Co-designing using Inclusive Design Practices

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Rethinking Disability
Notion of Disability in Design

- Disability = a mismatch between the needs of the learner and the educational environment and experience offered
- Not a personal trait
- A relative condition
Accessibility =

• Ability of the learning environment to adjust to the needs of all learners
• Flexibility of education environment, curriculum and delivery
• Optimizing the learning environment for each individual learner
The magic at the margins

• the edge case and the edge scenario
• innovation
• benefits the majority
• supports the spectrum
• resiliency
What is Co-design?
Co-design is...

What co-design is not:
• Us versus Them – observing people
• Expecting others to do the “work” of design
• Fixed, pre-determined design process

What co-design is:
• Collaborative
• Responsive
• Iterative
• Diverse and Broad
Digital Mismatch

5 minutes

• Find and discuss an example of a digital mismatch between a learner and an interface or content
One-size-fits-one

Justina Kochansky/articulatematter.com
One-size-fits-one

• Flexible
• Accessible
• Meet users where they are
Why Personalized Interfaces?

http://www-03.ibm.com

http://www.thejournal.ie

http://inhabitat.com/

http://dc.about.com/od

http://insideupmc.blogspot.ca
Learner Options
DEMO

Video Player + Learner Options
multi-modal
GPiII: Global Public Inclusive Infrastructure

- Preferences in the Cloud
- Wherever you go your settings are applied
Metadata

• Why it’s so important
  • Matching your needs and prefs to content
• Some auto-generated
• Users can augment to improve resource for others — crowdsourcing
Authoring Tool
Group Exercise

- Describe an edge case story
- Describe a Use Case
- Create a Mindmap (structure, flow)
- Solve for mismatch (design solution)
Agnes Gibson

- age 38
- used to be a mechanical engineer; extremely organized
- works part-time as a gardener for the city
- likes cats, going to vet school at Northern College in Timmins in the companion animal physical rehabilitation program
- divorced, 2 kids (ages 10 & 7) who live with her former spouse
- has financial concerns since she’s going back to school
- low vision, macular degeneration; has a guide dog Elbow
- interested in diversity of layout; gets tired using one modality all the time
- she likes Vivaldi and 1993 grunge (Eddie Vedder)
Group Exercise

- She needs to read & analyze articles, for her part of a group project;
- She receives data in charts and graphs from other students in class which she needs to interpret or use;
- Sometimes these are accompanied with the data sets they have been generated from;
- She has a sample data set for cat blood pressure statistics that she needs to include in the group project.
- School has access to JAWS and she has magnification software.
Group Exercise

• How could you meet Agnes’ needs
• Tiptoe into sketching/solving for Agnes with a design or interface
Basics about Agnes

• In Vet school
• Needs to work with graphs and charts
• Prefers different modalities (text, audio, video, etc.)
What’s Next

• Simulations
• Dashboard
• Mobile
• Sonification! added to charts and graphs — bleeding edge — we’d love your help and feedback
  • Pie
  • Line
  • Venn Diagram
"Forces and Motion Basics. There is a heavily loaded cart on wheels sitting on a track. Attached to the left side of the cart is a thick 8 foot rope with 4 large knots spaced at equal intervals. Standing near this knotted rope is a group of 4 people. On the opposite side of the cart, a similar rope with 4 large knots is attached to the right side of the cart. There is another group of 4 people - they are standing near this other rope. The centre position of the cart has been marked on the ground."

Description of keyboard controls can be given too:
"Tab key moves focus around areas in the game.
Arrow keys moves selection.
Enter key to choose or perform an action."
Sonification