

Inclusive Design

Thinking beyond accessibility

#NERDSummit



Mike Miles

Genuine (wearegenuine.com)

Dev(up); (developingup.com)

All the internet places: mikemiles86



We all have one thing in common

**We want to make a positive impact on as many
people as possible**

Inclusive Design is...

Planning considerations to ensure that a product, service and/or environment is usable by everyone to the greatest extent possible.

Based on Universal Design



Ronald L. Mace

Founded and pushed the idea of universal design in the architecture and design of public spaces. Lowering barriers to make those spaces as usable by as many people as possible.



Slewyn Goldsmith



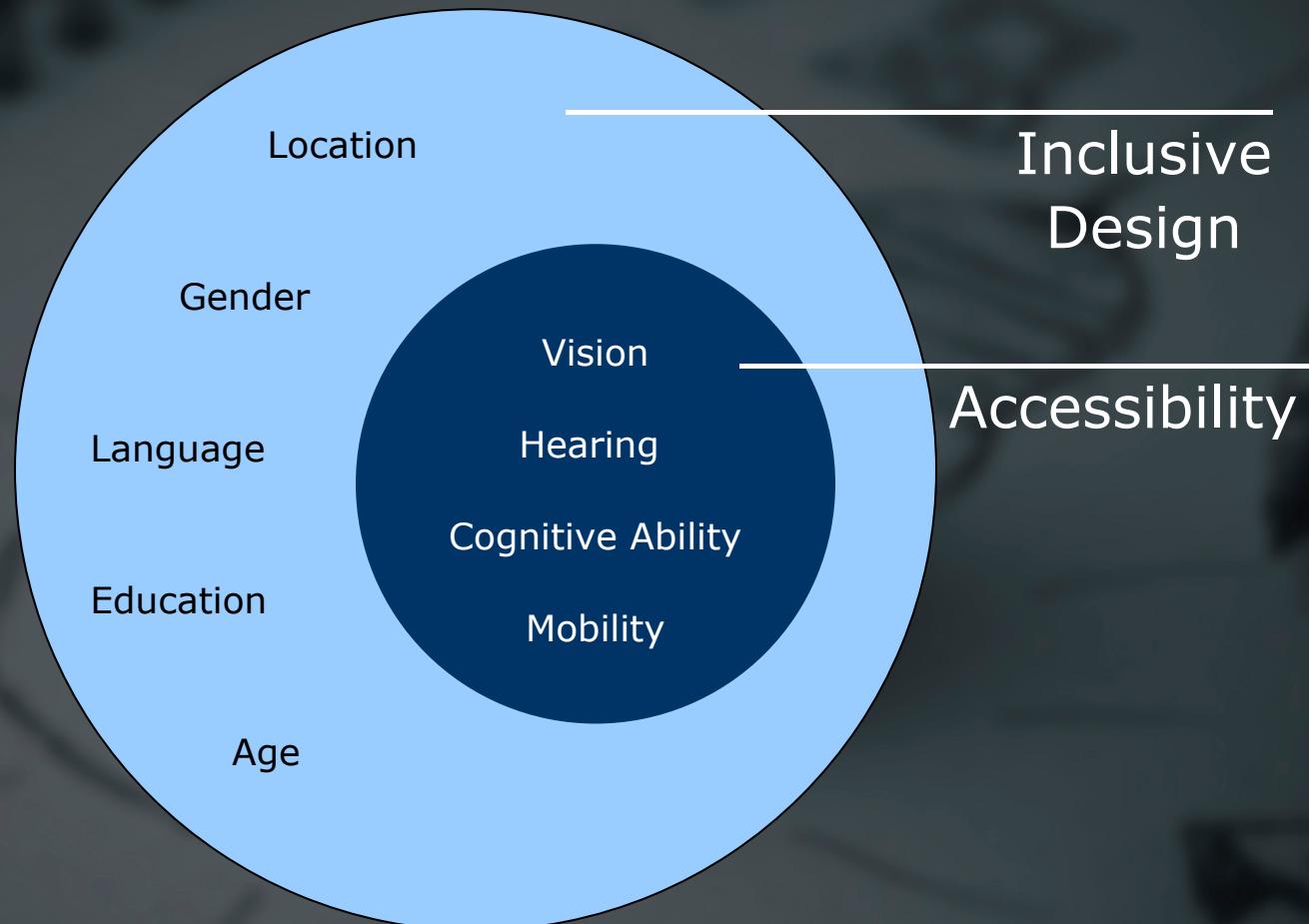
Patricia Moore



The sloped curb is a result of barrier free/universal design. It helps those with accessibility issues, but also beyond. Parents with strollers, delivery people, even people distracted by a text on their cellphone.

