How many of you went to a presentation that turned out to be a sales pitch?
How many of you went to a presentation that turned out to be a research project report?
This is neither — I want to change your perspective, change your mind, your behaviour, and your approach to problem solving

How many of you attended a session with Inclusive or Inclusion in the title? How many with Design? How many of you consider yourselves designers? All of you will hopefully by the end of this presentation.

I want to start by talking about what some of you might think inclusive design sounds like:

1. mismatch as design solvable
2. one-size-fits-one
3. design decisions — as exclusion

3 things I want to focus on

HIPPY SPEAK

We live in a complex world that is moving very quickly — one where technology and computers and drones and robots do many of our everyday tasks — or they soon will. It's a world where our needs are more complex — we're trying to integrate all of this technology into our lives, make it work, make it make our lives better and work for us.

The Internet of Things is everywhere — our connected cars (soon to be the autonomous cars), programmable thermostats and smoke alarms, and robots to keep our pets company while we're at work — complete with treat dispensers, camera sensors to let us know when Fido is around, and an ability to speak to our pets in our voice. So, you say sit Fido, Fido sits, and you trigger the robot to dispense a treat.

This is our world — we're setting up a wireless printer at home (no big deal, right?) — but we're integrating it with our wireless network and with our IP-capable TV and with our Media Centre (little bit harder) — and you're watching the Jays game on Rogers, but at the moment Bautista hit his home-run you jumped up and spilled something on your lap and your computer so you missed his reaction. Now you want your TV and speakers to be able to detect your laptop so you can watch a clip of Bautista's home-run reaction online, streaming it from the couch.

For all of that to work we need usable, integratable systems that must be designed to work for us.

IRRELEVANT

You might think this doesn’t apply in my industry — I challenge you to come up with an industry that doesn’t ultimately deal with people,
doesn’t strive for efficiency and sustainability,
doesn’t hope to innovate,
or doesn’t simply want to solve complex problems.

Not saying inclusive design is a silver bullet, but I think it will help us do all of these things better.

We should be careful about disregarding something that isn't relevant to us now — it's shortsighted. We're all aging — speaking of shortsighted — my glasses get a little bit stronger every few years…

And my parents are aging and I'm seeing what happens with the inevitable march of time. Many of us, most of us will need assistance at some point in our lives.
Disability increases with age (42% between ages of 65-74, 64% at 75+) and populations are aging.

COMPLEX PROBLEMS NEED BETTER SOLUTIONS

- that have a longer shelf life
- that work better for more people
- that reach untapped markets

DEFINE
INCLUSIVE DESIGN

Inclusive Design is design that considers the full range of human diversity with respect to ability, language, culture, gender, age and other forms of human difference. And in considering, inclusive design involves…

3 tenants of ID

1. recognize diversity and uniqueness — how many of you consider yourselves average?
   so why do we design for the average?
2. use an inclusive process and tools — get experts to make the best solutions — talk to moms to find out what strollers work best for them: talk to moms who are pushing strollers through the snow banks in Toronto in January, or strolling around the broken bricks in Old San Juan, Puerto Rico in the heat and humidity of June. Talk to moms who are 6’5” and talk to moms who don’t have the strength to lift 20 lbs, let alone a 20 lb stroller and a 20 pound kid.
3. have a broader beneficial impact — solve for everyone

