ArtfulBits KPI Column

for Microsoft® SharePoint®

User Guide

Overview

ArtfulBits KPI (Key Performance Indicator) column provides users with the ability to define and measure progress toward predefined goals and display current status by using easy-to-understand graphical indicators. Using of KPI provides with ability to visualize answers to the following questions:

- What am I ahead or behind on?
- How far ahead or behind am I?
- What is the minimum I have completed?

Component uses MOSS 2007 KPI idea, but with reworked functionality. Unlike MOSS 2007 KPI, solution from ArtfulBits could be added to any custom list as a column, can use both List View and List Item as data source and supports different indicator icons: flags, traffic lights, shapes, marks and other.

You can use traffic light icons to indicate that predefined satisfaction is exceeding, meeting, or failing to meet goals. If predefined satisfaction exceeds a preset goal, the KPI is displayed with a green traffic light icon. If customer's satisfaction is failing to meet minimum goals, KPI is displayed with red traffic light icon. Otherwise, it is displayed with a yellow traffic light icon.

Feature List

Feature	SharePoint 2007	SharePoint 2010
Displaying indicator for each individual item in list using standard SharePoint calculated formulas	✔	✔
Calculating value by using data of associated SharePoint list (a count of items in the list; a computing of Total, Average, Maximum, or Minimum of a numerical column in the list)	✔	✔
Column customization (multiple icons set; text customization; different column display modes)	✔	✔
Predefined set of site columns (KPI Issue Status, KPI Priority, KPI Task Status, KPI % Complete)	✔	✔
AJAX support enabled	✔	✔
Language pack support (desired localization could be added by request)	✔	✔

Why ArtfulBits KPI Column?

ArtfulBits KPI (Key Performance Indicator) column is simple graphical scorecards that can be used to evaluate business data against business goals. With this column you reduce risk to overlook information about the status of value.

The column automatically calculates the results, and displays one of 3 indicators (OK, Warning, or Problem). You can show the actual value, target value if desired. There are multiple icon sets to select from, so you can choose the one that best fits your application. KPI can show indicator based on each individual item in SharePoint list. It is a handy feature for all users that are using SharePoint on daily basis to use this column as a simple way of identifying visually critical items within their lists.

How to Use

To use KPI column you select appropriate option in the list of available columns in the Create Column page. Then you have to specify the associated value of the column and the calculation way. There are two ways to associate data with the KPI column: get indicator value from list view or from list item. In the first case, resulting value will be calculated basing on the data obtained from the items on the target list; in the second one, calculation is based on data obtained from single item of the current list.

Using KPI data in the list view

When SharePoint lists contain countable items, items that are part of a workflow, date items, or tasks progress, you can use a KPI to track how long the issues or tasks have been opened, number of opened items, and percentage of completed tasks. You can also keep track of totals, such as the amount of time that an issue has been opened or the total number of sales in a region. You can use KPI for above mentioned purposes by associating the target list with the KPI column. In order to do that you select option **List View** in the **Indicator Value** section. Then you have to specify the way of calculating data in the list. You can choose between three ways to calculate data:

1. Number of list items in the view. In this case the KPI result value is the number of items in the target list.
2. Percentage of the number of list items in the selected view to the number of list items in the view above. This is the calculation that compares the value of a content type within a column.
3. Calculation using all list items in the view. In this case the result of KPI column will be the computation of **Sum**, **Average**, **Maximum** or **Minimum** of a numerical column in the list.

