SAP Notes: 1670678, 1740921
SAP GUI for Windows 7.30
Examples for customization via SAP GUI Configuration Tool

Theming Options
• SAP GUI Configuration Tool
• Various pre-defined themes
• New SAP Corbu theme
• Color schemes for SAP Signature Design
• Branding capabilities (e.g. logo)
• Personalization and floating docking container
SAP GUI for Windows 7.30
Example for customized SAP GUI
SAP NetWeaver Business Client

Overview

- High fidelity desktop client for unified access to roles and business applications
- Displaying business applications such as classical SAP GUI UIs, Web Dynpro UIs, BSP pages, and other content using flexible rendering engines

Further information

- Documentation
- Notes: 1620514, 1353593
SAP NetWeaver Business Client (NWBC)
Adjustments on work center visualization and branding

**Branding**
- Display of an image (typical use case: company logo)
  - At the bottom of the navigation panel (NWBC 3.0/3.5)
  - On the Index and New Tab page (NWBC 4.0)
- Navigation from logo to configurable target (typical use case: company homepage)
- NWBC 4.0: Welcome message on Index page
- System, client and user variables are available
- Settings are maintained in table NWBC_CFG

**Work Center icons**
- Work Center icons can be changed
- Configurable via role settings (PFCG)

Please note: This feature is only available for NWBC for Desktop 3.5 and 4.0.
SAP NetWeaver Business Client for Desktop
From SAP Signature to Corbu

SAP NetWeaver Business Client 3.0 and 3.5
- SAP GUI: SAP Signature theme
- Web Dynpro ABAP: SAP Signature theme

SAP NetWeaver Business Client 4.0
- SAP GUI for Windows 7.30: Corbu theme
- Web Dynpro ABAP: as defined in backend (WDA parameter wd-themeroot, cross-application settings or NWBC configuration)
SAP NetWeaver Business Client for HTML
SAP Signature or Corbu theme

Prior to SAP NetWeaver 7.0 EhP3 SP03
Rendering in SAP Signature theme

As of SAP NetWeaver 7.0 EhP3 SP03
- Choice between SAP Signature and Corbu theme
- Backend switch (table NWBC_CFG, parameter THEME_NAME – see NWBC documentation chapter 4.6)
Outlook
Personal & Corporate

Outlook on NWBC for Desktop 4.x

Easy customization of

- Selected branding elements
- Background images
- Accent color

integrated in theming editor

For more advanced theming and branding:

Option to replace overview pages

- Index page
- New Tab page
Overview

- Zero footprint client for central access to information, process and people in intranet and extranet scenarios
- Portal (based on ajax framework page) offers various client services
- Flexible branding and theming capabilities for the shell and canvas area (incl. web content and collaboration solutions)
- Completely custom design for portal shell possible

Further information

- Documentation
- How To “Customize Ajax Framework”
- SAP Note: 1166135, 1446099, 1633173, 1517914
Easy configuration of the portal client

Framework Page Configuration Editor
- Configure the masthead and menu/tool bars
- Client (shell) services such as favorites, search, history, help, etc.

Portal Theme Editor
- Add own images / logos
- Define colors, fonts, paddings of the various UI controls (masthead, tables, tabs, etc.)
Fully customized portal experience via custom development

Detailed information on SAP Community Network: “How to Customize your Ajax Framework Page with SAP NetWeaver Portal”

Recommendations and examples for
- Themes and Framework Pages
- Ajax Framework Page - Main Elements
- Preparations for Creating a Customized Portal Desktop
- Configure the Framework Page
- Customizing
  - Theme
  - Masthead
  - Detailed Navigation (DTN), Dynamic Navigation
  - Breadcrumb
  - Layout
  - Dialog Box, Context Menu, Splash Screen
  - Hyperlinks
  - Portal Search

(custom example)
Theming of major SAP UI Technologies
Unified Rendering for theming for major SAP UI technologies

Overview

**Portal Theme**
(contains images, icons, properties files)

**HTML renderer** → **Stylesheets** → **Images & icons**

<table>
<thead>
<tr>
<th>Unified Rendering – Lightspeed</th>
<th>Unified Rendering – Classic</th>
</tr>
</thead>
<tbody>
<tr>
<td>WD ABAP &gt;7.01</td>
<td>WD ABAP 7.0</td>
</tr>
<tr>
<td>WD Java &gt;7.1</td>
<td>WD Java 7.0x</td>
</tr>
<tr>
<td>SAPGUI for HTML 7.2</td>
<td>HTMLB Java (JSP)</td>
</tr>
<tr>
<td>Comp. Lib for JSF 7.1</td>
<td>BSP</td>
</tr>
<tr>
<td>BW Java</td>
<td></td>
</tr>
</tbody>
</table>

**SAP UR based technologies**

**non-UR based technologies**

**Seperate Themes**

- Portal / Ajax Framework
- Classic ITS

- Workspaces
- Portal for Mobile
- Adobe Forms

**Design part**
**Parameter pool**
**Theme part**

Additional components:

- PSM by OpenText
- Wiki
- Forums

External styling tools:

- Portal Theme Editor

Available for:

- Portal Theme Editor
- Portal for Mobile

Modify/replace .properties

Check

Modify
Working with the portal theme editor
Content Administration > Portal Display

- Save own theme version based on SAP template (e.g. tradeshow)
- Define e.g. colors, images, fonts, padding
- Note:
  - Not all UI elements of UR lightspeed are covered yet
  - You may export the theme and manually replacement certain elements (if not covered by theme editor)

Check documentation for details.
Overview
• The portal framework uses HTML, JSP and CSS
• Most administration screens are based on Web Dynpro Java (leveraging SAP unified rendering)
• Custom applications may use Portal Runtime, Web Dynpro Java or HTML5

Theming Tools
• Theme Editor
• Developer Studio for Custom Framework Page / Custom CSS

Further information
• Working with the Theme Editor
• Custom Logon Screen
• Portal Mobile Enablement
Enterprise Workspaces
Empower your end user with intuitive collaboration and self-service scenarios

Overview
- Enterprise Workspaces (desktop) uses Flex / HTML CSS
- Workspaces for tablets uses jQuery CSS
- Check the delivered sample project SAPEnterpriseWorkspaces.css

Theming Tool
- Flash/ CSS Editor

Further information
- Customizing Workspace Themes
- Workspaces - tablet experience
Wikis
Collaborative writing and content creation

Overview
- A wiki application can display multiple themes (skins)
- Themes are specified in the wiki configuration folder in a theme directory

Theming Tool
- Administration Console > System > Settings > Themes

Further information
- Setting Wiki Themes
  - Editing Default Themes
Discussion Forums
Get answers to your questions and discuss hot topics

Overview
• Customize the look and feel of your forums by adapting the theme font and colors and by customizing various options that affect the appearance

Theming Tool
• Forums Administration > User Interface > Themes

Further information
• Customizing Forums Themes
Knowledge Management & Collaboration
Easily manage your documents and rooms

Overview
• KMC provides a flexible user interface for navigating in document repositories. You can use parameters to modify the UI experience.

Theming Tool
• Theme Editor
• KM configuration tools
• Extend the KM flexible user interface using your own Java classes

Further information
• Documentation KM UI
• KM Extensions
• Collaboration Room Extensions
Web Page Composer
Managed content and sites for your intranet and extranet

Overview
Web Page Composer supports full control over customization of your page layouts and forms including font type, size, etc via XML, CSS/XSLT.

Theming Tool
- Theme Editor
- KM / WPC configuration tools

Further information
- Creating XML and XSL Files
- How-To Guides (e.g. custom layout, forms)
Universal Worklist
Central access to your tasks and workflow items

Overview
• UWL main page consists of several tabs, with each tab associated with tasks of different categories (Alerts, Notifications, and so on).
• Under each tab, there are drop downs which are have additional options about viewing item types with certain status (Completed, In process.).

Theming Tool
• Portal Theme Editor
• NetWeaver Developer Studio

Further information
• Changing the Look of UWL User Interface
• Creating Custom Views
• Customizing the UWL Tabs
• API / JavaDoc UWL
Business Warehouse (Java)
Improving the experience of your Web reporting

Theming Tools
- **Portal Theme Editor**: Easy formatting of Web applications via UR styles for elements such as Button Group, Link, and Analysis Web items
- **BEx Web Application Designer**: create an HTML page containing BI Content such as various tables, charts, or maps
- **Web Design API**: highly customized scenarios with user-defined interface elements in your markup language

Further information
- Portal Themes for SAP BW
- BEx Web Application Designer
- Web Design API
SAP Interactive Forms by Adobe
Creating interactive, form-based documents for online and offline processing

Overview
• SAP system, you can enable business data to be output and input as forms. To enable applications to process data as forms, you create form templates.

Theming Tool
• Adobe LiveCycle Designer for ABAP Workbench and SAP NetWeaver Developer Studio (Java)

Further information
• Enabling Form-Based Processing of Business Data
• Defining Form Interfaces
Web Dynpro Java

Overview
- Web Dynpro applications can re-use the central portal theme / style sheets
- If portal style sheet version is older than the backend version, the WD default theme (e.g. SAP Tradeshow) is displayed

Theming Options
- Portal Theme Editor to define central UR styles
- Configuring default value via WD runtime parameter `sap.useWebDynproStyleSheet`
- Set a specific theme by URL parameter `sap-cssurl`

Further information
- Stylesheets in WD Java
- SAP notes 1446099 and 1000889
Overview

- Web Dynpro ABAP applications can re-use the central portal theme / style sheets
- If portal style sheet version is older than the backend version, the WD default theme (e.g. SAP Tradeshow) is displayed