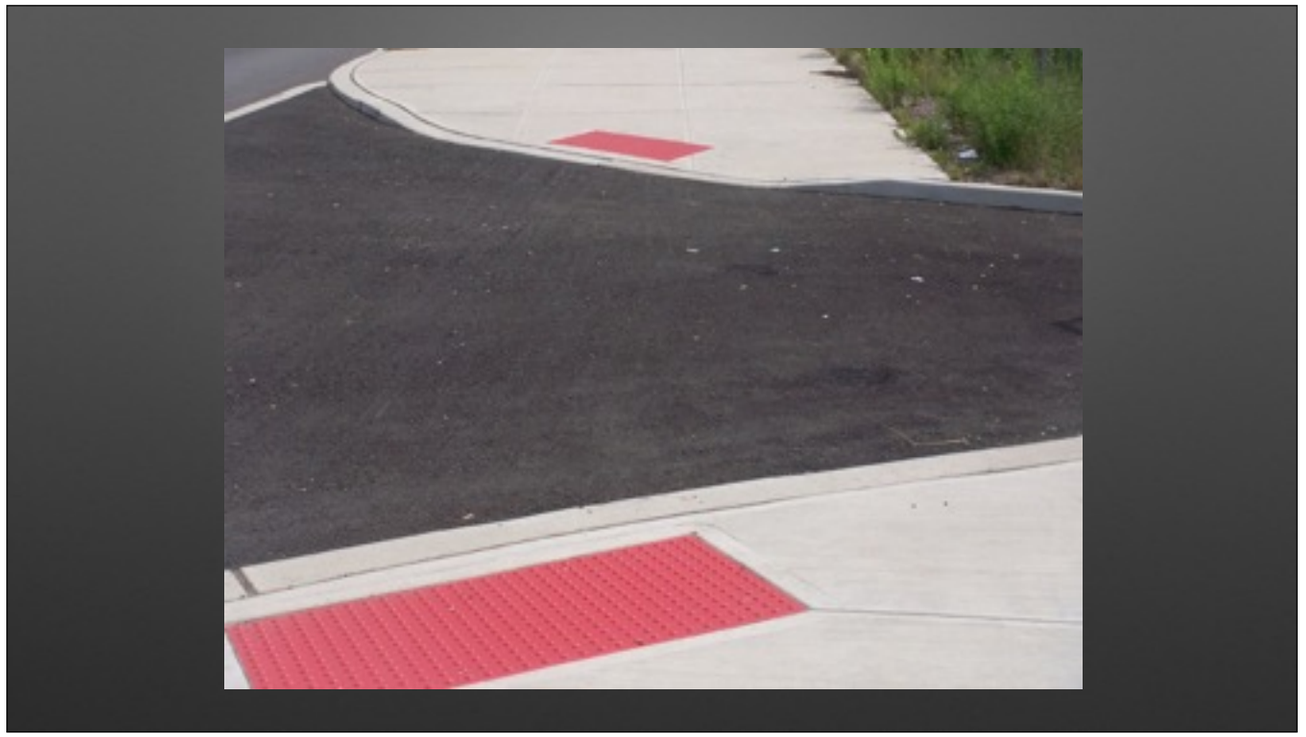
of course if you set out to solve for everyone and you’re designing a stroller it’s going to be quite difficult. You simply can’t make everyone happy.

You can still build an amazing stroller! We’ll still strive for perfection, but in our attempts we’ll make better strollers for everyone.

WHY INCLUSION?

- do the right thing
- reach a new market
- solve really hard problems that others aren't solving
- don't get sued

do the right thing — good person (philanthropist),
make a profit — good businessperson (successful),
solve hard problems — entrepreneur & innovator
don't get sued — good citizen and keeps you in the market



In Universal Design there’s the curb cut — does everyone know what a curb cut it?

In Inclusive Design we aim for the digital curb cut — closed captioning is an example.
top 3 uses:
1. in a bar
2. in a gym
3. in bed with a sleeping spouse

REPRODUCIBLE STEPS

The good news is that there is a process we have developed for inclusive design — it's based on milestones, not a step by step linear process, but iterative — building on small successes. It requires a flexibility and a focus on delivering milestone-based artifacts.

If you were in the Google a11y design talk you know the basic milestones (roughly research, brainstorm, prototype, test, iterate)

PRACTICE

We’ve found that inclusive design can be applied to everything we do and the way we think about the problems we encounter. We want to think more critically in our work and not just be satisfied with the simple, quick solution. It actually costs more to do the thinking after you’ve built something already. Spending the time up-front incorporating diversity and wondering about more creative solutions is much more affordable.

In our work in Software and Hardware we employed a process that helped us think about making interfaces accessible — accessible to people with disabilities. And when we stumbled upon the utility of this process in basically everything we do we found it
changed the way we thought about the problems
changed the way we solved the problems
we were able to solve the problems better and for more users

You might say to us now Inclusive Design is just good design
If you’re doing good product design, then you’re doing Inclusive Design — but what we’ve found is that people aren’t doing it. And yet what we do at the IDRC is something any of us in this room can do

And I think this is the unique part of inclusive design — inclusive design gives us this perspective shift and challenges us to solve hard problems. And it challenges us to solve them not just for persons with disabilities but for everyone. Think of the curb cut.

And we do this with what I call a perspective shift in our thinking and doing. It isn’t enough to walk in someone’s shoes — it’s a start, but what if everyone with unique shoes was at the table together?

1. mismatch as design solvable
2. one-size-fits-one
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DISABILITY

We sometimes hear disability describes as a medical condition — someone is afflicted, they can’t do something — they lack an ability.

DISABILITY

And it is often associated with the 4 main categories of disabilities:

mobility impaired

cognitively impaired

hearing impaired

seeing impaired

But at the IDRC we completely redefine disability. It isn’t a medical condition to us…>>>

MISMATCH

Disability is a mismatch between the individual and their goals — the tools they have available to them in the environment where they are — their context

Disability is not a personal trait and because it’s so context dependent, it is a relative condition. >>>>>

ALL EXPERIENCE MISMATCH

DISABILITY IS MISMATCH

MISMATCH IS SOLVABLE

DESIGN CAN SOLVE MISMATCH

I went grocery shopping the other day and my arms were full as I was trying to get in the car — my car has a button that makes it easy to open.
Someone with a motor impairment can also benefit from simple buttons to open doors.

