Accessibility: “Make things accessible”

Overview

– What is accessibility?
– Blaise functionality for accessibility
– Developer checklist
– Demo
– Questions
What is accessibility?

- Visually, physically, sensory, mentally challenged respondents
- WCAG 2.0 AA / Section 508 Principles:
  - Perceivable
  - Operable
  - Understandable
  - Robust

  - https://www.w3.org/TR/WCAG20/

What does Blaise do?

- Keyboard handling
- Validate some accessibility aspects
  - TabIndex
  - ScreenReaderText
- Focus behavior
- Generate skiplinks
**Keyboard handling**

- No specific keyboard functionality, so it won’t interfere with Assistive Technology
- Use Tab/Shift-Tab to move around
- Use space/Enter to activate buttons or links

**Validation**

- ScreenReaderText
- Logical TabIndex order
- Demo
Developer checklist

- Timeout warning
- Check color contrasts
- Define alt text for images
- Specify header tags where needed
- ScreenReaderTexts (for enumerations)
- Define instructive error texts
- Define AccessibilityRole for landmarks
- Define skiplink containers
- Use of LabelFor/LabelledBy
- Survey design decisions
- Test your instrument

Timeout warning

**WCAG 2.0: 2.2.1 Timing Adjustable:**
*Extend: The user is warned before time expires and given at least 20 seconds to extend the time limit with a simple action (for example, "press the space bar"), and the user is allowed to extend the time limit at least ten times;*

- Sessions have an (adjustable) timeout (default 20 minutes)
- With a timer, a warning message can be shown
- With a button that is focused, the CurrentPage() action can be executed, resetting the timeout interval
Timeout warning (2)

For security reasons, your session will be ended within a few minutes. Please click Continue to keep your session alive.

Color Contrast

**WCAG 2.0: 1.4.3 Contrast (Minimum):** The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following:

**Large Text:** Large-scale text and images of large-scale text have a contrast ratio of at least 3:1

- Color Contrast Analyser
  
  https://developer.paciellogroup.com/resources/contrastanlyser/

- Large text: (18 pt or 14 pt bold)
Define alt text for images

**WCAG 2.0: Guideline 1.1** 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.

Image controls:

**Datamodel Title Text**

Images in rich text:

'&lt;img src=&quot;BackButton&quot; alt=&quot;Previous Page&quot;&gt;'

Specify header tags where needed

**WCAG 2.0: 1.3.1 Info and Relationships** Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text

**WCAG 2.0: 2.4.6 Headings and Labels** Headings and labels describe topic or purpose.

Every page should contain at least a `<H1> </H1>` tag to indicate the page header. If there are subsections on the page, or other headers lower header tags can be used (up to `<H6>`). A logical structure is required, e.g.

`<H1>Page header</H1>`
`<H2>Address questions</H2>`
`..<H2>Work questions</H2>`
`<H3>Commute questions</H3>`
`<H3>Work history questions</H3>`
ScreenReaderText for enumerations

- Define and/or check aria-labels for enumeration/set questions (include question and if needed row header text)

```
| Field.definedRole('Question') + ' ' +
| Category.definedRole('Category') |
```

Define instructive error texts

**WCAG 2.0: 3.3.1 Error Identification:** If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text.

The default generic “Answer required” message is not good enough. It does not refer to the specific question, and there should be a suggestion on how to resolve the error.

Suggestion: use TextRole as in VisuallyImpaired sample

```
IDNumber: "What is your national identification number?"
AnswerRequired: "Your national identification number has not yet been entered. To continue, the ID number must be entered."
```

```
| Cell 2.2
| errorGrid |
| Cell 2.2
| AnswerRequiredRoleName |
| AnswerRequired |
| AnswerRequiredText |
| AnswerRequiredTextKey |
| textKey |
| textIDKey |
```
Define instructive error texts (2)

Your national identification number has not yet been entered. To continue, the ID number must be entered.

