

# How to Build a Bulletin Board Using KM Features

## SDN Community Contribution

(This is not an official SAP document.)

### Disclaimer & Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade.

SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.

## Applies To:

SAP NetWeaver 2004 SPS 13

## Summary

This guide describes how a bulletin board where users in a company can buy and sell goods can be built with standard Knowledge Management Features.

**By:** Dr. Sibylle Brehm

**Company:** SAP AG

**Date:** 05 Dec 2005

## Table of Contents

SDN Community Contribution .....	1
(This is not an official SAP document.) .....	1
Disclaimer & Liability Notice .....	1
Applies To:.....	2
Summary .....	2
Table of Contents .....	2
1. Scenario .....	3
2. Result .....	3
3. The Step-by-Step Solution .....	6
3.1 General Idea .....	6
3.2 Create Properties.....	6
3.3 Create XML Form Posting.....	8
3.4 Create Layout Sets.....	9
a. For Viewing .....	9
b. For Posting Creation .....	14
c. For Searching.....	17
3.5 Create the Filter for Automatic Folder Creation .....	19

- 3.6 Restrict available Forms to Postings..... 19
- 3.7 Create an Index and a Query-Based Taxonomy.....20
- 3.8 Create iViews and Pages for Viewing, Maintaining, and Searching for Postings .....20
  - a. Viewing.....20
  - b. Maintaining.....21
- 3.9 Assign Layout Sets and Renderers to Taxonomy Folders.....21
- 3.10 Try it Out ! .....22
- 4. Possible Enhancements.....22

## 1. Scenario

A company wants to provide a bulletin board where every user can offer goods or look for offers from other employees. Postings should be sorted into various categories. Every user can delete or edit his/her own postings, but not the postings of other users. It is possible to define a validity period for a posting.

This paper describes how the scenario in the IDES ITelO demo was built. Of course, this is just an example. Different realization approaches are possible. Enhancements (see section 4) might be necessary to complete the scenario or adapt it to concrete user requirements.

## 2. Result

Reader's View:



# How to Build a Bulletin Board Using KM Features

Current Postings | History | Back | Forward

**Detailed Navigation**

- Current Postings
- Maintain My Postings
- Search All Postings

**Related Links**

- Corporate Discussions
- Corporate Index

[Back](#)

**Clothing**  
Clothing, shoes, and accessories for men, women, and children!

**Furniture**  
Everything for your house and garden: Furniture, home decor, and kitchen.

**Electronics**  
Consumer electronics like home audio, telephones and pagers, car electronics, and video.

**Vehicles**  
Cars, Motorcycles, bicycles, boats, and parts and accessories.

**Real Estate - Rentals**  
Flats, houses, vacation apartments - for rent!

**Real Estate - Sales**  
Studios, houses, lots - for sale!

**Miscellaneous**  
Everything that does not fit into our other categories: Collectibles, toys, tickets, hobby, ...

Current Postings | History | Back | Forward

**Detailed Navigation**

- Current Postings
- Maintain My Postings
- Search All Postings

**Related Links**

- Corporate Discussions
- Corporate Index

[Back](#)

**Clothing**  
Clothing, shoes, and accessories for men, women, and children!

[Subscribe](#) | [Search from Here](#)

**24 Pieces of Boy's Summer clothing, mostly GAP, size 5-6** 4/21/2005 12:00:00 AM

**\$60 the whole package**

This package includes many fabulous pieces: 3 cargo shorts, 4 short sleeve shirts, 3 polo shirts, 5 khaki pants, and 5 tank tops - all items are in very good to excellent condition or new with tags. This is a full summer wardrobe for your little boy!

Contact: Fall, Franco Phone: 18765 Mail: [franco.fall@tdcdemomail.sap-aq.de](mailto:franco.fall@tdcdemomail.sap-aq.de)

---

**Women's Aqua Maternity Top - Size M** 4/15/2005 11:51:40 AM

**20**

Dallas office only: Gently-worn maternity top - aqua-colored - size M

Contact: Spring, Sally Phone: 972-334-4354 Mail: [sally.spring@tdcdemomail.sap-aq.de](mailto:sally.spring@tdcdemomail.sap-aq.de)