Making content available to those with cognitive disabilities often means simplifying the content — you know who else benefits from that? What about the executive 2-pager? In some cases it's become a 1-pager — they're busy, they don't have time or energy to focus. They are cognitively impaired at that moment.

At the dog park the other night and I needed to know the score in the Jay's game. I used an app on my cell phone that showed me all the action in the game in text only so I could easily keep up. The deaf person who wants to know what's going on in the game and is watching on TV gets captions that allow them to follow along in text.

It's Fall now and the sun is blazing. In the afternoon the sun shines in the window in my office and onto my screen and makes it impossible for me to read my monitor. I can change the brightness and contrast though — this simple solution also helps the sight impaired user who has partial sight but needs slight modifications.

So now what — how can we do this Inclusive Design thing?? >>>>

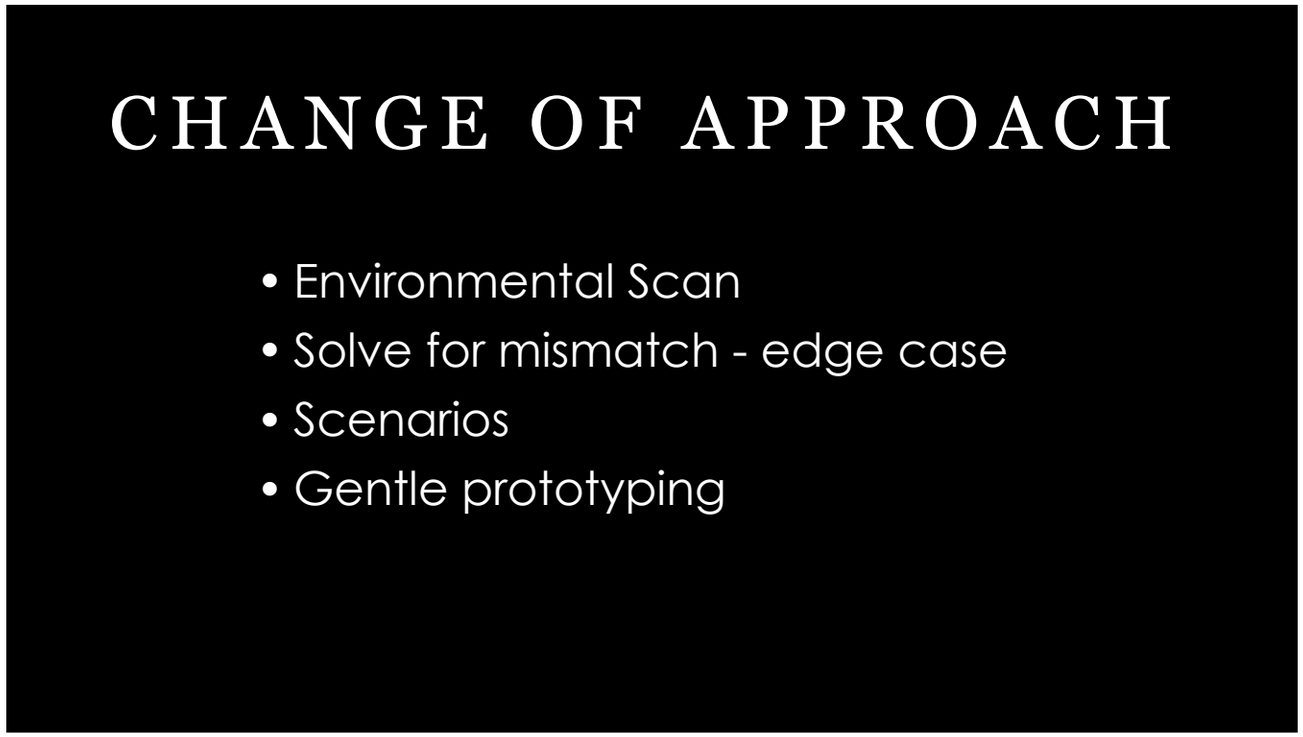
ONE-SIZE-FITS-ONE

https://www.mavenlink.com/images/blog/mobile_home_screen/04-iphone.png | http://www.flickr.com/photos/scobleizer/4779911251/

Wherever possible take a one-size-fits-one approach — LET THE USER DECIDE

when you can offer flexibility and customizability or personalization do it!

examples:
car dashboard — with digital i can change units
same phone, different ways to organize the screen
sit down at someone else's computer and everything is different: the mouse scrolls the other way, the dock is somewhere else, the hot corners keep making your screen fly away.