What is your national identification number?

Your national identification number has not yet been entered. To continue, the ID number must be entered.

<input name="nationalIdentificationNumber" type="text" placeholder="Your national identification number"/>

Define AccessibilityRole for landmarks

WCAG 2.0: 1.3.1 Info and Relationships: Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.

AccessibilityRole property will translate into role="" attribute.
Define skiplink containers

**WCAG 2.0: 2.4.1 Bypass Blocks:** A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.

Use of LabelFor/LabelledBy

- Properties to establish an explicit link between a control and its logical description (label)
- LabelledBy refers to the name of another control in the same template
- LabelFor refers to the name of another control in the same template
- The label should be visible to be read
- Normally ScreenReaderText should be sufficient
- LabelFor is only available for text controls, it generates a `<label>` tag
- LabelledBy may refer to a container of which all text inside it will be read as the label
Use of LabelFor/LabelledBy (2)

Question 1

- [ ] One
- [ ] Two This is a LabelFor label
- [x] Three This radiobutton is labeled by this text

Using ScreenReaderText:

```html
<input type="radio" class="LabelForRadioComponent visibility-visible enabled focus-outline width-pixels height-pixels" aria-hidden="false" aria-checked="false" role="radio" aria-invalid="false" aria-required="true" id="ya_kiaba_1e" data-fieldname="Q1" tabindex="-1" name="Q1" style="margin: 3px; visibility: visible; width: 16px; height: 16px;">
```

Using LabelFor:

```html
<input type="radio" class="CategoryRadioButtonComponent visibility-visible enabled focus-outline width-pixels height-pixels" aria-hidden="false" aria-checked="false" role="radio" aria-invalid="false" aria-required="true" id="ya_kiaba_2e" data-fieldname="Q1" tabindex="-1" name="Q1" style="margin: 3px; visibility: visible; width: 16px; height: 16px;">
```

```
<label for="ya_kiaba_2e">This is a LabelFor label</label>
```

Use of LabelFor/LabelledBy (3)

Question 1

- [ ] One
- [ ] Two This is a LabelFor label
- [x] Three This radiobutton is labeled by this text

Using LabelledBy:

```html
<input type="radio" class="CategoryRadioButtonComponent visibility-visible enabled focus-outline width-pixels height-pixels" aria-hidden="false" aria-checked="false" role="radio" aria-invalid="false" aria-required="true" id="ya_kiaba_3e" data-fieldname="Q1" tabindex="-1" name="Q1" style="margin: 3px; visibility: visible; width: 16px; height: 16px;">
```

```
<table cellpadding="0" cellspacing="0" class="GridComponent visibility-visible enabled width-auto height-auto" aria-hidden="false" aria-live="assertive" role="presentation" id="ya_kiaba_3e" style="margin: 3px; background: transparent; border: solid; border-width: 1px; border-color: rgb(0, 0, 0); visibility: visible; width: 26px; height: 32px;">
```
```
Survey design decisions

– Trade-off between visually appealing and fully accessible:
  - One accessible landing page where respondent chooses desired accessibility options (VisuallyImpaired sample)
  - Two separate URLs

Survey design decisions (2)

– You need specific DataEntrySettings
  - Disable auto focus or not
  - Key handling or not
  - Generate skiplinks

– Options:
  - One size fits them all
  - One accessible landing page with buttons/links to choose the desired version
  - If known ahead: communicate specific URL
Test your instrument

- NVDA (www.nvaccess.org)
- Plugins:
  - WAVE Evaluation Tool
  - Tota11y (Khan Academy): check headings, contrast, links, labels, image alt-texts, landmarks
- For Internet Explorer:
  Web Accessibility Toolbar
  https://developer.paciellogroup.com/resources/wat/

Demo

- On desktop/laptop using NVDA
- On mobile (Android)
Questions

- Thank you for your attention
- Develop accessible surveys: everyone benefits from it!