Theming Tools

- Portal Theme Editor to define central UR styles
- Configuring default theme for applications via parameter WDFORCEEXTERNALSTYLESHEET
- Set a specific theme by URL parameter sap-cssurl

Further information

- Stylesheets in WD ABAP
- SAP notes 1446099 and 1000889
CRM Web UI 7.01

Overview
- With Skins visual layout of the User Interface can be adjusted to the Corporate Identity
- The user can personalize the layout via skins under PERSONALIZE link in the L-Shape
- SAP CRM comes with 5 skins including Signature Design

Theming Tools
- Standard skins are stored in the MIME repository of BSP application THTMLB.getBytes
- From 7.0 on CRM provides a Workbench in IMG that facilitates for the administrator exploring and copying SAP default skins
- You can map portal themes to CRM skins in Customizing

Further information
- Working with Skins (CRM 7.02)
- How-to Copy and Adjust Skins (SAP CRM 7.0)
- Portal Integration (SAP Note 1175590, 1353456)
Outlook
SAP UI Development Toolkit for HTML5
UI framework on SAP NetWeaver Cloud

Overview

- Rich and enterprise ready HTML5-based control sets for both - desktop and mobile applications
- A unified core framework for desktop and mobile – write once – run everywhere!
- Optimized for SAP data consumption and system landscapes
- Eclipse-based application development tools
- Open, extensible and follows web-standards
The new SAP NetWeaver Theming Tools

Planned Features

- HTML5 based Theme Editor
- Two views: „Quick Theming“ and “Expert Theming”
- Supports Web Dynpro, SAPUI5, NW Business Client
- Runs on AS ABAP, Portal and plain web servers
- External editing (open source theme) and custom CSS possible
- Migration of existing portal themes, CSS3 support
Portal Theme Studio

Generate theme using one "leading color".

• only 3 easy steps
• choose a leading color for your portal
• preview it and export it as normal theme.
• import to any equivalent version portal and edit using the normal theme editor.

Prerequisite: SAP NetWeaver Portal 7.30 SP8 and higher
Web Resource Repository

Benefit
- Central storage location for portal application resources: .less files, .css files, and image files
- Actions: download, upload, view and modify resources
- Reference them from multiple applications

Prerequisite: SAP NetWeaver Portal 7.30 SP8 and higher

Check SCN blogs for details:
- easy-branding-using-sap-netweaver-portal-web-resource-repository
Summary
Summary

- SAP provides out of the box designs with pre-defined themes
- Customers can customize those themes to apply their own corporate identity (colors, images)
- Most of the UI technologies are covered by SAP unified rendering framework to ease the theming process
- SAP is working on new theming infrastructure to further improve the theming process and allow customers to more easily brand their user interfaces
Further Information

SAP Public Web

scn.sap.com
www.sap.com
http://scn.sap.com/community/ui-technology
http://scn.sap.com/community/netweaver-portal
http://scn.sap.com/community/web-dynpro-java
http://scn.sap.com/community/web-dynpro-abap
http://scn.sap.com/community/crm
http://scn.sap.com/community/data-warehousing/netweaver-bw
http://scn.sap.com/community/gui

SAP Education and Certification Opportunities

www.sap.com/education
Appendix
Important Notes and Resources

- 1670678 - New features in SAP GUI for Windows 7.30
- 1740921 - SAP GUI 7.30: Define custom SAP Signature colors

- 1620514 - NWBC 3.5 for Desktop: Prerequisites and restrictions
- 1353593 - SAP NetWeaver Business Client Version 3.0 - Patch Collection
- 900000 - Netweaver Business Client – FAQ
- 1620576 - NWBC for HTML: Prerequisites and restrictions

- 1000889 - CSS Style Sheet Integration of Web Dynpro and the Portal
- 1306235 - Upgrade of custom themes might lead to visual design issues
- 1768631 - Theming: Images of the type JPG are ignored
- 1446099 - Web Dynpro application not displayed in customer theme
- Stylesheets in WD Java
- Stylesheets in WD ABAP
Important Notes and Resources

- Working with the Theme Editor
- Custom Logon Screen
- Portal Mobile Enablement

- Customizing Workspace Themes
- Customizing the Look and Feel of Forums
- Setting Wiki Themes
- Editing Default Wiki Themes

- Documentation KM UI
- KM Extensions
- Collaboration Room Extensions
- WPC Creating XML and XSL Files
- WPC How-To Guides (e.g. custom layout, forms)

- Changing the Look of UWL User Interface
- Creating Custom Views
- Customizing the UWL Tabs
- API / JavaDoc UWL

- Portal Themes for SAP BW
- BEx Web Application Designer
- Web Design API

- Working with Skins (CRM 7.02)
- How-to Copy and Adjust Skins (SAP CRM 7.0)
- Portal Integration (SAP Note 1175590, 1353456)

- Enabling Form-Based Processing of Business Data
- Defining Form Interfaces
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