Rough outline of the process we use for inclusive design — NOT LINEAR

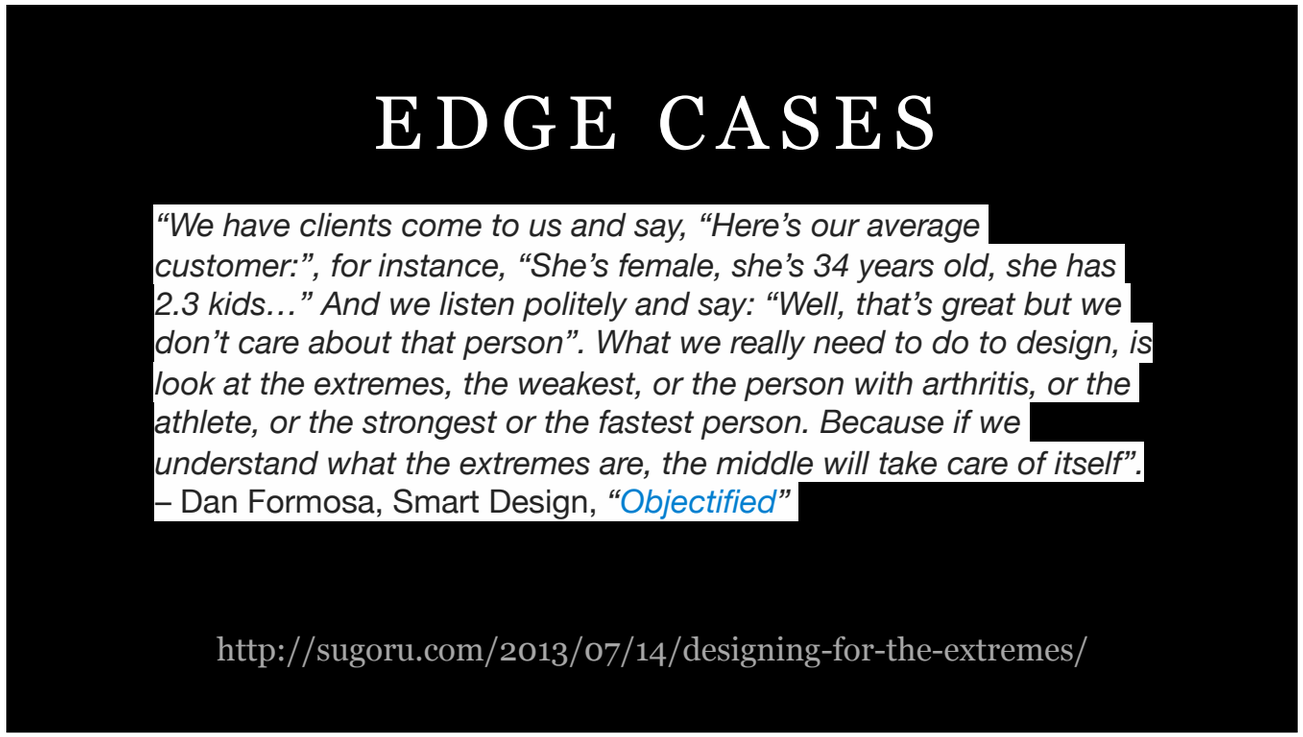
First we try to understand the environment of what we're working in. If we're trying to solve a problem in a particular context we'd better understand that context really well and understand what solutions exist in that space — what their limitations are — what their successes are.

Use cases — can't enumerate people, they're too unique and diverse

if you begin to think of people as disabilities again here, you're following a mental rut

Scenarios will help you think through what someone does — they are a person with likes, dislikes, pressures, etc.

Gentle prototyping because of the risk of going to a visual design too quickly.



They aren’t describing a person. It’s so abstracted and so removed from what a person does, it’s not that functionally useful. In other words, it’s useless.

How about instead this is Molly, she’s 34 years old and struggling to find her footing in her field — she’s a lawyer. She works really long hours trying to make her mark on the cases she’s taking on. She has a 2 year old who is very picky about what he eats and a 4 year old who is even pickier. Her husband works on the opposite end of town. They have two cars and a goldfish.

For a great read about how the average isn’t a real person and why we’ve historically come to defer to it so thoroughly, I recommend reading Todd Rose’s book, The End of Average that just came out in February this year. It’s a perspective changer itself.

SCENARIO

Molly is working on a big case — this might be the one where she proves herself and gets the attention that will help her move to the next level…

This morning she's juggling a lot. She has to get the kids to daycare (her husband usually takes them) but he is at CSUN in San Diego and she's on her own all week. So as she's driving she's thinking of what to make for dinner — TACOS are easy and everyone will eat them — she can do tacos.

She gets a call at noon that her 2 year old has pink eye and she needs to come get him from daycare…

Now we have someone with real pressures, a real life, real needs. When Molly gets out of the car with her work computer slung over one shoulder, her groceries in one hand, and sick little Miles in the other, what does she need in a stroller? How might we design a stroller for her?

