



# **K2 SMARTFORMS AND ACCESSIBILITY COMPLIANCE**

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## INTRODUCTION

As electronic forms have become prevalent in corporations and government agencies, several accessibility standards have been written and agreed upon to enable end users with disabilities equal access to information and data. Various countries have different standards, but all have the same goal of making web based or electronic forms accessible. The United Nations Convention on the Rights of Persons with Disabilities recognized the access to data and information technologies, including the Web, as a basic human right. K2 has tested the forms generated by K2 smartforms, which allows organizations to visually create no-code forms, against several accessibility standards. This document describes the test results and provides guidance on K2 features that can help organizations design forms that meet accessibility guidelines.

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## STANDARDS TESTED

The forms generated by K2 smartforms, aka Runtime Forms, were tested against three common standards:

1. **Web Content Accessibility Guidelines (WCAG) 1.0.** This is a recommendation from the W3C organization in May 1999. For more information on the guideline, see <http://www.w3.org/TR/WCAG10/>.
2. **Web Content Accessibility Guidelines (WCAG) 2.0.** Also from the W3C organization, this guideline succeeds the WCAG 1.0 guideline and was agreed up on in December 2008. For more information on the guideline, see <http://www.w3.org/TR/WCAG20/>.
3. **Section 508 Amendment to the Rehabilitation Act of 1973.** The United States Congress amended the Rehabilitation Act to require Federal agencies to make their electronic forms accessible to people with disabilities. This is commonly known as Section 508 and is the standard for United States government agencies. For more information on this amendment, see <https://www.section508.gov/>.

There are many other standards used in countries around the world, but many stem from the WCAG guidelines with regional modifications. K2 did not test the runtime forms against these standards but the results in this document will help organizations in regions outside of the United States determine the accessibility needs and the form design guidelines hold true of many accessibility standards.

## GUIDANCE FOR ACCESSIBLE K2 SMARTFORMS

There are several features in K2 smartforms that aid you in designing accessible forms. However, if you do not use these features they will not meet the accessibility standards. This section discusses the K2 features that you should look at when designing forms.

### TOOLTIPS

All out of the box (OOB) controls in K2 smartforms have tooltips. Be sure to set these properties per control to assist your end users in filling out the forms.

### ALTERNATE TEXT

When you use an image on your form, be sure to set the Alternate Text property. This text is displayed in browsers that do not support images, or for browsers configured for screen reading capabilities. All images that are used to assist the user in filling out the form should have alternate text set that will explain the purpose of the image.

### WATERMARK TEXT

Input controls have a Watermark property which is the text set in the input controls before the user inputs any values. This watermark is meant to assist the user in filling out the form. By default, the watermark text is in a light gray, italics font. If you have requirements for high contrast screens, meaning that colors should be saturated and shading should not be used in order to distinguish between text or other controls, you can create a custom style sheet to cater



for your needs. For more information about creating a custom theme, see the K2 documentation ([http://help.k2.com/helppages/K2smartforms1.02/webframe.html#Creating\\_a\\_Custom\\_Theme.html](http://help.k2.com/helppages/K2smartforms1.02/webframe.html#Creating_a_Custom_Theme.html)). Search for theme-entry values for watermark, and set them to a color that contrasts with the background color of your form. This will make the watermark text easier to read, and therefore more accessible.

### **BROWSER TITLES**

K2 smartforms uses the Name property of the Form or View for use in the title bar of the browser. If you do not use a descriptive name for your Form (such as “submit form” instead of “New Purchase Order Submission Form”), you may not meet accessibility guidelines. Therefore, give your Forms and Views descriptive names to meet this guideline.

### **IMPLICIT LABELS**

When adding a control bound to a field to your form’s design, K2 will automatically drop a label with the field’s name. You can then change where this label is positioned by dragging and dropping it into a different table cell, or adding line breaks, etc. To meet accessibility guidelines, all form controls with implicitly associated labels must be properly positioned (i.e., close to the input control). Be sure your labels are close to your input controls to meet this guideline.

### **EXPLICIT BUTTONS/LINKS**

When adding buttons (either toolbar buttons or standard buttons), ensure that the text on the button is clearly descriptive as to the action that will be performed when clicking on them. By default, K2 will use the SmartObject method that will be called upon button click. Be sure that this is meaningful to the end user and descriptive enough to meet accessibility guidelines.

### **FORM VALIDATION**

Another important part of designing accessible forms is helping users fill out the form and fixing errors when they occur. K2 smartforms enables this by having the ability to mark fields as required and assigning validation patterns to controls, to ensure that the data is input in the correct format. Be sure to use validation patterns and use the required property on controls that are required. Additionally, be sure to set the rules to check for validation before submitting the form. Information that assists the user in correct the error includes examples of correct data to be entered into the form fields, or a description of the correct data.

### **DATA RECOVERY**

As part of the solution design, if you wish to be able to recover data after a delete method has been called, you will need to architect your solution in a way where data is not permanently deleted, but moved to an intermediary SmartObject or marked in a way where it is no longer current. This can be taken into account in the solution design and therefore allowed via the K2 platform.



## HOW DOES K2 TEST ACCESSIBILITY?

In order to test against the accessibility guidelines, an environment was configured with K2 blackpearl 4.6.7 and K2 smartforms 1.0.6, with Control Pack 1.0. We then created a test SmartObject and Views. After populating the data, we then ran the generated runtime view's HTML through an accessibility checking utility. The next sections will go through these steps in detail.

### FORM CONFIGURATION

First, we created a test SmartObject with every data type. This included the following fields:

- ID (Autonumber data type)
- Date/Time
- Decimal
- File
- GUID
- Hyperlink
- Image
- Memo
- Multi Value
- Number
- Text
- Boolean (Yes/No data type)
- City ID (Associated to a second SmartObject)

With this SmartObject created, a View was automatically generated with input controls for all fields. Additionally, the Create method was used to generate a standard button and a toolbar button.

Once the View was generated, it was extended to ensure that every type of OOB control was used on the View. This meant that a field was mapped to multiple controls, but it ensures that all controls are tested for accessibility compliance.

Additionally, during design of the View, all controls set the accessibility properties, such as the "Tooltip" property and "Watermark" property.

Secondly, two list views were created based on the same SmartObject, one a read only list, and one an editable list. On the read only list, the default display controls were used. All "Tooltip" and "Watermark" properties were set. For the editable list, the default controls were also used for the editable section, as the Item View covered all of the OOB controls.

Once the views were set up, data was added using the editable list view so that there would be data in the SmartObject for accessibility testing.



## RESULTS

The results of the accessibility compliance testing can be found in the Voluntary Product Accessibility Template, or VPAT. For a copy of the VPAT, please contact your K2 representative.