How to add KPI using data in SharePoint list

1) Set indicator value to **List View (Figure 1).**
2) Select site and list that contains data for indicator column.
3) Select the view that contains items you want to use in the KPI.
4) Under **Value Calculation**, select one of the following ways to calculate the goal of the KPI:
   a) **Number of list items in the view** (a count of the total number of items in the list).
   b) **Percentage of the number of list items in the selected view to the number of list items in the view above**.
   c) **Calculation using all list items in the view** (a computation of Total, Average, Maximum, or Minimum of a numerical column in the list).
5) In the **KPI Display Rules** section, under **Display Rules**, in the **Better values are** list, select **higher** or **lower** to indicate which range of numbers will be green (OK).
6) Type the values for the status indicators in the boxes. For example, to track the minimal percentage complete for a set of tasks, set the green indicator at the goal value and the warning value to be one less than the goal value. In that case, if you want to see when the minimal percentage complete drops below 25 percent, you set the green indicator to 25 and the yellow indicator to 24.
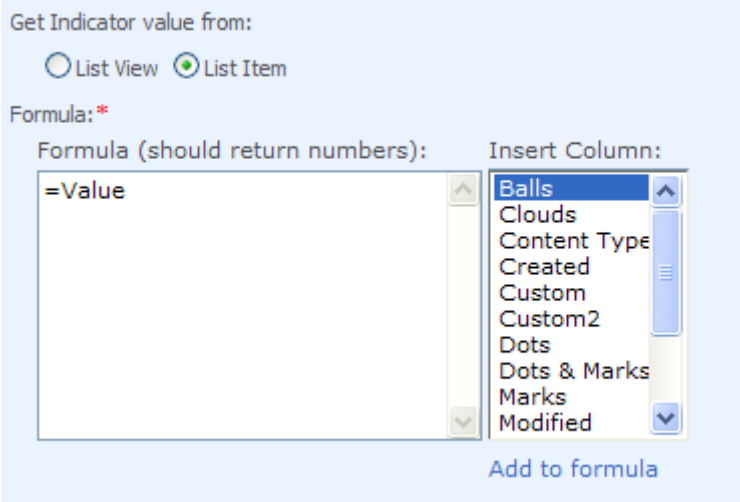
Figure 1 KPI Column Settings

Using KPI data in the list item

The unique feature of KPI column is that users are able to associate the KPI column not only with the entire SharePoint list but even with the single item in the list. Formula is specified in the same way as for calculated field. This formula should return numbers. There are some examples how to set KPI for different types of columns below.

How to set KPI for Choice column

1) Set **Indicator Value** to **Current Item**
2) Specify a formula. The formula is the same as for SharePoint Calculated column, but it should return Number value.

It is recommended using **IF** function to set value for specific choice values. For example, *Issue Status* site column has the following choices by default: *Active*, *Resolved* and *Closed*. Formula may be the following:

=IF([Issue Status] = "Closed" ,2 , IF([Issue Status] = "Resolved", 1, 0))

This formula returns "2" if *Issue Status* is *Closed*, "1" if *Resolved*, and returns "0" in other cases (*Active* and others).

3) Determine whether better values are **higher** or **lower**.

For previous *Issue Status* column the better value are **higher** (0-*Active*, 1-*Resolved*, 2-*Closed*)

4) Specify **Goal** and **Warning** values.

For this KPI please set **Goal** value to "2", **Warning** to "1".

Screenshot:

How to set KPI for SharePoint percentage Number column

1) Set **Indicator Value** to **Current Item**
2) Specify a formula. The formula is the same as for SharePoint Calculated column.
3) Select the target percentage Number column and click on **Add to formula** link.
4) Determine whether better values are **higher** or **lower**. For some indicators, such as "The percentage of tasks completed", better values are usually higher.
5) Specify **Goal** and **Warning** values. For example: In order to display *Problem* icon when value = 0%, *Warning* when 0% < value < 100% and *OK* icon when value = 100%, you have to set **Goal** value to 100% and **Warning** value to 0.001%.

How to set KPI for SharePoint Date and Time columns

1) Set **Indicator Value** to **Current Item**
2) Specify a formula. The formula is the same as for SharePoint Calculated column, but it should return Number value.
3) By the formula below KPI displays: **OK** icon when difference between **Start Date** and **Due Date** is more than 1 day, **Warning** when **Start Date** and **Due Date** is the same day and **Problem** in other cases:

   =IF([Due Date]<[Start Date],-DATEDIF([Due Date],[Start Date],"d"),DATEDIF([Start Date],[Due Date],"d"))

4) Determine whether better values are **higher** or **lower**. In this sample better values are **higher**.
5) Specify the **Goal** and **Warning** value. In this sample **Goal** value is set to "1" and **Warning** to "0".

