Accessibility through inclusive design thinking

Inclusive Design Research Centre
OCAD University, Toronto
idrc.ocadu.ca

March 11, 2019
Inclusive Design Research Centre

idrc.ocadu.ca

Jonathan Hung
Inclusive Designer

jhung@ocadu.ca
You
(or someone you know)
Accessibility by way of Inclusive Design
What is “Inclusive Design”? 

- Recognize diversity 
- Inclusive processes and tools 
- Design for a complex adaptive system
Principle 1: Recognize Diversity
Disability ("Them")

Contextually Disabled

Mismatched Needs ("All of us")
Principle 2: Inclusive processes and tools
PhET Project
Bringing Accessibility to Physics Simulations
“Who’s at the table?”

Principle 1: Recognize diversity
Principle 2: Inclusive processes and tools
PhET Co-design
Principle 2: Inclusive processes and tools

Build on Small Successes

John Travoltage

Description
John is standing with a foot off the rug, and his hand is close to the doorknob.

Controls
Total electrons: 0.
- Foot Position:
- Hand Position:

Options (currently not functional in this demo)
- Enable Sounds
- Restart Simulation

https://jhung.github.io/john-travoltage-html/
Principle 2: Inclusive processes and tools

Innovation at the edges
“Impossible Understanding

One of the first lessons I learned is that no amount of background research and statistics; no persona (however well researched, fulsome, evocative, and motivating); and, no empathy exercises or disability simulations; can ever teach you enough about the very personal and unique requirements and characteristics these individuals bring. It is a shameful conceit to suggest that you are an expert, or that you have more knowledge and insight, it is even hubris to suggest that you really understand. You cannot understand until you have no option but to live it. Even if that were to happen, it won’t be the same experience.”

https://medium.com/@jutta.trevira/the-three-dimensions-of-inclusive-design-part-two-7cacd12b79f1
Principle 3: Design for a complex adaptive system
Principle 3: Design for a complex adaptive system

Adaptable solutions

- Recognize and align the layers, systems, processes, and values
- Aim for scalability, robustness, and flexibility
- Challenge your notion of “finished”
- Expect challenges and slow change (be the wave)
What’s next at the IDRC?
Project Description:
“… address the inclusion gap in coding in schools, breaking down barriers, and creating tools that enable opportunities for students to develop skills and knowledge beyond just coding.”
Coding to Learn and Create

Inclusive processes and tools:
  Continual, inclusive co-design with a diverse group to drive design and development

Design for a complex adaptive system:
  Self expression through coding
  Self agency and autonomy over technology
  Critical thinking and spirit of continual learning
Project Description:
“… [CISL] is creating a suite of innovative tools using these promising features, and more, all designed to support the diverse needs of today’s learners.”

IDRC Design Involvement:
Tool that empowers 3Rs
- React
- Reflect
- Refine
Inclusive processes and tools:
Continual, inclusive co-design with a diverse group to drive design and development

Design for a complex adaptive system:
Self expression, self agency
Learning progress as important as the outcomes
Empower rich social interactions between peers
Invert classroom dynamics - peers teaching peers
Tools & Resources
Inclusive Co-Design Resources

- guide.inclusivedesign.ca/activities/
- cities.inclusivedesign.ca/resources/
- handbook.floeproject.org/ApproachesOverview.html
  - under “Co-Creation” in the sidebar
• Best practices for different content types.

• How to use ARIA and common patterns of usage
• Free and Open Source textbook publishing with subscription options.

• Import and export multiple formats including mobi, epub, PDF, docx, etc.
• Tools for solving accessibility issues for images, Math, and more.

• Try the POET Image Description Training tool.

• MathML Cloud doesn’t seem to work?
• Free and easy tool for generating captions and transcripts.
Fluid Project Preferences Framework

- Free and easy tool for generating captions and transcripts.
• When to use ARIA and when not to.

• How to use ARIA and common patterns of usage
Inclusive and Accessible Web Content Guide

wiki.fluidproject.org/x/x4BPC

- Tools
- Best practices

More to come:
- Planning for uncertainty and perpetual change
- Considerations for outsourcing your project
- etc
More about Inclusive Design

IDRC Curated Resources

• guide.inclusivedesign.ca

• handbook.floeproject.org

• wiki.fluidproject.org/display/fluid/Presentations

Other Resources

• https://handbook.floeproject.org/TheThreeDimensionsPartOne.html

• www.microsoft.com/design/inclusive/
Questions? Comments?

jhung@ocadu.ca