**24 Pieces of Boy's Summer clothing, mostly GAP, size 5-6** 4/21/2005 12:00:00 AM

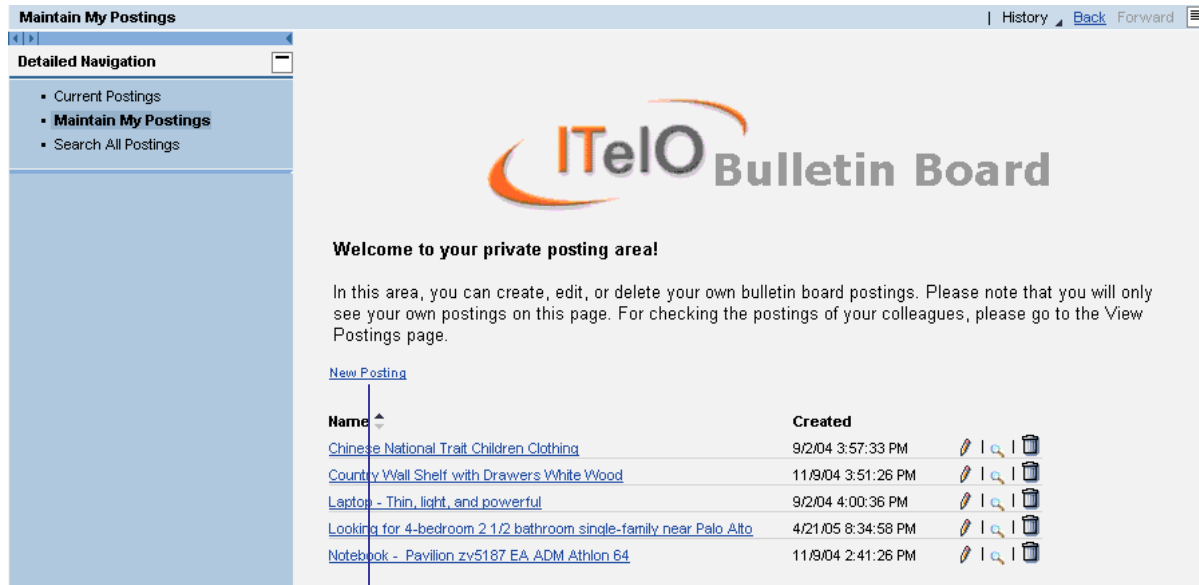
**\$60 the whole package**

This package includes many fabulous pieces: 3 cargo shorts, 4 short sleeve shirts, 3 polo shirts, 5 khaki pants, and 5 tank tops - all items are in very good to excellent condition or new with tags. This is a full summer wardrobe for your little boy!

Contact: Fall, Franco Phone: 18765 Mail: [franco.fall@tdcdemomail.sap-aq.de](mailto:franco.fall@tdcdemomail.sap-aq.de)

# How to Build a Bulletin Board Using KM Features

Author's View:



**Maintain My Postings** | History | Back | Forward

**Detailed Navigation**
















- Current Postings
- Maintain My Postings**
- Search All Postings

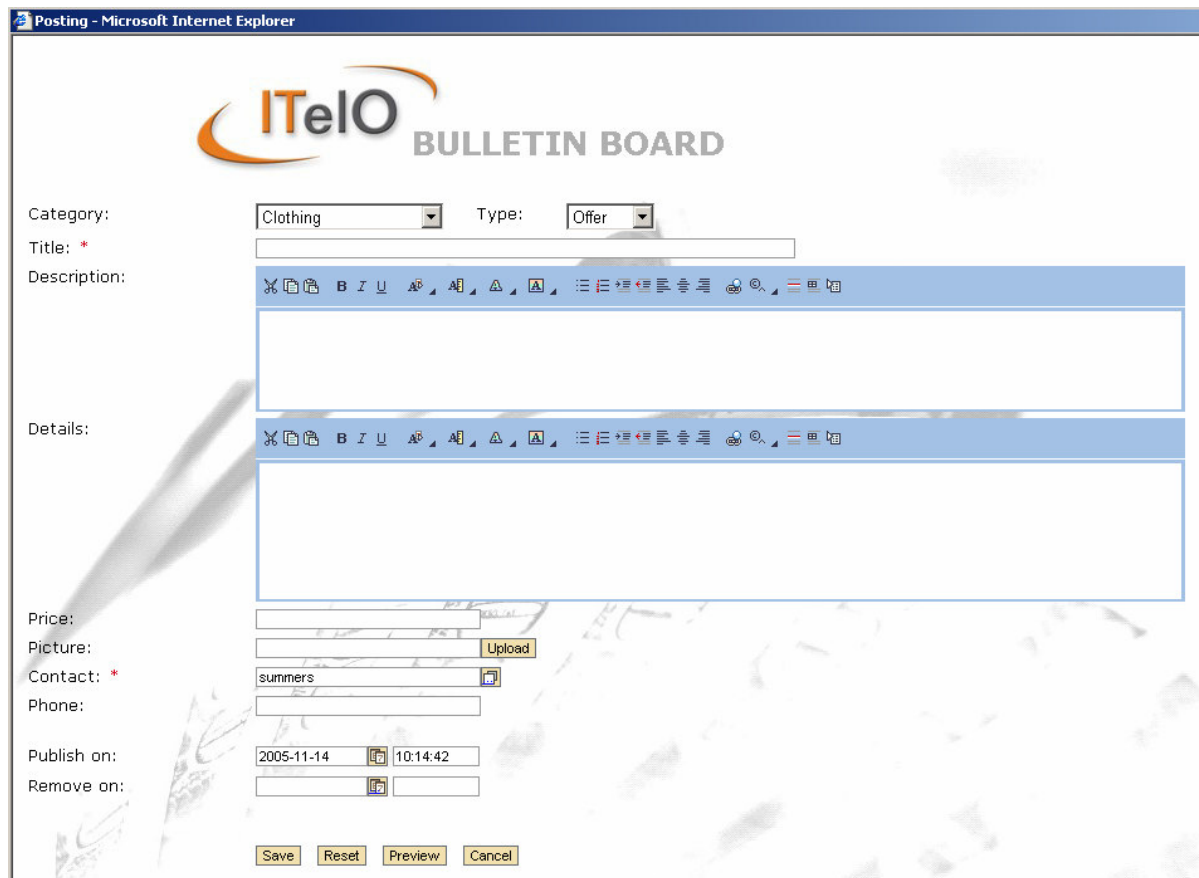
## ITelO Bulletin Board

Welcome to your private posting area!

In this area, you can create, edit, or delete your own bulletin board postings. Please note that you will only see your own postings on this page. For checking the postings of your colleagues, please go to the View Postings page.

