Business Content
User Interface Patterns Guidelines
for SAP NetWeaver 2004

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1 Overview

The usage of the BI Content UI Patterns ensures a unified layout of Web Reporting across all applications and an easy creation and maintenance of Web Applications by the BI Template Wizard, easy migration to higher NetWeaver releases (e.g. NW04 Æ NW04s). Finally they meet the required accessibility and usability standards.

Starting with BI Content 3.5.2 Add-On the following UI Patterns are available:

- Casual User Pattern (CUP) – will be obsolete with NW04s
- Information Consumer Pattern (ICP)
- Analyst Pattern (AP)

Casual User Pattern:

![Casual User Pattern Chart]

**DalSegno - Sales Volume Analysis**

<table>
<thead>
<tr>
<th>Current Lost Deals</th>
<th>Plan Variance - Prod.Gr./D</th>
<th>Sales by Distribution Chan</th>
<th>Sales by Product Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info</td>
<td>Table</td>
<td>Data Timeliness: 11.06.2003 14:16:15</td>
<td></td>
</tr>
</tbody>
</table>

![Casual User Pattern Chart Diagram]

% Variance Plan

- Accessories
- Bag & Outdoor
- Product Group
- Office

Legend:
- EDI
- Fax
- Internet
- Others
- Phone
Information Consumer Pattern:

The online documentation gives a detailed description of each UI Pattern.
2 General Aspects

2.1 First Steps for building a pattern-based Web Application

2.1.1 Design of Query and Query Views

Before you start with the generation of pattern-based Web Applications, you have to create your data model in the BW-System. On top of the data model (Info Cubes, ODS-Objects, Info Sets, etc.) Queries and Query Views have to be build. They serve as data provider in the Web Application. Beside general aspects of query design some special rules and concepts apply for pattern-based Web Applications. They are described in chapter 3.

2.1.2 BI Template Wizard

All pattern-based Web Applications in BW should only be created by the BI Template Wizard. No changes must be done in the code of the template manually. The usage of the wizard is described in a How-to paper (available on SDN).

The BI Template Wizard can be downloaded from SDN (see description in the How-to-Paper).

2.1.3 Library Web Items

The data of the query or query view will be presented in a Web Item. Such a Web Item can currently be a table or a chart. Different parameterizations of tables and charts (e.g. no. of lines, no. of columns, chart type, legend position etc.) are stored in a central library (technical name: 0LIB_BAP). You can also use your own library items.

2.1.4 Description texts

All texts for display in the Web Applications need to be stored as text element in an ABAP-report. The name of the report and the key of the text element need to be inserted in the corresponding fields of the BI Template Wizard while creating the pattern-based Web Application.

2.1.5 Naming conventions

The SAP delivered Web Templates based on UI Patterns have the following prefix:

- Casual User Pattern: 0TPLC_
- Information Consumer Pattern: 0TPLI_
- Analyst Pattern: 0TPLA_
3 Pattern Elements of the UI Patterns

3.1.1 "Query View – Selection" Dropdown-Box

One important element of the ICP is the Query View – Selection Dropdown box. Each entry in the dropdown box includes a data provider (Query or Query View), a Web Item (stored in a Library, i.e. has a technical name) and a description (text for the entry, stored as text element in an APAB report). By selecting one entry of the dropdown, the data provider together with the library item are shown in the target area (Content area where a table or a chart with the data are displayed).

The attributes (data provider, web item, description) of each entry of the dropdown box are filled via the BI Template Wizard (see How-to-Paper). A detailed online documentation is given [here](#).

Further, some global parameters can be set for the dropdown box:

- Sorting of entries is alphabetically by default. The sorting can be switched off by a parameter in the BI Template Wizard. You should switch the sorting off, if you want to have a fixed order and if not too many entries are in the dropdown box.
- The property “Keep filter, when switching to another view” as available in the BI Template Wizard corresponds to the property VIEW_DD_RRI of the Query View – Selection Web Item. If you set the indicator for this attribute, the filter values are kept when you swap queries or query views in the dropdown box. The used functionality behind is the report-report-interface (RRI). This property has to be used carefully! If the current view is filtered by certain characteristics and you switch to another view without any filter, all filters (static and dynamic; ad-hoc filters defined in the ICP and filter values stored with the view definition) will be applied to the other view. This may lead to confusion to the end user, since he expects in the first line that only the filter settings defined in the filter area of the ICP are carried over. If this RRI property is switched on, it is recommended that all included views have either no filtering stored in the view definition or that all views have the same filter settings.