DESIGN IDEAS:
BRILLIANT OR EXCLUSIONARY?

- With this brilliant design idea who just got excluded?
- Is there a way I can bridge the gap I just created? A way I can solve for the mismatch or avoid it?

some simple rules:
every time you make a design decision you're saying as much (NOT ANY OF THIS) as you're saying (THAT). In other words, if you put a quick release tab on the handle of Molly's stroller, you're saying NO to a foot-activated quick release. Just one example.
So, whatever your design decision is, think about what it isn't.

AND WHEREVER POSSIBLE LET THE END USER DECIDE… we see innovative uses of tools all the time — unintended ones.

Silly Putty — meant to be a synthetic rubber for WWII — there was a rubber shortage because of the war
Text Messages — cell phone carriers letting customers know about problems with their network
a precursor to Email — created to let hearing impaired computer engineer communicate with his wife
WD-40 meant to displace and repeal standing water to prevent corrosion in nuclear missiles. how many of you use it on your nuclear missiles??
Rogaine was used to treat high blood pressure — hair growth was an unintended side effect
Play-Doh was a wallpaper cleaner in the 1930s
Microplanes were for wood or metal — I use them on orange rinds or horseradish when I cook!

One way we do this in the digital world is to
make it multi-modal
- text
- audio
- video

NIKE FLYEASE

Inspired by a letter to Nike by a basketball loving teenager with Cerebral Palsy — what resulted is a sexy shoe with an innovative entry that is usable and attractive to everyone.

TRAMPOLINE

BLOORVIEW rehab hospital has one of these and what’s so cool about it is that you have kids in their integrated school program playing together without barriers and kids in wheelchairs who have never had the sensation of jumping can feel what it feels like to jump.

STOPGAP

Stopgap created these little wedges to help folks in wheelchairs get into businesses in the GTA. Folks with strollers also use them — no one is inconvenienced by them and they help.
Luke Anderson an avid mountain biker had an accident and became paralyzed. He started stopgap.

OXO good grips was created when the owner’s wife had trouble gripping tools because of some mild arthritis.

These tools for kitchen and gardening became the go-tos in rehabilitation centers working with people on activities of daily living…

Who else has trouble gripping things?

this population.

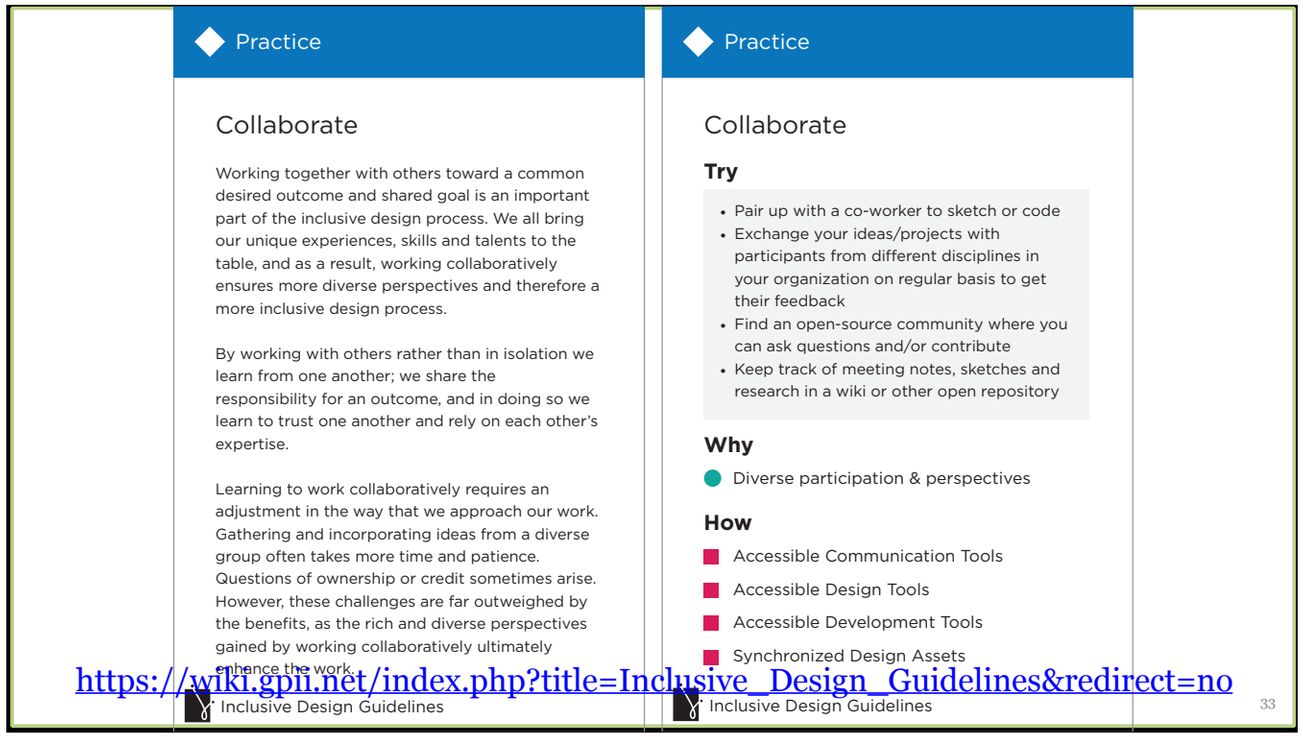
OXO saw a market and broadened their products.

