

What is Inclusive Design?

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Inclusive Design Research Centre

OCAD University, Toronto ON

The Inclusive Design Research Centre (IDRC)

An international community of open source developers, designers, researchers, advocates, and volunteers working together to ensure that emerging information technology and practices are designed inclusively.

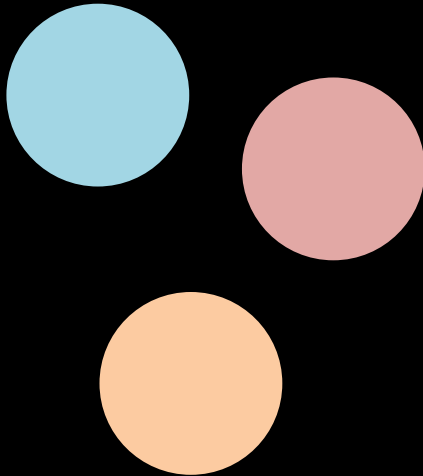
History

- Began as the Adaptive Technology Resource Centre at the University of Toronto in 1994
- Moved to OCAD University and became the Inclusive Design Research Centre in 2010
- A non-profit research centre funded by grants from foundations, government

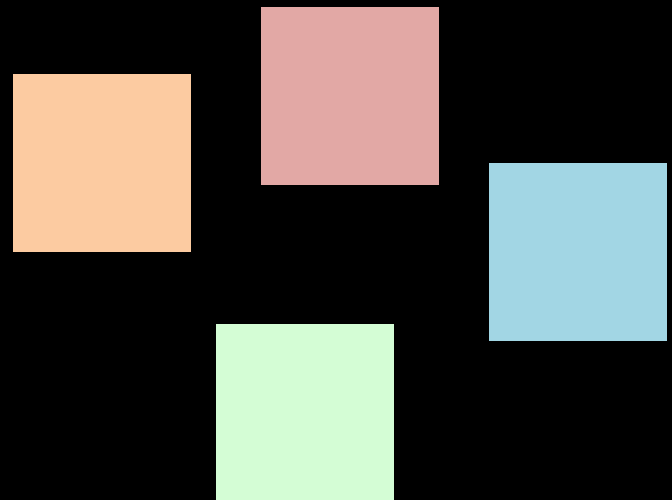
Principles of Inclusive Design

Disability as Mismatch

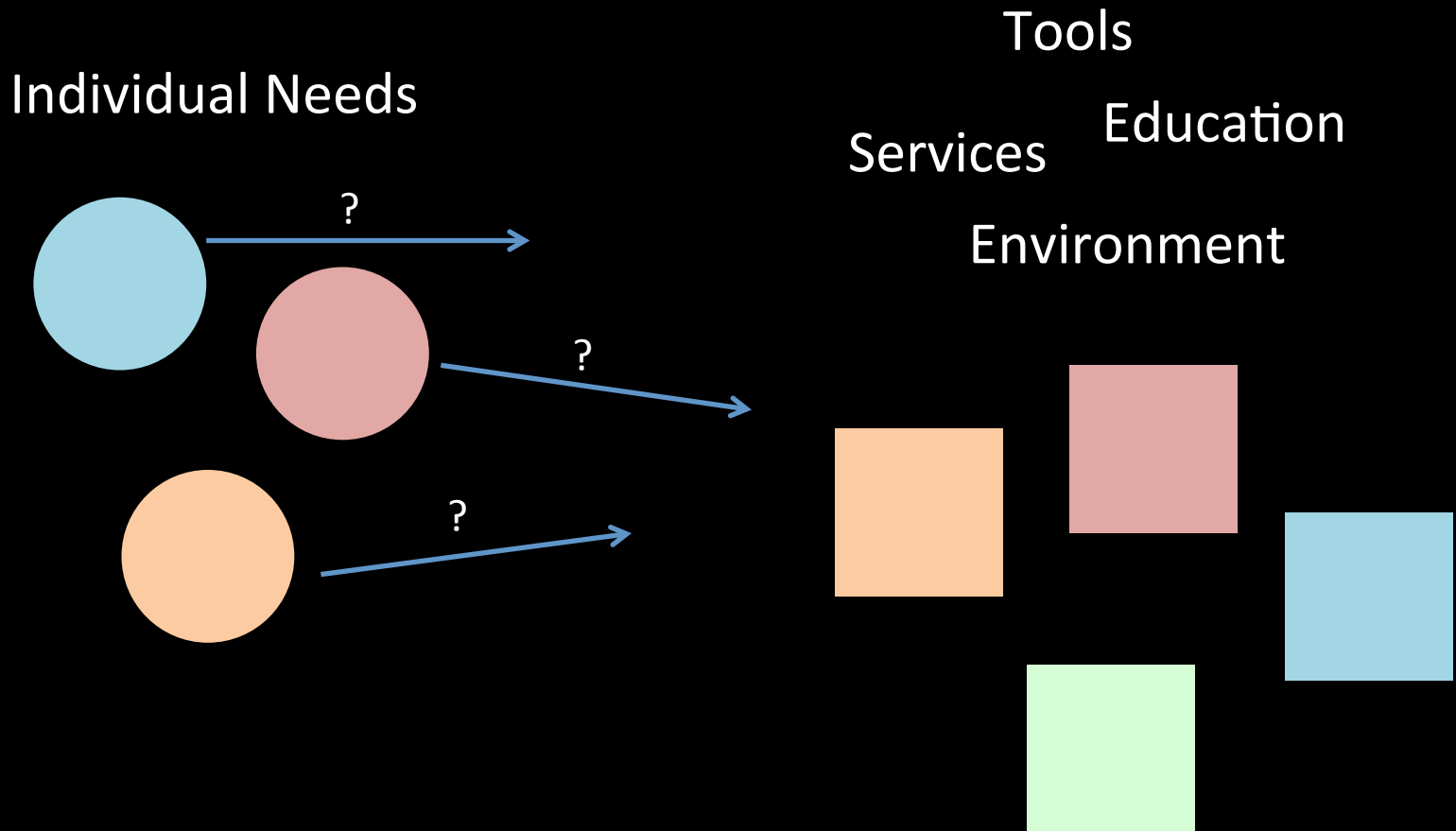
Individual Needs



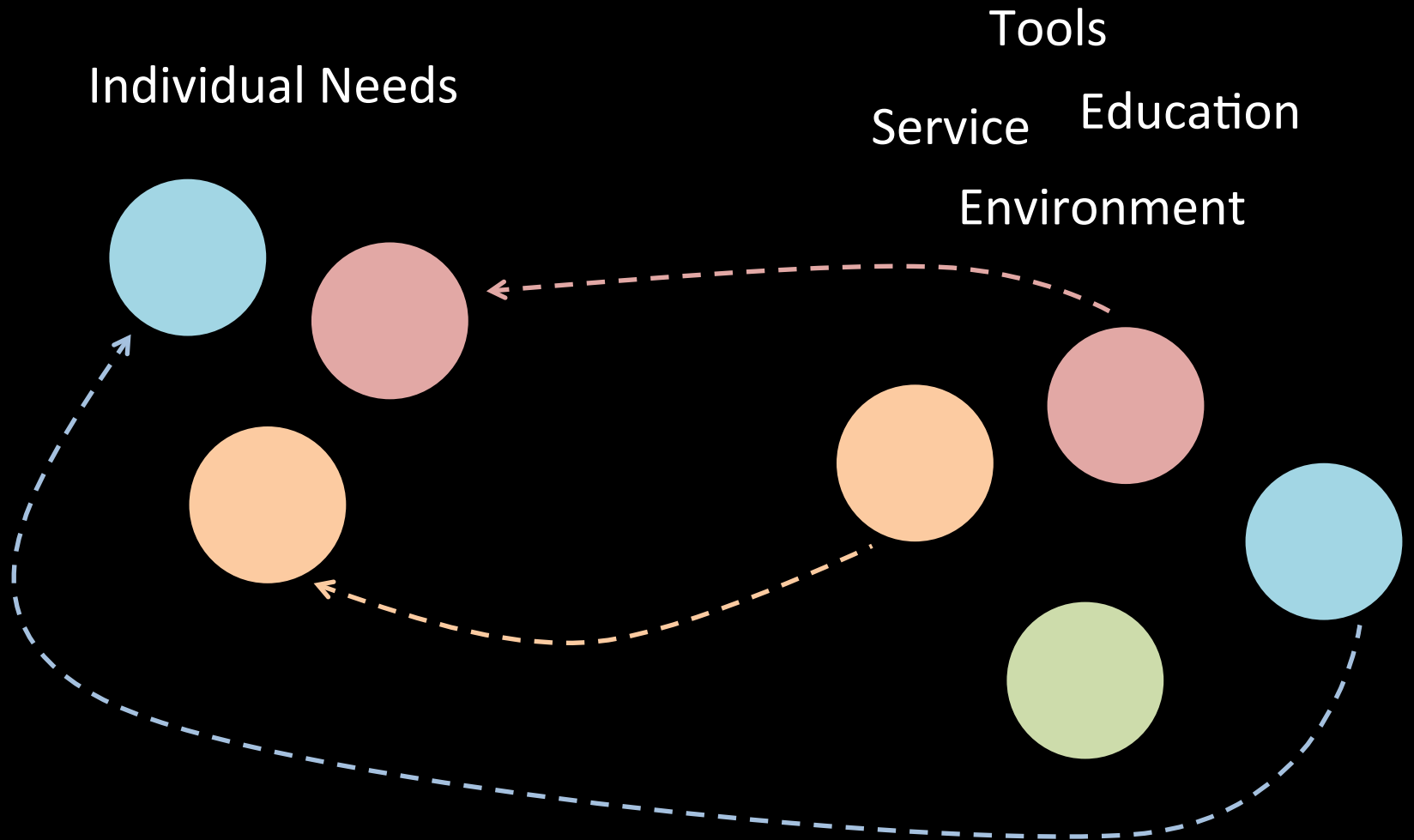
Tools
Services Education
Environment



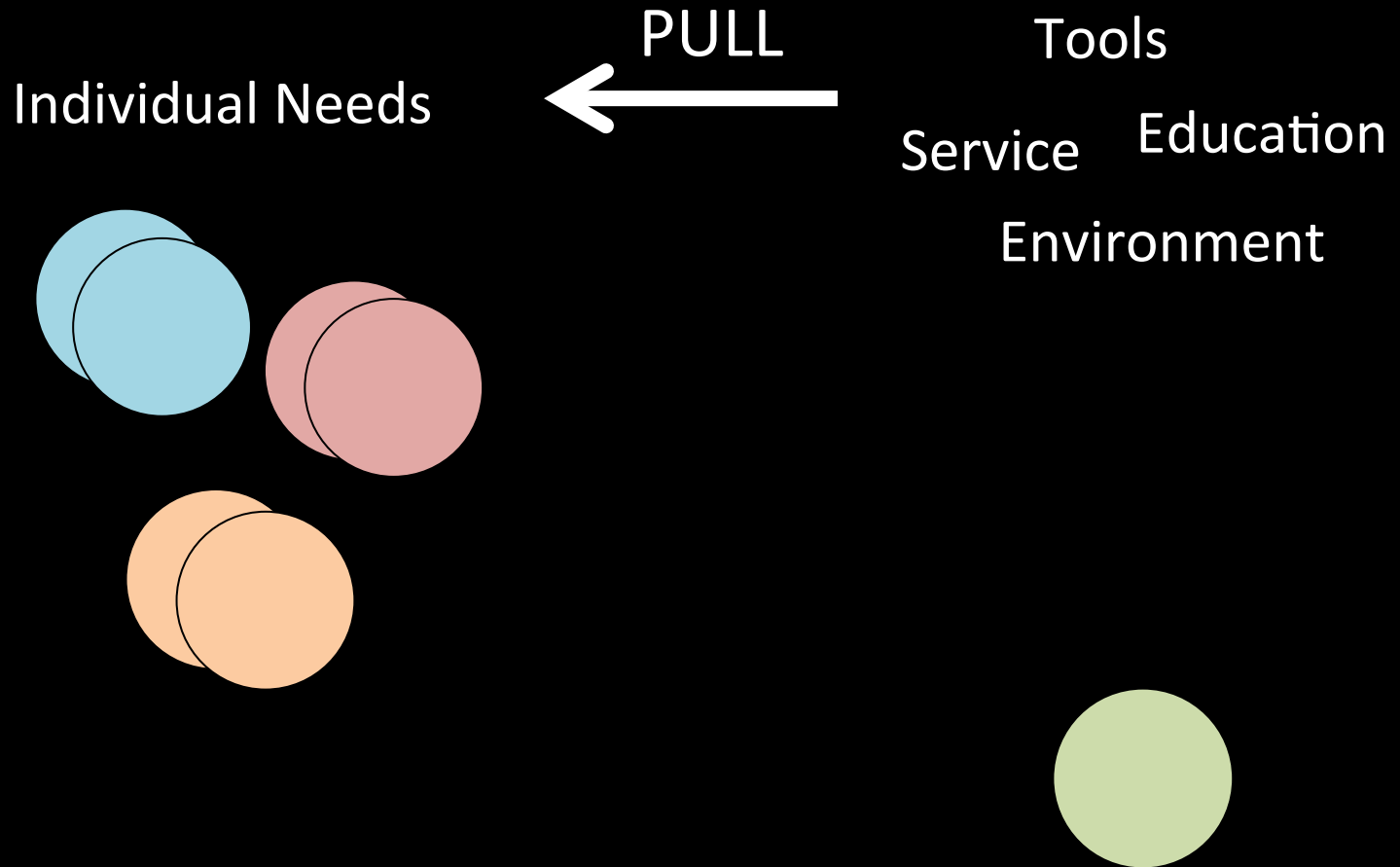