3.1.2 Filter area of ICP

The ICP can have a filter area with up to eight filter characteristics, which is located below the Query View – Selection dropdown box. This area can also be configured by the BI Template Wizard (second step of the ICP-wizard).

Each filter characteristic can either provide the filter values in a dropdown box (single selection) or in a F4 value help popup (multiple selection). It is recommended to use the dropdown value help, if only single selection is needed and if not more than 50 filter values can be expected. In all other cases the F4 value help should be used.

All included filter characteristics have to be available as free or drilldown characteristics in the query definition. If different queries or views from different queries are used as data provider in the Query View – Selection dropdown box it has to be ensured, that the included filter characteristics are available in all queries.
There are two possibilities for time filtering. Prerequisite is that the query contains at least one time characteristic. If one of the time characteristic is inserted in the BI Template Wizard in the field labeled “Time characteristic”, all available time characteristics are offered in the resulting ICP for selection from a dropdown. Values can be inserted in “from” and “to” fields to determine a time interval. The required time format is indicated. The other option for time filtering is the checkbox “Filter by recent time periods” on step 2 of the ICP wizard. If this box is checked, it results a dropdown box with two entries for each available time characteristic, which e.g. for 0CALMONTH “actual month” and “previous month”. These entries are generated automatically.

Currently, it is not possible to filter by fiscal time characteristics.

If you Query or Query View is based on an Info Set, you have to use the generated technical name of the Info Objects in the BI Template Wizard (instead of the “normal” technical name of the Info Object).

3.1.3 Web Items (Table / Chart) in the content area

The Web Items which are provided in the Library 0LIB_BAP are available for the UI Patterns. Also you use your own predefined library items.

3.1.3.1 Axis description
For data provider with only one characteristic and one key figure the axis description is generated automatically from the corresponding caption of each Info Object. In all other cases no axis description is available automatically. The only possibility to provide axis description is via the BI Template Wizard. Currently, only one x-axis and y-axis description can be inserted, i.e. axis description is the same for all views.

3.1.3.2 Scaling
For very small numbers it is recommended to use the Lib Items “Bar chart (with Decimals)” (0BAP_BARCHART_D_STANDARD), “Bar chart (with Decimals, switched)” (0BAP_BARCHART_D_SWITCHED), “Line chart (with Decimals)” (0BAP_LINECHART_D_STANDARD), “Line chart (with Decimals, switched)” (0BAP_LINECHART_D_SWITCHED). Please contact BI Content team, if other chart types are required.
For very large numbers currently no corresponding Lib Items are available. Please contact BI Content team, if you have any requirements here.

3.1.4 Navigation
Jump targets defined via report-report-interface (RRI) are available in the context menu of the Web Item in the content area of the ICP. Beforehand in the BI Template Wizard the RRI navigation has to be released (checkbox: Release RRI navigation).

3.1.5 Second Table Item in ICP
If you want to use a second table item in your ICP Template, the first item does always have to be a chart item in order to avoid 2 table items. During runtime the user could define new views via advanced analysis (if the end user saves also a new view with a table item, he would also have 2 identical tables in the ICP). Therefore try to avoid to offer the “Advanced Analysis”-Link in the ICP, if you want to use 2 Web Items.
4 Detailed Aspects of Query Design

4.1.1 Currencies and units
Currencies and units need to be defined properly in the query design. There is no possibility for currency conversion in pattern-based Web Templates (CUP, ICP).

4.1.2 Filter characteristics
The filter area of the ICP can contain up to eight filter characteristics and additionally all available time characteristics defined in the query. For ease of use please try to keep the number of characteristics in the filter area as low as possible.

4.1.3 Free characteristics
Include only those characteristics in the free characteristics area of the query design, which are really needed from a business perspective. Do not provide more than 5 - 6 characteristics for filtering and drilldown. All free characteristics of the query are available in the navigation block of the detailed analysis of the ICP (Analyst Pattern).