HOW CAN I DO THIS?

- think about the edge cases early and solve for them — MISMATCH
- can you let the user decide — ONE-SIZE-FITS-ONE
- think about design decisions as excluding rather than solving — BRILLIANT? EXCLUSIONARY?

LET'S DO THIS NOW

- think about a problem you want to solve
- think about the edge case — create a persona
- think about a use case — your persona in action MISMATCH
- solve for them ONE-SIZE-FITS-ONE
- ITERATE — watch for Design BRILLIANCE THAT EXCLUDES



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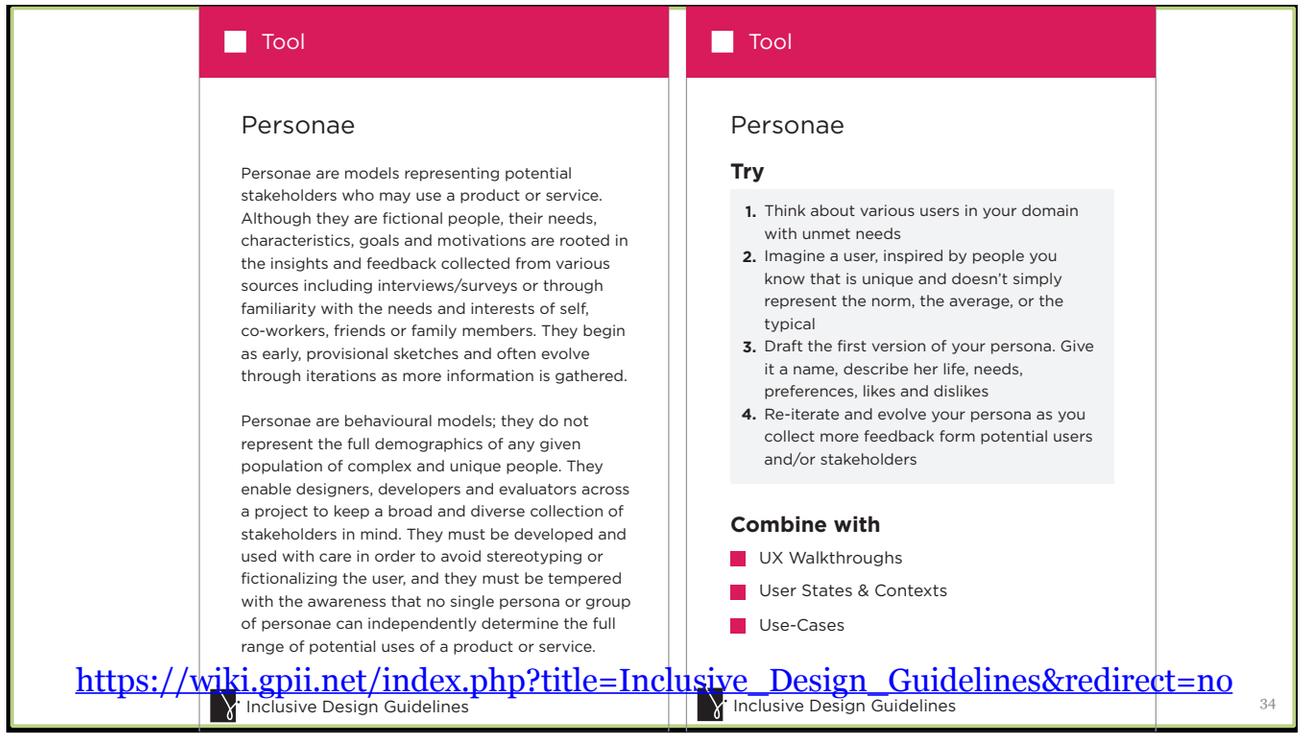

