intopia

Building accessible components and layouts

Engineers - Session 3

Recording

As before, is everyone ok if we record this session?

Get involved

Feel free to jump in any time with questions, comments or suggestions.

Is your concept accessible?

How can you determine if the concept you are designing and building is **accessible**?

Today, we will look at **a simple method** that can be used to review the accessibility of any component or layout.

This could include:

- A simple interactive component (Text Input)
- A complex interactive component (XLabsCountryPicker)
- A simple process (Edit employee form)
- A complex process (Choose expense claim accounts)
- An entire layout/template

More importantly, this method can be **used by anyone in the team** - designers, engineers, POs, QAs etc.

We will look at two examples:

- A complex interactive component (XLabsCountryPicker)
- A complex process (Choose expense claim accounts)

Start with people!

One way to build accessible components or processes is to look at **different groups of people** and their needs.

This allow teams to focus on:

- People rather than compliance.
- Different types of people and their specific needs.
- One profile at a time.

Five types of users:

- People with a cognitive impairment or neurodivergence.
- People with a colour vision deficiency.
- People with low vision (e.g. magnifier users)
- People with limited mobility (e.g. keyboard users)
- People with limited or no sight (e.g. screen reader users)

Why are the groups of people in this order?

We should always start with the most basic question: **can people understand it**?

- People with a cognitive impairment or neurodivergence.

If not, there is no point in going deeper, as **your results could be polluted**.

We can then **review the design layer**: how the component or process is perceived.

- People with a colour vision deficiency.
- People with low vision (e.g. magnifier users)

And finally, we can **review the technical aspects**: how assistive technologies can use the component or process.

- People with limited mobility (e.g. keyboard users)
- People with limited or no sight (e.g. screen reader users)

Why test keyboard users before screen reader users?

Even though they have their own specific keyboard commands, screen reader users require the **same basic functionality as keyboard users** - with some additional criteria.

What is the purpose?

Before reviewing any of these users, the **UX and business goals for the component or process** need to be clearly identified.

This is normally done through **a series of user stories** that define how you expect users to engage with the component, or travel through a process.

These user stories need to include **all happy and unhappy paths**.

The different types of users can then be **run through these stories**.

1. People with a cognitive impairment or neurodivergence

- Is the component easy to use?
- If additional instructions are required, are they clear?
- If users make a mistake, can they recover?
- Is complex language used?
- Are there any animations that could distract?

These are **UX and content creation problems**, not engineering problems.

However, designers **don't always consider** these problems when designing.

Engineers often have to build complex components or layouts that **should never exist**.

2. People with a colour vision deficiency

Does the component:

- Have sufficient colour contrast?
- Use alternative methods to display colour information?

These questions are UI problems, and should be resolved **within the XUI design system**.

3. People with low vision

Let's meet Cammie, a ZoomText user - who **sometimes inverts the screen colours** to make information easier to see.

Is the component operable

- When the text is scaled to 400%.
- When the overall layout is scaled to 400%.
- When aspects of the component are magnified.
- When displayed in low contrast.
- When displayed in different viewport sizes.

These problems need to be solved by **designers and engineers** working together.

The design should consider enlargement and magnification. Engineers must consider these problems **when building**.

Magnification activity:

- Are there any actions to the extreme right of screen?
- How does the concept work when the overall layout is scaled to 400%?
- How does the concept work when the text is scaled to 400%?

4. People with limited mobility

Sometimes, these people rely on **keyboard interactions** or **voice recognition software**.

Let's meet Judith, a head-wand user - who also interacts with technology **via the equivalent of a keyboard interface**.

Keyboard use activity:

- Can all actions be executed using keystrokes only?
- Are keystrokes intuitive for keyboard-only users?

Focus indicator activity:

- If focus is relevant, are all visible focus states clearly defined?

Focus order activity:

- Does focus order follow a meaningful sequence?

Focus management activity:

- Does the component need to receive focus?

- Is focus managed into, within and out of the component?

5. People with limited or no sight

- Does the component, or interactive elements within, have meaningful accessible names?
- Does the component have relevant roles, states and values defined?
- Are dynamic content changes announced at the appropriate time?

Screen reader activity:

- Check the overall context makes sense.
- Check all relevant accessible names.
- Check all relevant roles.
- Check all relevant states.
- Check that dynamic changes are available.

Any component you'd like to review?