Disability as Mismatch



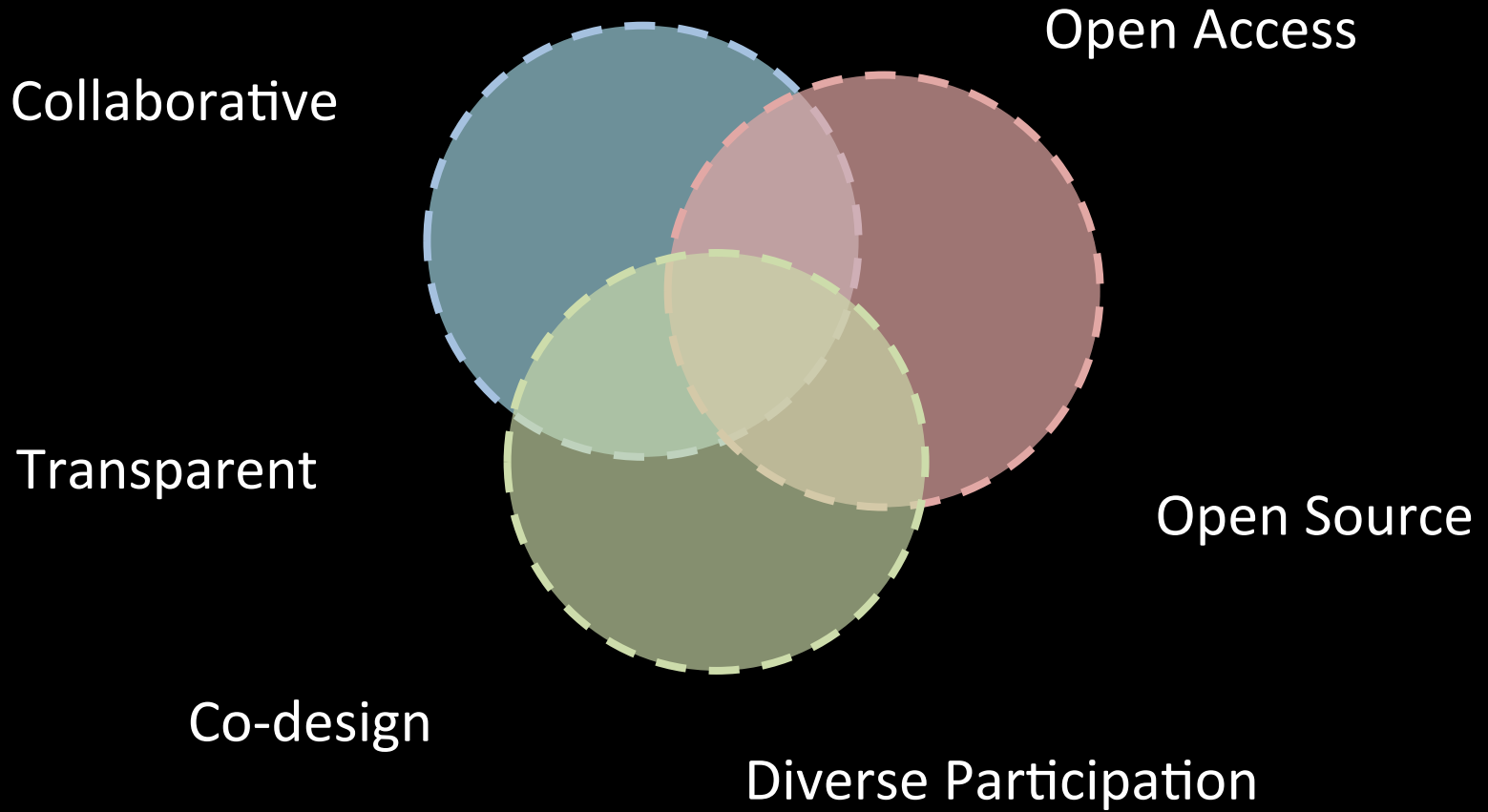
Accessibility = Adaptability



Learning to Learn



Open



GPII

Global Public Inclusive Infrastructure

<http://gpii.net/>

Cloud4All

Prosperity4All

Preferences for Global Access

Why Personalized Interfaces



A digital mismatch can be the result of many factors:

- context (e.g. upon awakening in the morning)
- environment (e.g. a dark room)
- hardware and software variations (e.g. smartphone vs. desktop)
- unique personal needs and learning styles (e.g. I prefer to listen rather than read)

GPII

- Digital mismatch is design solvable through auto-personalization
- In other words...

One-size-fits-one



Preference Discovery Tools for Personalisation

Learner Options Demo

Learner Options Wordpress plugin:

<https://github.com/fluid-project/uio-wordpress-plugin/>

First Discovery Tool

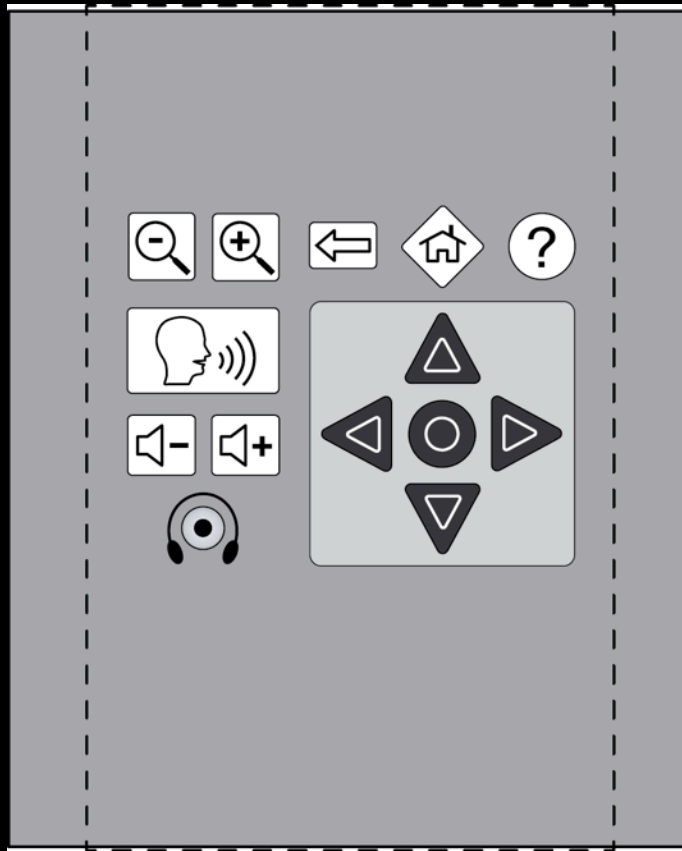
FLOE – Flexible Learning for Open Education

Through the Open Education Resources community, FLOE makes tools available that transform, augment, and personalize the learning experience.

Metadata

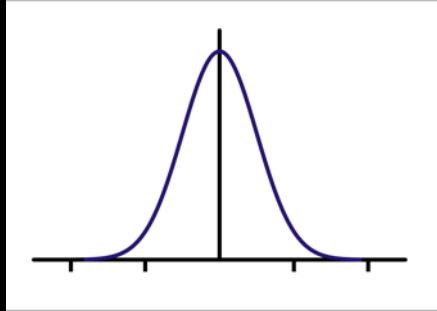
Learning Toolkit

Canadian Museum of Human Rights



Why Inclusive Design?

Status Quo



2 Extremes



- Design for the majority
- Design for the average
- Design for the 80%

“It’s too expensive to design for the margins / the 20%”

- Highly specialized, custom solutions
- Unaffordable

“There’s no market for this”

Inclusive Design

Normal?



Design solutions that are:

- Flexible
- Adaptable
- Personalizable
- Customizable
- User-continued

- Design for the margins / the 20%
- Design for the average
- Design for the 80%

“There’s a market for this!”

“It’s too expensive NOT to design for the margins / the 20%”

highly specialized,
custom solutions
unaffordable

If we design for the margins, everyone benefits



Nike Flyease



OXO sippy cup

“If we understand what the extremes are, the middle will take care of itself.”
Dan Formosa (Smart Design)

But who is “on the margin”?