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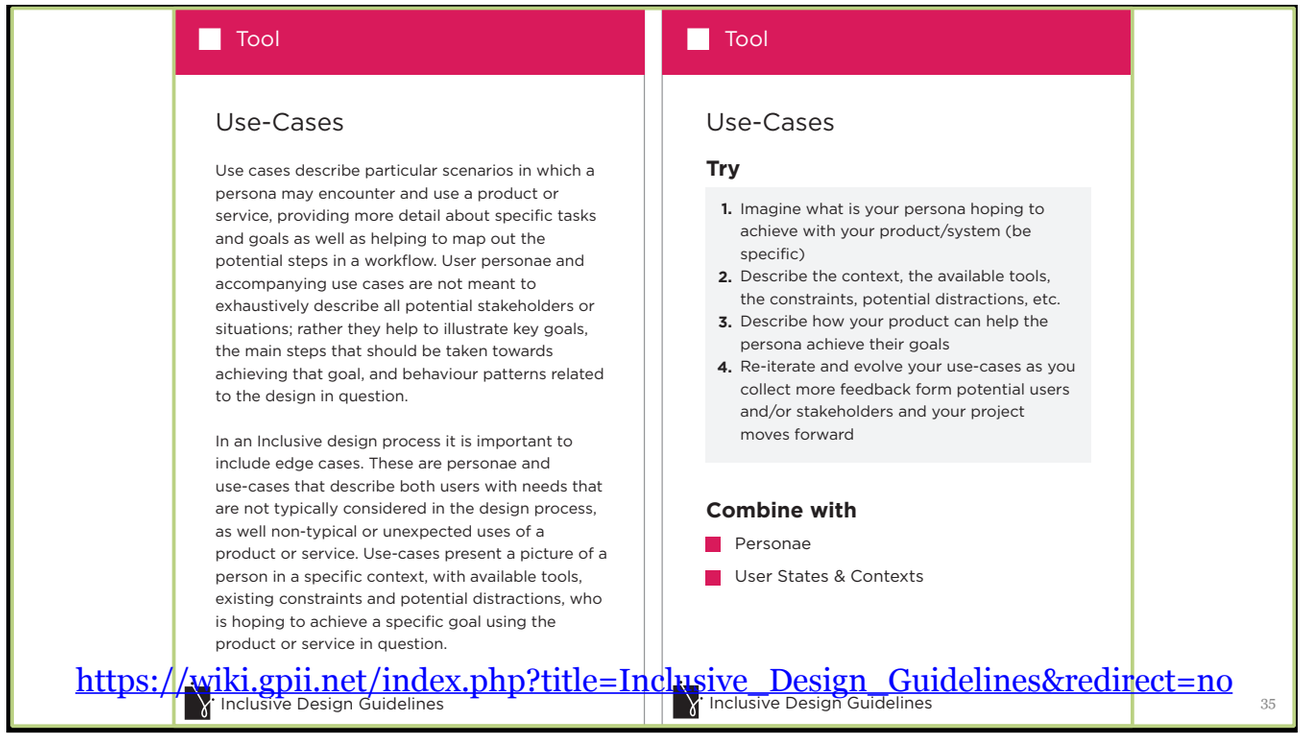

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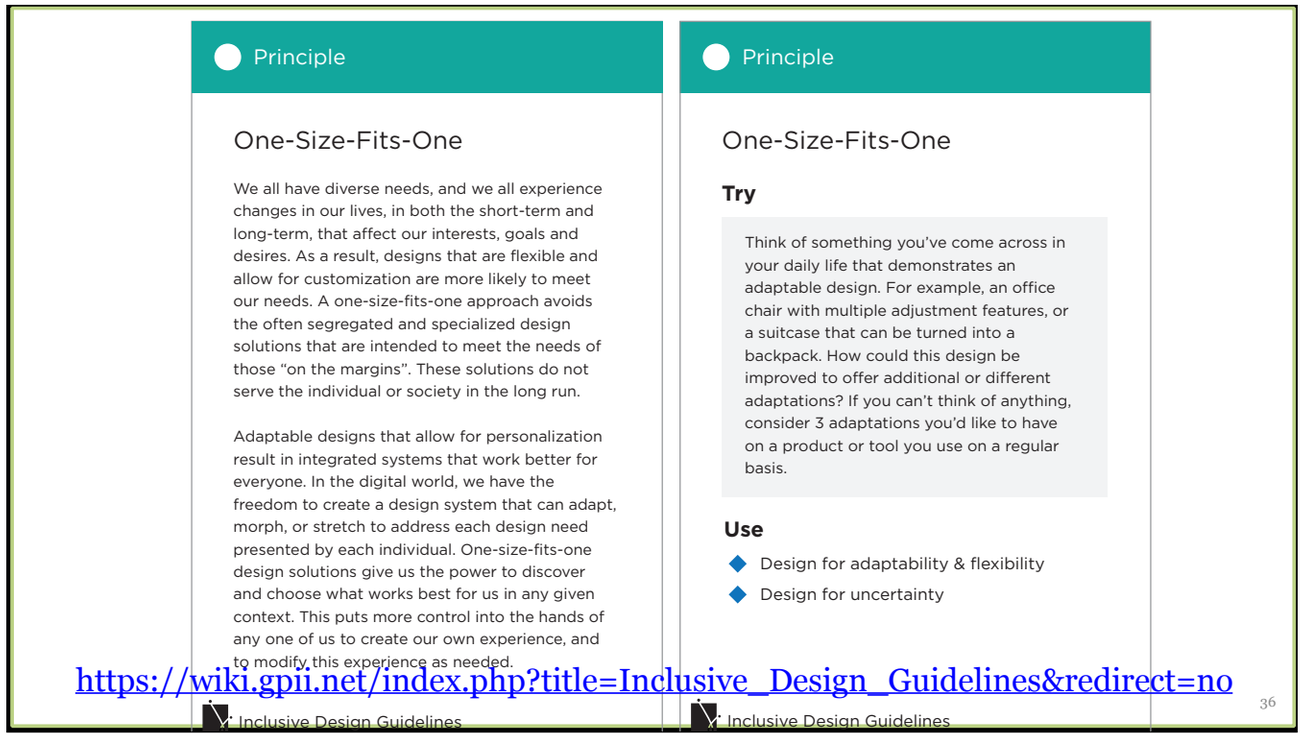