[New Posting](#)

Name	Created	
<a href="#">Chinese National Trait Children Clothing</a>	9/2/04 3:57:33 PM	  
<a href="#">Country Wall Shelf with Drawers White Wood</a>	11/9/04 3:51:26 PM	  
<a href="#">Laptop - Thin, light, and powerful</a>	9/2/04 4:00:36 PM	  
<a href="#">Looking for 4-bedroom 2 1/2 bathroom single-family near Palo Alto</a>	4/21/05 8:34:58 PM	  
<a href="#">Notebook - Pavilion zv5187 EA ADM Athlon 64</a>	11/9/04 2:41:26 PM	  




**Posting - Microsoft Internet Explorer**

## ITelO BULLETIN BOARD


Category:  Type:

Title: \*

Description: 




Details: 



Price:

Picture:

Contact: \*  

Phone:

Publish on:

Remove on:

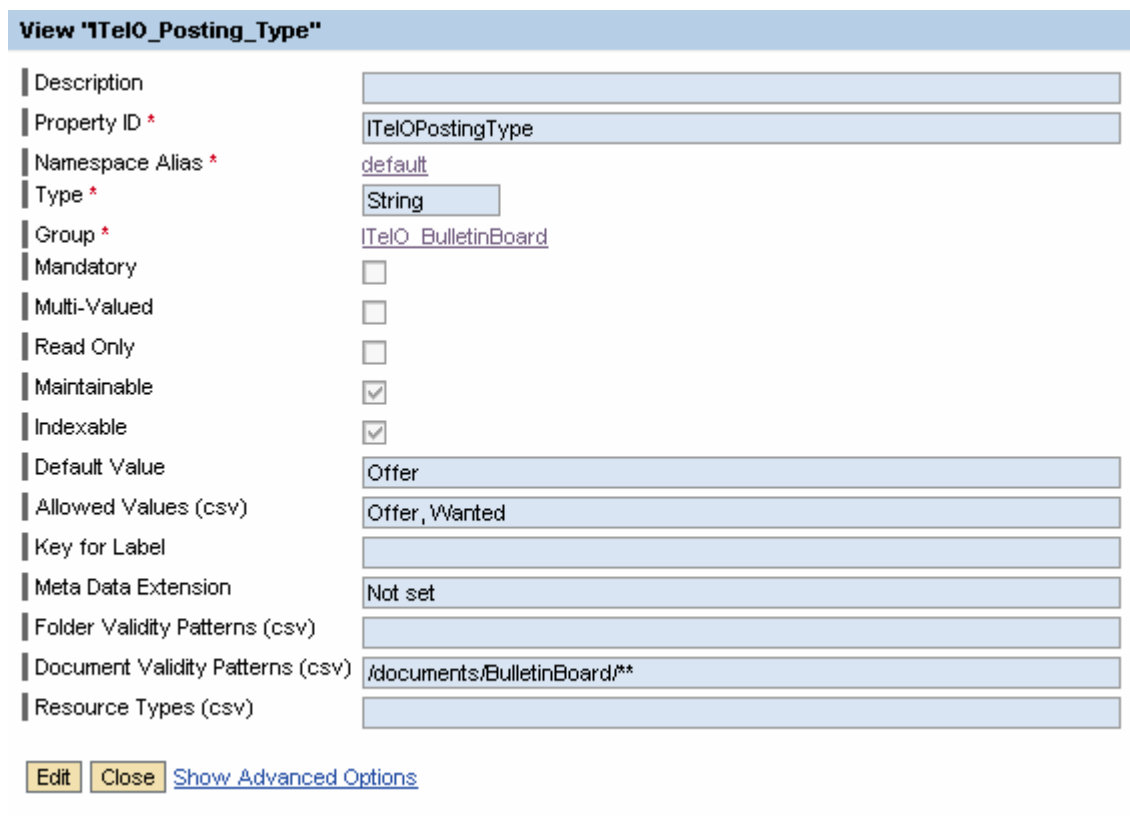
## 3. The Step-by-Step Solution

### 3.1 General Idea

Every user stores the bulletin board entries in a separate folder where only this user has write permissions. This guarantees that users can only modify or delete their own postings. These “personal folders” are created automatically by a filter. To make postings available in a common navigation structure, a taxonomy is created where the postings from all personal folders are collected and sorted into offers/wanted and a category which is chosen when the user fills in the XML form for posting creation.

### 3.2 Create Properties for Storing the Posting Type (Offer/Wanted) and Posting Category (Clothing, Furniture, ...)

Go to Content Management Configuration > Global Services > Property Metadata > Groups and create the property group ITelO\_BulletinBoard. Then go to Properties and create two properties:



**View "ITelO\_Posting\_Type"**

Description	
Property ID *	ITelOPostingType
Namespace Alias *	default
Type *	String
Group *	ITelO_BulletinBoard
Mandatory	<input type="checkbox"/>
Multi-Valued	<input type="checkbox"/>
Read Only	<input type="checkbox"/>
Maintainable	<input checked="" type="checkbox"/>
Indexable	<input checked="" type="checkbox"/>
Default Value	Offer
Allowed Values (csv)	Offer, Wanted
Key for Label	
Meta Data Extension	Not set
Folder Validity Patterns (csv)	
Document Validity Patterns (csv)	/documents/BulletinBoard/**
Resource Types (csv)	

[Edit](#) [Close](#) [Show Advanced Options](#)

**View "ITelO\_Posting\_Category"**

Description	
Property ID *	PostingCategory
Namespace Alias *	default
Type *	String
Group *	ITelO_BulletinBoard
Mandatory	<input type="checkbox"/>
Multi-Valued	<input type="checkbox"/>
Read Only	<input type="checkbox"/>
Maintainable	<input checked="" type="checkbox"/>
Indexable	<input checked="" type="checkbox"/>
Default Value	Clothing
Allowed Values (csv)	Real Estate - Sales, Real Estate - Rentals, Vehicles, Furniture, Clothing, Electrc
Key for Label	
Meta Data Extension	Not set
Folder Validity Patterns (csv)	
Document Validity Patterns (csv)	/documents/BulletinBoard/**
Resource Types (csv)	