KPI column display settings

The KPI display rules determine which icon should be displayed to represent the status of the indicator. For some indicators, such as 'The percentage of tasks completed', better values are usually higher, for other indicators, such as 'The number of active tasks', better values are usually lower. You should specify whether better values are higher or lower and set **Goal** and **Warning** values. There are also special display settings like **Show Value** (you can specify what kind of information should be displayed in KPI column: Icon, Goal value, Column value, both Goal and Column values), **Status Icons** (you can specify the icons of KPI: Dots, Flags, Balls, etc.), **Goal Text** and **Value Text** (you can change the text of the label which will be displayed next to notification icons).

In the Details Link section type the Web address to the custom page that contains information about this indicator. If there is no custom page selected a list view page or item details form will be displayed when user clicks on the column (depends on chosen value in 'get Indicator value from' section).

Release Notes

Version	Notes
v1.31 (April 5, 2011)	**Improvements:** • Added Document Library support • Improved performance **Bugs Fixed:** • Fixed minor issues
v1.3 (November 16, 2010)	**New Features:** • Added Russian and German localization **Bugs Fixed:** • Fixed minor issues
v1.24 (August 18, 2010)	**Bugs Fixed:** • Fixed KPI for grouped view (SharePoint 2010 only) • Fixed minor issues
v1.23 (August 11, 2010)	**Improvements:** • Allowed assembly partially trusted callers **Bugs Fixed:** • Fixed Access Denied exception for users with Read Only permissions on item display form
v1.22 (July 8, 2010)	**Bugs Fixed:** • Fixed error with 6622 Event ID in Event Viewer (Field type DummyField has duplicated definition)
v1.21 (June 17, 2010)	**Bugs Fixed:** • Fixed KPI details link for Internet web site • Fixed objects disposing
v1.2 (June 11, 2010)	**Improvements:** • Improved Setup Wizard
v1.2 (May 13, 2010)	**New Features:** • SharePoint 2010 support added **Bugs Fixed:** • Fixed programmatically value getting
v1.1 (April 21, 2010)	**New Features:** • Added **UpdateRules** option • Added **UpdateValue**(item) and **InvalidateValue**(item) methods to KPIField

	for programmatically indicator value updating **Improvements:** • Improved performance **Bugs Fixed:** • Fixed KPI Column for Internet zone • Fixed KPI Column header look • Fixed KPI field set/get value from Services and Console Application
v1.02 (February 18, 2010)	**Improvements:** • Improved integration with site templates
v1.01 (February 1, 2010)	**Bugs Fixed:** • Problem with product version (Setup Wizard only)
v1.01 (January 14, 2010)	**Bugs Fixed:** • Problem with some SharePoint language packs
v1.0 (December 25, 2009)	**Initial Release**

See Also

Category Column
Category Column allows tracking, organizing and grouping list items. Outlook 2007 approach for elements categorization, easy indicator color changing and using of advanced tooltip, provide a high professional component style.

Progress Column
Progress Column provides users with the ability to make SharePoint lists more visualized by displaying numerical data on the page sing percentage-based progress bar. Professional progress bar style will make your SharePoint list really modern and stylish.

Follow-Up Column
Follow-Up Column enables due date flags similar to Outlook follow-up functionality. Applying of flags to the list item allows adding of visual reminder in a natural way.

Image Upload Column
Quick and simple way of uploading pictures. Image Upload Column provides with ability to select a picture using file browsing dialog, upload and display it in the list view.

Discussion Column
Need to organize well formatted conversation in the list item without enabling list versioning? Discussion Column is the right choice. Component allows entering rich text with formatting, images, tables, hyperlinks and other features.

Cross-Site Lookup Column
Use Cross-Site Lookup Column for getting data from any site within site collection. Component includes a powerful function of searching over lookup list. This function provides substring matching in selected column which is very useful for large lists (over 50-100 items).

Parent Selector Column
Parent Selector Column is used for organizing hierarchical relations in SharePoint list. Picker dialog allows choosing data from large lists. Standard Lookup column can be easily converted to Parent Selector column and vice versa.

Remarks

Some information in this document may be outdated. Please, visit www.artfulbits.com for the latest version.