4.1.4 Variables
Variables have to be defined during Query design. If maintainable variables exist in the query, it can be chosen in the BI Template Wizard, whether the variable screen will be shown before the pattern-based template is processed or whether the variables are filled by predefined/default/initial values in the background. Default is, to always suppress the variable screen, if possible (e.g. no mandatory variable exists, which is initial).

Please avoid using variables with the property “Changeable in Query navigation”! This variable type is treated as filter characteristic during runtime, i.e. could be changed after query execution. The problem is that these variables can be maintained during the first call of the variable screen, but for succeeding calls of the variable screen these characteristics do not appear again, i.e. cannot be changed later anymore in pattern-based Web Templates (only with the navigation block of the Detailed Analysis pop-up). Therefore, it is recommended to include such characteristics as filter characteristics in the filter area of the UI Pattern.

Variables used in pattern-based Web Templates are processed as follows during runtime:
1. Use the variable value which is inserted on variable screen during runtime.
2. If no value is inserted on variable screen, use the variable value which is personalized.
3. If no value is personalized, use default value of variable.
4. If variable has no default, use initial as variable value, if variable is not mandatory.
5. If variable is initial and mandatory show variable screen.

Pattern-based Web Templates ignore all variable values saved with the query view. This is ensured by setting the template property “VARIABLES_CLEAR=X” in the Master-Template. Due to this setting, views based on queries with mandatory variables can be saved by using any characteristic value for the variable.

By switching to another view via the dropdown box the variable screen will not be shown again in general. The variable values available in the runtime will be reused. Only if the
next view is based on another query which contains a mandatory variable with no value, the variable screen will be shown.

5 Miscellaneous

5.1.1 Web Application Designer and pattern-based Web Templates

It is mandatory to create and maintain all pattern-based Web Templates by the BI Template Wizard. The pattern based Web Templates can only be opened in text mode in the Web Application Designer. Further details see in the How-to-Paper for the BI Template Wizard and note 693940.

5.1.2 Personalization and Bookmarks

Here is a general description for personalization in BEx.

5.1.3 Pattern-based Web Templates in the Portal

If a pattern-based Web template is included in a BW-iView, the caption disappears. In the Portal only the iView-Title is shown. Please ensure that iView-Title and caption used in the Web template are the same.

5.1.4 Precalculated Web Templates

See note 789108.

5.1.5 Authority; Roles

In general the queries and their corresponding Web Templates should be assigned to Roles. Then you can assign the appropriate Roles to the users. The users will be able to see the reports associated with their Roles.

5.1.6 Activation of content objects included in the ICP

The Library Items are collected via the role SAP_BW_BCT GENERICTEMPLATES. This role has to be activated before you can use the UI Pattern. Then you can activate your Web Templates which are based on the UI Pattern. The Query Views will be collected automatically. If you use queries as Data Provider, you have to ensure that these queries will be activated via a role, because they will not be collected with the Web Templates were they are included. Please also refer to note 732311.

5.1.7 Accessibility

All Web Templates, which are pattern-based (CUP, ICP and AP) are accessible. You do not have any additional effort to ensure accessibility. If you use own HTML or JavaScript coding you have to ensure accessibility by yourself.

5.1.8 Other issues

Above the content area (Table / Chart) in the UI Pattern a date labeled “Last data update” is displayed. This corresponds to the last date when data were loaded to the Info Provider (see online documentation). If the query is based on a Multi Provider and one of the Info Providers is not filled, no date is displayed.
In the Button bar below the content area of the ICP is a Excel-Download button. If you download to Excel and want to connect to the BW-server via Excel read the online documentation. You have to start the BEx Analyzer before you press the download button of the ICP!

The Send-Button calls the Information Broadcasting Wizard. The user can send the report via Email or distribute it to a portal folder.

6 Index of Topic-Related Documents

SAP BW - Functions in Detail
Service Market Place: (Alias BI) → MediaLibrary → Technical Documents SAP BW → Technical Documents SAP BW (pdf)

SAP Online Help Portal
http://help.sap.com
SAP Business Information Warehouse
http://help.sap.com/saphelp_nw04/helpdata/en/b2/e50138fede083de10000009b38f8cf/frameset.htm

Business Explorer des SAP Business Information Warehouse
http://help.sap.com/saphelp_nw04/helpdata/en/5b/30d43b0527a17be10000000a114084/frameset.htm

Performance
Service Market Place: (Alias BI) → BI Info Index → Performance