Extreme user?

Broader Beneficial Impact

- Leverage the “curb-cut effect”
- Consider digital curb cuts
- E.g. voice over / text-to-speech – meets the needs of someone who cannot see, as well as someone learning a new language, and someone with a unique learning need



Activity (5 min)

- Pair up with someone
- Think of a time that you adapted something to make it work better for you
- Describe this adaptation to your partner – what need or preference of yours was not being met?
- Consider how this adaptation might be beneficial to someone with different needs

Adaptation



User-continued Design



Three Dimensions of Inclusive Design

1. Recognize Diversity and Uniqueness

- Self-knowledge/autonomy
- One-size-fits-one

2. Inclusive Processes and Tools

- Accessible tools
- Diverse perspective/participation

3. Broader Beneficial Impact

- Leverage curb-cut effect
- Virtuous cycles of inclusion

Additional Resources

Inclusive Design Guidelines

● Principle

Diverse Participation & Perspectives

This principle is about inviting a diversity of people with a broad range of needs, preferences, interests and skills into the design process, and in so doing, weakening the distinction between user and designer.

To support diverse participation and enable the design to be as closely linked as possible to the application, the design and development tools should be as accessible and usable as possible. Those new to the process must be provided with the information and resources to fully participate. Communication methods should be transparent and multimodal, and design considerations for “alternative” modes of interaction should be given equal weight.

This does not denigrate the skills of professional designers but expands their responsibility to ensure diverse participation is supported and diverse voices are heard.



● Principle

Diverse Participation & Perspectives

Try

Make a list of the communication methods used in your everyday life (meetings, informal chats, video conferences, emails, etc.). Identify some possible barriers that might prevent some from participating in that communication. Consider your own challenges with these processes or those of

Use

- ◆ Practice co-design
- ◆ Work openly
- ◆ Communicate multimodally
- ◆ Facilitate inclusively
- ◆ Collaborate
- ◆ Test frequently



Learning Web Accessibility

<http://courses.idrc.ocadu.ca/>

<http://webaim.org/>

Infusion

- a code framework and growing collection of user interface components for building personalizable and adaptive applications using JavaScript and other web technologies.
- built on top of jQuery, Infusion makes it easier to build user interfaces by mixing, matching and customizing accessible components
- <https://github.com/fluid-project/infusion>
- <http://docs.fluidproject.org/infusion/development>
- <http://build.fluidproject.org/infusion/demos/>

Inclusive Design - Definition

Design that considers the full range of human diversity with respect to ability, language, culture, gender, age and other forms of human difference.

Join Us!

- IRC Channel
 - Hostname: irc.freenode.net
 - #fluid-work, #fluid-tech, #fluid-design
- Wiki.fluidproject.org
- Community Meetings – Wednesdays 2:30 ET
- Design Crits – Mondays 1:00 ET
- Volunteer

Thanks!

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Image Credits

- Nike Flyease: <http://cnet2.cbsstatic.com/hub/i/r/2015/07/15/dc055c68-bb4b-47a6-9472-6cf1475a6703/resize/>
- Oxo: http://images.bloomingdales.com/is/image/BLM/products/7/optimized/8017617_fpx.tif?
- Walrus and Jelly fish: Justina Kochansky/articulatematter.com
- Bell curve: https://upload.wikimedia.org/wikipedia/commons/thumb/f/f6/Gaussian_Filter.svg/2000px-Gaussian_Filter.svg.png
- Hugh Herr: https://upload.wikimedia.org/wikipedia/commons/a/ab/Hugh_Herr,_TED_2014.jpg
- IBM EZ Access Keypad: <http://www-03.ibm.com>
- Ulster Auto Bank Teller: <http://www.thejournal.ie>
- Digital Subway Map: <http://inhabitat.com/>
- Child at digital map: <http://dc.about.com/od>
- Woman at tabletop digital kiosk: <http://insideupmc.blogspot.ca>
- Stroller and curb: <http://www.bullcityrising.com/2010/10/walk-to-school-day-highlights.html>
- Curb cut: http://zomigi.com/downloads/Web-Accessibility_Charlotte-UX_111114.pdf
- Sweater over head: <http://blog.nzime.com>
- Knitted computer sock: <http://cocreatingourreality.com>
- Adapted remote control: <http://www.flipperremote.com/wp-content/uploads/2013/05/grandma-stop-calling-remote.jpg>