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A11yFirst for CKEditor

Support Creation of Accessible Web Documents through User Interface Enhancements

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## Why aren’t documents accessible now?

### Content editors generally don’t know...

●What’s required for online content to be accessible.

●Why they’re important in making online content accessible.

●Why making a font bigger and bolder isn’t the same as using a heading style.

●Why typing numbers at the start of lines isn’t the same as a numbered list.

●What they have to do to create accessible content.

●How to run automated or manual accessibility checks on content.

### Accessibility Evaluation tends to be after the fact

●Right now, accessibility checks happen after the page is written - and they only happen if authors know the checker is there.

●It’s expensive to fix after the fact! - ex: several hundreds of hours for student workers to check accessibility of contents created by Librarians and staff.

## Goals of the project

### Why correct errors when you can prevent them instead?

1.Change the way people perceive the task of creating a document.

2.Accessible authoring versus accessibility remediation.

3.User interface features that support and encourage accessible authoring.

4.Create features to help authors understand accessibility.

5.Support (not replace) the Accessibility Checker for CKEditor.

## What we’re doing (and not doing)

●We are modifying CKEditor to support authors in creating accessible content - A11yFirst plugin

●We are making the better WYSIWYG editors that can be used in various Content Management Systems as well as Learning Management Systems

●We aren’t addressing CKEditor’s own built in usability and accessibility issues

## A11yFirst Project: https://a11yfirst.library.illinois.edu

●University of Illinois Library Funded Innovation Project

●Collaboration with Disability Resources and Educational Services and Dept. of Human Services, State of Illinois

●[Try it out A11yFirst plugins for CKeditor!](https://a11yfirst.library.illinois.edu/plugins-dev/custom/a11ychecker.html)

## Why CKEditor, not TinyMCE WYSIWYG Editor?

The idea for the A11yFirst editor plugin came from the ONENet editor by the Department of Human Services in the state of Illinois, which enables accessible content authoring. However, this ONENet editor is outdated and only compatible with Internet Explorer. Therefore, we needed a more modern API that the A11yFirst editor could be built on. We looked into two major WYSIWYG editors, CKEditor by CKsource and TinyMCE by Epox. We have chosen to use CKEditor to build the a11yfirst plugin based on several factors. The richness of the CKEditor API, the organization of its documentation, and the number of free plugins were all more helpful than TinyMCE’s equivalents. In particular, the important “Paste from Microsoft Word” plugin was free for CKeditor, but not free for TinyMCE.

## Current A11yFirst Plugin Features

●A11yFirst Help Menu: Teaches content editors both what to do and why to do it

●Heading Menu: Supports the creation of correctly structured headings

●Block Format Menu: Block formatting styles available to the author

●Inline Styles Menu: Character-level formatting styles available to the author

A11yFirst Plugin Toolbar Configuration

●Organization of CKEditor controls on the toolbar

●Analysis of which controls should be prominent, which should be secondary

●Separating inline vs. block level styling of content

●Headings for labeling blocks of content in the document

●Enforcing proper nesting of headings in order to make clear the relationship between content blocks

## A11yFirst Plugins & Toolbar Configuration

●Heading and Block Format replaces default CKEditor Format menu

●Inline Styles revised to separate the block styles from inline styles

●A11yFirst Help menu added

●CKEditor Accessibility Checker included

## Usability Testing: People will always surprise you

### Usability Testing Results - A11yFirst specifics – Heading Plugin

#### Enforced headline structure:

* + Disorienting at first, even to the accessibility experts.
  + Once they work out the pattern, the “lightbulb” goes on
  + It usually takes about 10-15 minutes to figure it out

#### Ideas for the next round of revision and testing:

* + “Level 1 (Document title)” label for H1 - hoping to indicate once per page
  + Making the “available” vs “not available” options more clear - checkmark for active vs just “not grayed out”

### Usability Testing Results - A11yFirst specifics – Block Format Plugin

#### “Block Format” menu:

* + Name confuses everyone - maybe “character” and “paragraph” instead?
  + Everyone expects “block quote” behavior from the “block format” item

(even the accessibility experts)

#### Ideas for the next round of revision and testing:

* + Different menu labels?
  + “paragraph” style or format has been suggested by participants; we could also look for other words that don’t sound so similar to “block quote”

### Usability Testing Results - A11yFirst specifics – Link Plugin

#### Link guidance: People like the idea, but…

* If given the option to “ignore” the suggestion, most will ignore.
* When the prompt said “improve text,” they expected an automated fix.

#### Ideas for future revision and testing:

* Different labels on the action buttons?
* More concrete examples of what to do in the suggestion box?

### Statements from Usability Testing - A11yFirst specifics

* “This is an odd feeling -- this is exactly what I tell people to do all the time, but in practice it’s kind of disorienting…” (Afterwards:) “I really liked the enforced format for headings. It was awkward at first, but it is a good way to do it.” -- Accessibility expert
* “Why can’t I pick a different font/color/size?” -- Nobody (YAY!)  People did ask for centering and div tags - nobody asked for more inline visual styles.
* “The help was really useful once I found it… Can you give us more information on why these things are important to do and how they help?” -- Content specialist

### A11y First Editor -  Help enhanced with user feedback

Help structure following user feedback - both a “how” section and a “why” section were added.

### Statements from Usability Testing - CKEditor specifics

* “I can’t get any keyboard shortcuts to take me around the toolbar” -- Accessibility expert
* “I picked French from the language menu; why isn’t it translating? It looks like it’s just marking the text as italics” -- Several people
* “Wait, the flag icon means an anchor? Why not use an anchor icon?” -- Everyone who tried to make an anchor
* “What does that Tx icon / that foreign-symbol icon do?” -- Almost everybody
* “Can you remove the underline style entirely? It’s a bad idea to underline something that’s not a link” -- Accessibility expert

### Lessons Learned

* Users already have a lot of editor behavior expectations

from Word, Google Docs, Outlook, etc. etc. - and everyone uses them differently

* The best outcome likely includes both UI changes and user training.

However, people often don’t notice help in an interface.

* How do we add effective user training to the UI changes?

(Video training planned)

## Future A11yFirst Features

* Guidance on how to name links: Steering away from “Link to \_\_\_”, “Click here,” “Read more”
* Image alt text guidance
* Table creation guidance
* Header rows: Training resources

## How you can be involved

* Open source project on GitHub - <https://github.com/a11yfirst/plugins-dev>
* Subscribe to the A11yFirst list - <https://lists.illinois.edu/lists/info/a11yfirst-ckeditor-l>

## Contact us:

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