[Edit](#)
[Close](#)
[Show Advanced Options](#)

The “personal folders” for the postings will be created in the folder /documents/BulletinBoard. Thus, the newly created properties only need to be available in these folders. For better rendering of the postings, create two additional properties (used in Resource Renderer Settings, see 3.4a):

**View "ITelO\_BB\_Picture"**

Description	Posting - Picture
Property ID *	ITelO_BB_Picture
Namespace Alias *	default
Type *	RID
Group *	ITelO_BulletinBoard
Mandatory	<input type="checkbox"/>
Multi-Valued	<input type="checkbox"/>
Read Only	<input type="checkbox"/>
Maintainable	<input checked="" type="checkbox"/>
Indexable	<input checked="" type="checkbox"/>
Default Value	
Allowed Values (csv)	
Key for Label	
Meta Data Extension	Not set
Folder Validity Patterns (csv)	
Document Validity Patterns (csv)	/documents/BulletinBoard/**
Resource Types (csv)	

[Edit](#)
[Close](#)
[Show Advanced Options](#)

**View "ITelO\_BB\_Price"**

Description	Posting - Price
Property ID *	ITelO_BB_Price
Namespace Alias *	default
Type *	String
Group *	ITelO_BulletinBoard
Mandatory	<input type="checkbox"/>
Multi-Valued	<input type="checkbox"/>
Read Only	<input type="checkbox"/>
Maintainable	<input checked="" type="checkbox"/>
Indexable	<input checked="" type="checkbox"/>
Default Value	
Allowed Values (csv)	
Key for Label	
Meta Data Extension	Not set
Folder Validity Patterns (csv)	
Document Validity Patterns (csv)	/documents/BulletinBoard/**
Resource Types (csv)	

[Show Advanced Options](#)

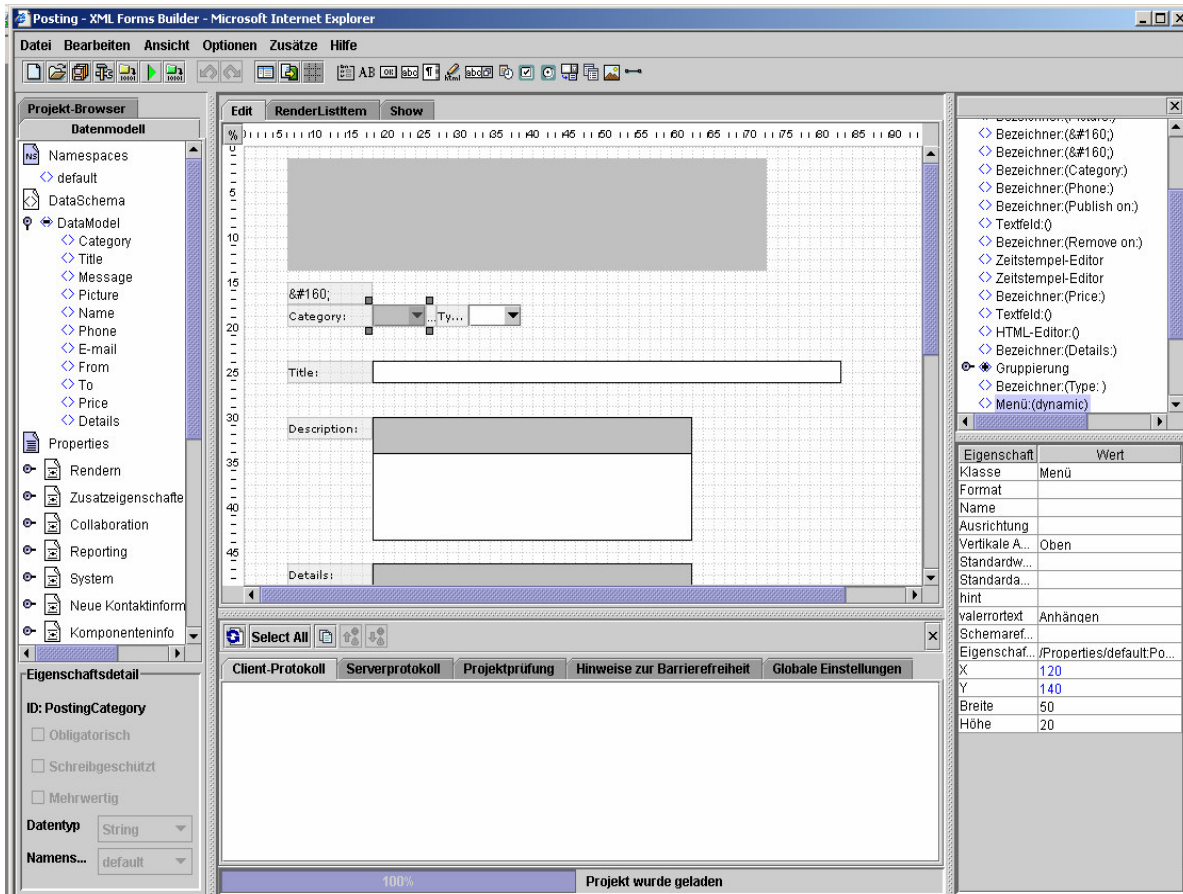
### 3.3 Create XML Form Posting

See How-To Guide Creating XML Forms (available at <http://service.sap.com/nw-howtoguides> at Portal, KM and Collaboration > KM) for details.

