Accessibility in Hyku

Lessons and challenges from an accessibility journey

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Samvera & Hyku
Who is Notch8?

Full stack web consultancy, specializing in Ruby on Rails applications. Active history with Samvera, esp. Hyku.
What is Samvera?

Samvera is an open-source digital asset management solution used by libraries, museums, universities, and other institutions.
What is Hyku?

Brings Samvera building blocks closer to a user-ready implementation. Adds custom theming and multi-tenancy.
What is HykuUP?

Notch8’s hosted Hyku solution. Makes digital preservation attainable for organizations with limited budgets and IT resources.
Auditing Accessibility
Why Accessibility?

- Social responsibility
- Increase and diversify user base
- Can benefit SEO
- Requirements for publicly-funded projects
  - No easy rule-of-thumb to what organizations answer to what level of requirements
Why Not Accessibility?

- Longer development timelines
- More work to do
- More work to manage
- = More impact to budget
- The needs of the many outweigh the needs of the few
Accessible Features - Primary Targets

- **Color contrast**
  - Makes content and functionality perceivable for those with visual impairments

- **Logical structure**
  - Tab through a page in a way that makes sense for those who cannot use a mouse

- **Proper element tags**
  - Helps screen readers and other assistive tools make sense of the page
WCAG & VPAT

**WCAG**
- Web Content Accessibility Guidelines
- Specific set of standards for accessibility
- Levels A, AA, or AAA
- No concrete pass fail; claim, backed by letter of conformance

**VPAT**
- Voluntary Product Accessibility Template
- Tool for auditing accessibility of application
- Grade individual features based on the level of support given to accessibility
WCAG 2.0 - Four Principles of Accessibility

- **Perceivable** - UI elements must be presentable to users in ways they can perceive
- **Operable** - UI components and navigation must be operable
- **Understandable** - Information and the operation of UI must be understandable.
- **Robust** - Content must be robust enough that it can be interpreted by assistive technologies.
Guideline 1.1 Text Alternatives: Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. (Level A)
VPAT - Valid Responses

Supports - Criteria is satisfied adequately or a functional alternative is provided.

Partially Supports - Functionality exists but may be incomplete or not successful in all circumstances.

Does Not Support - Criterion is mostly or fully unsupported.

Not Applicable - Criterion is not relevant to the product.

Not Evaluated - The product has not been evaluated against the criterion. (Only an acceptable response in Level AAA)
# VPAT Example

## Table 1: Success Criteria, Level A

Notes:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Conformance Level</th>
<th>Remarks and Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Non-text Content (Level A)</td>
<td>Partially Supports</td>
<td>Some images have no alt text, use a file name for alt text, or use alt text that duplicates link text.</td>
</tr>
<tr>
<td>1.2.1 Audio-only and Video-only (Prerecorded) (Level A)</td>
<td>Not Applicable</td>
<td>Feature not used in product</td>
</tr>
<tr>
<td>1.2.2 Captions (Prerecorded) (Level A)</td>
<td>Not Applicable</td>
<td>Feature not used in product</td>
</tr>
<tr>
<td>1.2.3 Audio Description or Media Alternative (Prerecorded) (Level A)</td>
<td>Not Applicable</td>
<td>Feature not used in product</td>
</tr>
<tr>
<td>1.3.1 Info and Relationships (Level A)</td>
<td>Supports</td>
<td>The site’s content and its relationships can be programmatically determined</td>
</tr>
<tr>
<td>1.3.2 Meaningful Sequence (Level A)</td>
<td>Supports</td>
<td>Correct reading sequence can be programmatically determined</td>
</tr>
</tbody>
</table>
Audit Tools - Accessibility Insights for Web
VPAT in HYKU
Hyku Example - Public Side
Hyku Example - Admin Dashboard
Elements must have sufficient color contrast

Rule name
color-contrast

Success criterion
WCAG 1.4.3

Path
.hidden-xs

Fix the following:
- Element has insufficient color contrast of 2.19 (foreground color: #0096ff, background color: #173bff, font size: 10.5pt, font weight: normal). Expected contrast ratio of 4.5:1
<li> elements must be contained in a <ul> or <ol>

Rule name
listitem

Success criterion
WCAG 1.3.1

Path
ul[role="tablist"] > li:nth-child(2)

Fix the following:
- List item does not have a <ul>, <ol> or role="list" parent element

Accessibility Insights - List tags
Hyku - Accessibility Cheat
# VPAT and Hyku

## Table 1: Success Criteria, Level A

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Conformance Level</th>
<th>Remarks and Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Non-text Content (Level A)</td>
<td>Does not support</td>
<td>Most images user-input, but there is no generic alt-text type associated with the placement. Thumbnail icons have no alt-text.</td>
</tr>
<tr>
<td>1.2.1 Audio-only and Video-only (Prerecorded) (Level A)</td>
<td>Not applicable</td>
<td>Feature not used in this product.</td>
</tr>
<tr>
<td>1.2.2 Captions (Prerecorded) (Level A)</td>
<td>Not applicable</td>
<td>Feature not used in this product.</td>
</tr>
<tr>
<td>1.2.3 Audio Description or Media Alternative (Prerecorded) (Level A)</td>
<td>Not applicable</td>
<td>Feature not used in this product.</td>
</tr>
<tr>
<td>1.3.1 Info and Relationships (Level A)</td>
<td>Partially supports</td>
<td>Roles are used in many places; some format elements like list tags are missing</td>
</tr>
<tr>
<td>1.3.2 Meaningful Sequence (Level A)</td>
<td>Supports</td>
<td>Layout of content is logical and tab navigation runs in a logical flow.</td>
</tr>
</tbody>
</table>
There’s no substitute for manual testing.
Hyku Accessibility Wishlist

- **Alt-text solution**
  - Default alt-text
  - Ability to create/import alt-text when uploading image works
- **Clean-up of organizational tags (like list elements)**
- **Time and money to conduct a thorough audit and implement upgrades**
- *What else...?*
References and Resources

Code4Lib Accessibility Page - https://wiki.code4lib.org/Accessibility

Presentations; University guidelines; How to write alt-text for artwork, etc.

W3.org & Section508.gov

Information on VPAT, WCAG, and the latest government accessibility standards

Notch8.com, HykuUP.com & Samvera.org

More information on Notch8 and Samvera digital repositories

References:

https://accessibilityinsights.io/docs/en/web/overview