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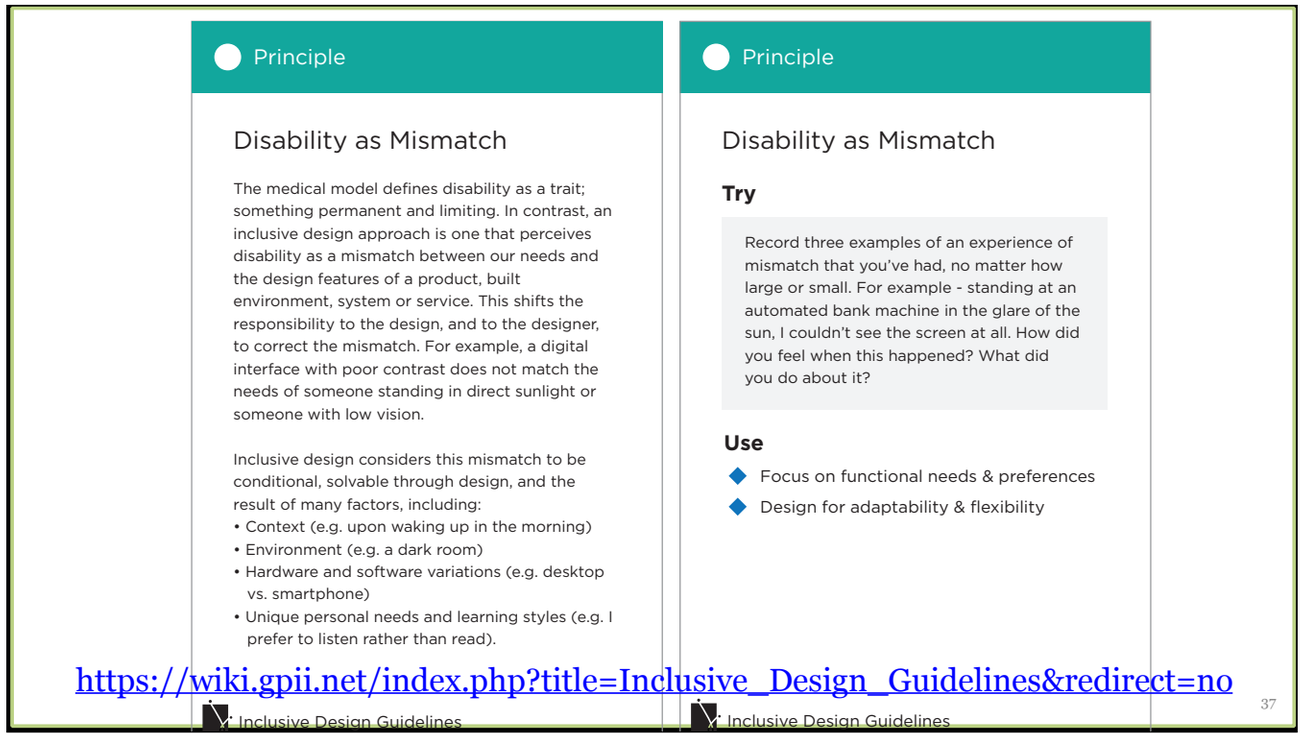

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THE MAGIC AT THE MARGINS

benefits the majority

supports the spectrum

instead of 80/20, solve for the hard ones, the 20% and your solution will cover the 80%

SHOW & TELL

http://floeproject.org (learner options and Chart authoring demos)

http://idrc.ocadu.ca/index.php/resources/idrc-online/library-of-papers/443-whatisinclusivedesign

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THANK YOU

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inclusive design
research centre

inclusive design
INSTITUTE

PHOTO CREDITS

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