Create the following forms:

1. Edit Form: Include two DropDown Lists with your categories (e.g. clothing, electronics, vehicles...) and the Type (Offer / Wanted) and assign them to the newly created properties Posting\_Category and Posting\_Type.
2. RenderListItem Form
3. Show Form





## 3.4 Create Layout Sets

### a. For Viewing

Build one common Layout Set for the start page and the page displaying the available categories in Offers and Wanted. This Layout Set is assigned to the iView for displaying the bulletin board. As the displayed folders will be taxonomy folders, the html file has to referenced absolutely (e.g. /documents/BulletinBoard/BBoard.htm). Thus, for every html file, a proper HTML Collection renderer has to be created.

Description	BulletinBoard Posting List with HTML Header		
Enabled for presentation settings	<input type="checkbox"/>		
508 enabled	<input checked="" type="checkbox"/>		
Fallback Layout for 508	Not set		
Layout Controller	<a href="#">SimpleLayoutController</a>		
Collection Renderer	<table border="1"><thead><tr><th>Name</th></tr></thead><tbody><tr><td><a href="#">ITelO_BB_HTMLHeaderRenderer</a></td></tr></tbody></table> <p>Page 1 / 1</p>	Name	<a href="#">ITelO_BB_HTMLHeaderRenderer</a>
Name			
<a href="#">ITelO_BB_HTMLHeaderRenderer</a>			
Resource Renderer	<table border="1"><thead><tr><th>Name</th></tr></thead><tbody><tr><td><a href="#">ITelO_PostingDisplayResourceRenderer</a></td></tr></tbody></table> <p>Page 1 / 1</p>	Name	<a href="#">ITelO_PostingDisplayResourceRenderer</a>
Name			
<a href="#">ITelO_PostingDisplayResourceRenderer</a>			
Commands for the details menu	Not set		

[Edit](#) [Close](#)

Collection Renderer:

View "ITelO_BB_HTMLHeaderRenderer"	
Description	Simple Renderer For HTML Header with flavor Grid
Flavor	Not set
Breadcrumb Style	back
Breadcrumb Visibility Style	invisible root
Collection Command Group	Not set
Command Style for Root	
HTML Filename	/documents/BulletinBoard/BBoard.htm

[Edit](#) [Close](#) [Show Advanced Options](#)

Resource Renderer:

**View "ITelO\_PostingDisplayResourceRenderer"**

Description	The posting resource renderer	
Flavor	<a href="#">List</a>	
Resource Renderer	<a href="#">ResourceRenderer</a>	
Icon Setting		
Tooltip Setting		
Visible Properties	default:ITelO_BB_Picture+rnd:displayname(contentLink)+default:ITelO_BB_Price+tbp:VALIDFROM(useTitleAsLabel/alignLeft)	
Command Display	hover	+createdby(useTitleAsLabel/alignLeft)+rnd:action,
Resource Command Group	<a href="#">ITelO_PostingDisplayResourceCommandGroup</a>	
Folder Command Group	<a href="#">ITelO_PostingDisplayResourceCommandGroup</a>	
Link Command Group	<a href="#">ITelO_PostingDisplayResourceCommandGroup</a>	

[Edit](#) [Close](#) [Show Advanced Options](#)

For the display of the second navigation page (after clicking on Offer / Wanted), an additional HTML Collection Renderer is needed. This renderer is assigned to the taxonomy folders offers / wanted in an OTH file (see 3.8). Alternatively, you could create one Layout Set per HTML Collection Renderer and assign these Layout Sets to the taxonomy folders via OTH.

**View "ITelO\_BBW\_HTMLHeaderRenderer"**

Description	Simple Renderer For HTML Header with flavor Grid	
Flavor	<a href="#">Grid</a>	
Breadcrumb Style	back	
Breadcrumb Visibility Style	no icon	
Collection Command Group	Not set	
Command Style for Root	off	
HTML Filename	/documents/BulletinBoard/Wanted.htm	

[Edit](#) [Close](#) [Show Advanced Options](#)

Now create HTML Collection Renderers and Layout Sets for all categories. The Layout Sets use a GridListLayoutController, as the list of postings in the category should be displayed under the HTML.

Description	BulletinBoard Posting List with HTML Header			
Enabled for presentation settings	<input type="checkbox"/>			
508 enabled	<input checked="" type="checkbox"/>			
Fallback Layout for 508	Not set			
Layout Controller	<a href="#">GridListLayoutController</a>			
Collection Renderer	<table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td><a href="#">ITelO_BB_CollectionListRenderer</a></td> </tr> <tr> <td><a href="#">ITelO_BBF_HTMLHeaderRenderer</a></td> </tr> </tbody> </table> <p>Page 1 / 1</p>	Name	<a href="#">ITelO_BB_CollectionListRenderer</a>	<a href="#">ITelO_BBF_HTMLHeaderRenderer</a>
Name				
<a href="#">ITelO_BB_CollectionListRenderer</a>				
<a href="#">ITelO_BBF_HTMLHeaderRenderer</a>				
Resource Renderer	<table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td><a href="#">PostingResourceDisplayRenderer_IM</a></td> </tr> </tbody> </table> <p>Page 1 / 1</p>	Name	<a href="#">PostingResourceDisplayRenderer_IM</a>	
Name				
<a href="#">PostingResourceDisplayRenderer_IM</a>				
Commands for the details menu	Not set			

[Edit](#) [Close](#)

Resource Renderer:

View "PostingResourceDisplayRenderer_IM"	
Description	Renders posting with read only actions
Flavor	Not set
Resource Renderer	<a href="#">NewsRenderer</a>
Icon Setting	
Tooltip Setting	
Visible Properties	
Command Display	link
Resource Command Group	Not set
Folder Command Group	Not set
Link Command Group	Not set

[Edit](#) [Close](#) [Show Advanced Options](#)

Collection List Renderer:

**View "TTeIO\_BB\_CollectionListRenderer"**

Description	The collection renderer for BulletinBoard postings
Flavor	List
Components	
Breadcrumb Style	back
Width Adjustment Mode	standard
Mass Actions Style	
Mass Command Group	Not set
Collection Renderer	CollectionGridRenderer
Breadcrumb Visibility Style	no icon
Collection Command Group	TTeIO_BB_DisplayGroup
Command Style for Root	link
Show Folder Name	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Not set
Displayed Properties	rnd:displayname(contentLink)
Column Header Coloring	off
Number of Rows	5
Row Spacing Mode	
Number of Columns	1
Column Spacing	30 px
Folders Selection	off
Links Selection	
Property for Sorting	modified
Item Selection Mode	off

[Edit](#) [Close](#) [Show Advanced Options](#)

And HTML Collection Renderer:

**View "TTeIO\_BBF\_HTMLHeaderRenderer"**

Description	Simple Renderer For HTML Header with flavor Grid
Flavor	Grid
Breadcrumb Style	off
Breadcrumb Visibility Style	invisible root
Collection Command Group	Not set
Command Style for Root	
HTML Filename	/documents/BulletinBoard/Furniture.htm

[Edit](#) [Close](#) [Show Advanced Options](#)

Finally, create the HTML files needed and store them in the folder you defined in the Layout Sets. Here is an example of such an HTML file:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<html>
<head>
  <title>ITeLO Bulletin Board</title>
</head>
<body link="#e48f42" vlink="#e48f42">
<table width="100%" align="center" border="0" bordercolordark="silver" bordercolorlight="#cccccc"
  background="http://com.sap.cm/documents/BulletinBoard/Images/ITeLO_Background.jpg">
<tr valign="top">
<td align="center"><a href="http://com.sap.cm/.Offers">
  </a>
</td>
<td>
  <p align="center"><font face="verdana" color="#e48f42" size="-1"><b><a href="http://com.sap.cm/.Offers">
    <font color="#333333" face="Verdana, Arial, Helvetica, sans-serif" size="+1">Offers</font></a></b></font></p>
  <p align="center"><font face="verdana" size="-2">In this section, you can
    find offers of ITeLO employees in the categories Real Estate, Vehicles,
    Furnitures, and others.</font></p>
</td>
<td align="center"><a href="http://com.sap.cm/.Wanted">
  </a>
</td>
<td>
  <p align="center"><font face="verdana" color="#e48f42" size="-1"><b><a href="http://com.sap.cm/.Wanted">
    <font color="#333333" size="+1">Wanted</font></a></b></font></p>
  <p align="center"><font face="verdana" size="-2">Take a look here to find
    requests of ITeLO employees who are looking to rent or buy a flat, a vehicle,
    furniture, and so on.</font></p>
</td>
</tr>
</table>
</body>
</html>
```

## b. For Posting Creation

The following Layout Set was used:

# How to Build a Bulletin Board Using KM Features

Description	Layout set for bulletin board explorer					
Enabled for presentation settings	<input type="checkbox"/>					
508 enabled	<input checked="" type="checkbox"/>					
Fallback Layout for 508	Not set					
Layout Controller	<a href="#">GridListLayoutController</a>					
Collection Renderer	<table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td><a href="#">ITelO_BB_Banner_HTMLHeaderRenderer</a></td> </tr> <tr> <td><a href="#">ITelO_PostingBreadcrumb</a></td> </tr> <tr> <td><a href="#">ITelO_PostingCollectionListRenderer</a></td> </tr> <tr> <td><a href="#">ITelO_PostingMenu</a></td> </tr> </tbody> </table> <p>Page 1 / 1</p>	Name	<a href="#">ITelO_BB_Banner_HTMLHeaderRenderer</a>	<a href="#">ITelO_PostingBreadcrumb</a>	<a href="#">ITelO_PostingCollectionListRenderer</a>	<a href="#">ITelO_PostingMenu</a>
Name						
<a href="#">ITelO_BB_Banner_HTMLHeaderRenderer</a>						
<a href="#">ITelO_PostingBreadcrumb</a>						
<a href="#">ITelO_PostingCollectionListRenderer</a>						
<a href="#">ITelO_PostingMenu</a>						
Resource Renderer	<table border="1"> <thead> <tr> <th>Name</th> </tr> </thead> <tbody> <tr> <td><a href="#">ITelO_PostingResourceRenderer</a></td> </tr> </tbody> </table> <p>Page 1 / 1</p>	Name	<a href="#">ITelO_PostingResourceRenderer</a>			
Name						
<a href="#">ITelO_PostingResourceRenderer</a>						
Commands for the details menu	<a href="#">DetailsGroup</a>					

The HTML Collection, Breadcrumb, and Menu renderers are similar to the standard renderers (small changes). Here are the more interesting Collection and Resource Renderer.

**View "ITelO\_PostingCollectionListRenderer"**

Description	CollListRenderer for Postings
Flavor	<a href="#">List</a>
Components	
Breadcrumb Style	horizontal
Width Adjustment Mode	
Mass Actions Style	
Mass Command Group	Not set
Collection Renderer	<a href="#">CollectionListRenderer</a>
Breadcrumb Visibility Style	invisible
Collection Command Group	<a href="#">ITelO_PostingCreateXMLFormsGroup</a>
Command Style for Root	link
Show Folder Name	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Not set
Displayed Properties	default:displayname(contentLink),created(alignLeft),rnd.action
Column Header Coloring	Transparent
Number of Rows	
Row Spacing Mode	
Number of Columns	
Column Spacing	30 px
Folders Selection	
Links Selection	
Property for Sorting	
Item Selection Mode	off

[Show Advanced Options](#)

**View "ITelO\_PostingResourceRenderer"**

Description	The session resource renderer
Flavor	Not set
Resource Renderer	<a href="#">ResourceRenderer</a>
Icon Setting	
Tooltip Setting	
Visible Properties	rnd:icon+rnd:displayname(contentLink)+rnd:action,rnd:description
Command Display	icon
Resource Command Group	<a href="#">ITelO_PostingResourceCommandGroup</a>
Folder Command Group	<a href="#">ITelO_PostingResourceCommandGroup</a>
Link Command Group	<a href="#">ITelO_PostingResourceCommandGroup</a>

[Show Advanced Options](#)

The ITelO\_PostingResourceCommandGroup is made up of a list of self defined commands.

**View "ITelO\_PostingResourceCommandGroup"**

Description	Contains commands for session actions
Command List	ITelO_BB_edit_xml_forms,ITelO_BB_details,ITelO_BB_delete
Parameters	
Bundle File	com.sapportals.wcm.rendering.uicommand.UICConsts
Key for Tooltip	
Key for Label	

[Show Advanced Options](#)

They are copies of the standard commands for edit\_xml\_forms, details, and delete. The difference is just that they are displayed as an icon.



**View "ITel0\_BB\_delete"**

Description	Deletes the resource
Java Class *	com.sapportals.wcm.rendering.uicommand.cm.UIDeleteWithScreenflowComma
Mass Command	<input type="checkbox"/>
Parameters	
Command Icon Path +	itelo/delete.gif
Bundle File	com.sapportals.wcm.rendering.uicommand.UICConsts
Key for Tooltip	
Key for Label	
Roles with Visibility	

[Hide Advanced Options](#) (+ denotes advanced options)

The icon files should to be checked in to the folder /etc/public/mimes/images or a subfolder of it (here: itelo).

**Important:** The folders where the postings are stored are created automatically with the full control for the owner and no permissions for any other user. To make the postings readable for others, currently every user has to add the permission: Everyone - read. Therefore, you should include this information in the Banner HTML as well as a link to the details or better directly to the permissions page. It is planned to add a possibility to define the folder permissions in the filter which is used for automatic folder creation.

If you want to use **time based publishing** for the postings, this has to be manually activated for the folder. We would recommend to add the time\_based\_publishing command in the HTML, e.g. "Please click <a href=[http://com.sap.cm/.?uicommand=time\\_based\\_publishing](http://com.sap.cm/.?uicommand=time_based_publishing)>here</a> before creating your first posting to activate time dependent publishing."

### c. For Searching

To display the search results in a posting like manner, a special Layout Set for the search result list has to be created:

Description	Layout set for displaying search results						
Enabled for presentation settings	<input type="checkbox"/>						
508 enabled	<input checked="" type="checkbox"/>						
Fallback Layout for 508	Not set						
Layout Controller	<a href="#">SimpleLayoutController</a>						
Collection Renderer	<table border="1"> <thead> <tr> <th colspan="2">Name</th> </tr> </thead> <tbody> <tr> <td><a href="#"> TelO_BulletinBoardSearchResultGridRenderer</a></td> <td></td> </tr> <tr> <td></td> <td>Page 1 / 1</td> </tr> </tbody> </table>	Name		<a href="#"> TelO_BulletinBoardSearchResultGridRenderer</a>			Page 1 / 1
Name							
<a href="#"> TelO_BulletinBoardSearchResultGridRenderer</a>							
	Page 1 / 1						
Resource Renderer	<table border="1"> <thead> <tr> <th colspan="2">Name</th> </tr> </thead> <tbody> <tr> <td><a href="#"> TelO_BulletinBoardSearchResultResourceRenderer</a></td> <td></td> </tr> <tr> <td></td> <td>Page 1 / 1</td> </tr> </tbody> </table>	Name		<a href="#"> TelO_BulletinBoardSearchResultResourceRenderer</a>			Page 1 / 1
Name							
<a href="#"> TelO_BulletinBoardSearchResultResourceRenderer</a>							
	Page 1 / 1						
Commands for the details menu	Not set						

[Edit](#) [Close](#)

### View "TelO\_BulletinBoardSearchResultGridRenderer"

Description	
Flavor	Not set
Breadcrumb Style	off
Breadcrumb Visibility Style	
Width Adjustment Mode	stretch
Mass Actions Style	
Mass Command Group	Not set
Collection Renderer	<a href="#">CollectionGridRenderer</a>
Collection Command Group	Not set
Command Style for Root	
Show Folder Name	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Not set
Column Header Coloring	
Number of Rows	
Number of Columns	1
Column Spacing	px
Folders Selection	
Files Selection	
Links Selection	
Property for Sorting	no_sorting
Item Selection Mode	off

[Edit](#) [Close](#) [Show Advanced Options](#)

**View "ITelO\_BulletinBoardSearchResultResourceRenderer"**

Description	Used for resources displayed in search result list
Flavor	Not set
Resource Renderer	<a href="#">NewsRenderer</a>
Icon Setting	
Tooltip Setting	
Visible Properties	
Command Display	off
Resource Command Group	Not set
Folder Command Group	Not set
Link Command Group	Not set

[Edit](#) [Close](#) [Show Advanced Options](#)

### 3.5 Create the Filter for Automatic Folder Creation

1. Create a folder where the postings folders for all users will be created, e.g. /documents/BulletinBoard
2. In the Content Management Configuration go to Repository Filters (Advanced Options) > Userhome Filter and create a new filter. The prefix indicates the repository where the postings will be stored, Startpath is the subfolder where the user folders will be created.

**View "Postings"**

Active +	<input checked="" type="checkbox"/>
Priority	<input type="text" value="1 to 99"/>
URLs (csv) *	<input type="text" value="Postings"/>
Prefix *	<input type="text" value="/documents"/>
Startpath	<input type="text" value="/BulletinBoard"/>

[Edit](#) [Close](#) [Hide Advanced Options](#) (+ denotes advanced options)

### 3.6 Restrict available Forms to Postings

In CM Configuration navigate to Form-Based Publishing -> Forms Availability -> Folder Settings. Create a new entry with the path where the personal postings will be stored and the name of the XML Forms Project as Forms to Include.

**View "ITelO\_Bulletin\_Board"**

Priority:  1-99

Folder Path \*:

Forms to Exclude:

Forms to Include:

### 3.7 Create an Index and a Query-Based Taxonomy

1. Go to the Index Administration and create a new index with your personal postings root folder (here: /documents/BulletinBoard) as data source and service Search and Classification. Create a query-based taxonomy (e.g. Bulletin Board) for the index.
2. Go to KM Content Administration and create the taxonomy folders you need.
3. Go to Content Management > Classification > Taxonomy Query Builder, choose your taxonomy Bulletin Board and define a query for each category using the properties you created in Step 3.2:

**Taxonomies**

Taxonomy:

- ▼ Bulletin Board
  - ▼ Offers
    - ▶ Clothing
    - ▶ Electronics
    - ▶ Furniture

**Query for "Bulletin Board/Offers"**

[Advanced View](#)

Property	Operator	Value	
ITelOPostingType	Is	Offer	<a href="#">Duplicate</a>   <a href="#">Delete</a>

**Taxonomies**

Taxonomy:

- ▼ Bulletin Board
  - ▼ Offers
    - ▶ **Clothing**
    - ▶ Electronics
    - ▶ Furniture

**Query for "Bulletin Board/Offers/Clothing"**

[Advanced View](#)

Property	Operator	Value	
PostingCategory	Is	Clothing	<a href="#">Duplicate</a>   <a href="#">Delete</a>

### 3.8 Create iViews and Pages for Viewing, Maintaining, and Searching for Postings

#### a. Viewing

Create a KM Navigation iView with the Layout Set for the start page display and your Bulletin Board taxonomy folder as path entry. Layout Set Mode should be "as default".

## b. Maintaining

Create a KM Navigation iView with your Layout Set for Posting Creation and the following entry for the path parameters: /~alias~/documents/BulletinBoard/<user.id>/Postings (if you defined the filter as shown above).

## c. Searching

Create a KM Search iView with your Search Layout Set. You can also define specific Search Component and Search Options Set to adapt the search dialog to your needs.

Now create pages for your iViews, combine them to a workset and add the workset to a user role.

### 3.9 Assign Layout Sets and Renderers to Taxonomy Folders

Assign the HTML Collection Renderer and Layout Sets to the taxonomy folders for display:

Create an .oth file to assign the HTML Collection Renderer to the taxonomy folders Offers and Wanted. The name of the oth file does not matter.

```
<?xml version="1.0" ?>
- <ObjectTypeHandler Name="BB_Wanted" Class="com.sapportals.wcm.service.objecttypehandler.GenericObjectTypeHandler">
- <SelectionCriteria>
- <Paths>
  <Path>/taxonomies/BulletinBoard/Bulletin Board/Wanted</Path>
  <Path>/taxonomies/BulletinBoard/Bulletin Board/Offers</Path>
</Paths>
</SelectionCriteria>
- <Properties>
  <Property Key="rndBreadcrumbStyle" Value="horizontal" />
  <Property Key="rndCollRendererSettings" Value="ITeIO_BBW_HTMLHeaderRenderer" />
  <Property Key="rndLayoutController" Value="SimpleLayoutController" />
</Properties>
<Actions />
</ObjectTypeHandler>
```

For each sub-category (e.g. furniture, electronics, ...) create an OTH file to assign the corresponding Layout Set to the two taxonomy folders (one for offers, one for wanted):

```
<?xml version="1.0" ?>
- <ObjectTypeHandler Name="BB_Wanted" Class="com.sapportals.wcm.service.objecttypehandler.GenericObjectTypeHandler">
- <SelectionCriteria>
  - <Paths>
    <Path>/taxonomies/BulletinBoard/Bulletin Board/Wanted/Furniture</Path>
    <Path>/taxonomies/BulletinBoard/Bulletin Board/Offers/Furniture</Path>
  </Paths>
</SelectionCriteria>
- <Properties>
  <Property Key="rndLayoutSet" Value="ITelO_BBF_HTMLHeaderList" />
</Properties>
  <Actions />
</ObjectTypeHandler>
```

Store the OTH files in /etc/oth. OTHs are only reloaded after a portal restart or a click on Reload OTH in the Rendering Information.

### 3.10 Try it Out !

## 4. Possible Enhancements

- Create filters for mime types and extensions to restrict the size and type (e.g. only jpg) of the uploaded pictures
- Build a report that sets items after a given validity period (e.g. 30 days) to inactive and deletes them after additional 30 days. So you do not need to use time dependent publishing and the deletion is not dependent of sensible user entries.