Thinking beyond accessibility

Inclusive Design encompasses accessibility issues, as well as, the wider range of human differences.





10 Principles of Inclusive Design

- 1. Be Equitable
- 2. Be Flexible
- 3. Be Straightforward
- 4. Be Perceptible
- 5. Be Informative
- 6. Be Preventative
- 7. Be Tolerant
- 8. Be Effortless
- 9. Be Accomodating
- 10. Be Consistent

© 05/2011 Sandi Wassmer

bit.ly>IDXPrinciples

Four Pillars of Inclusive Design

- I. No user is average
- II. Every user deserves equal access
- III. Provide understandable content for every user
- IV. Every user deserves our trust and respect

©CC4.0 09/2016 Mike Miles



I. No user is average



In 1952 the Air force had a problem, their new jets were not performing well. The issue? The cockpit was designed for the "average" pilot, for someone who did not exist. It was not until they designed to accomidate the actual differences of pilots did performance improve.

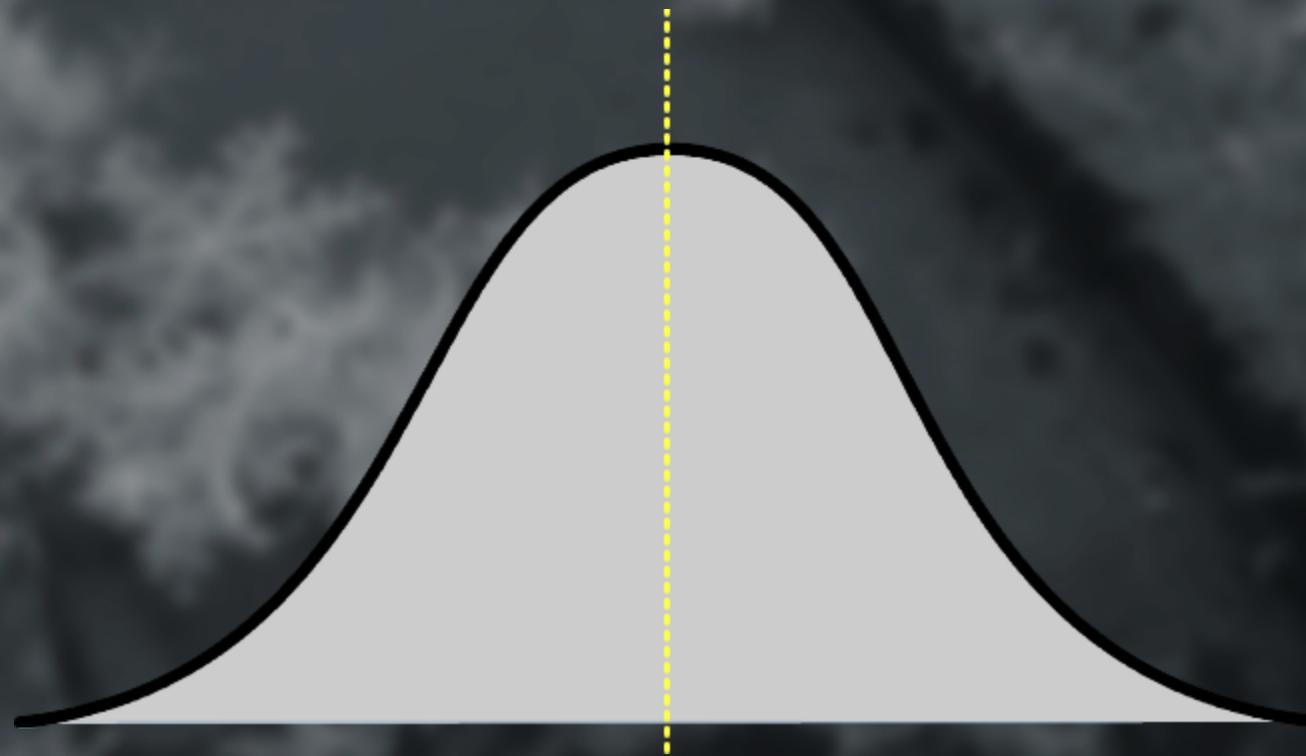
The Myth of Average

"If you design for the average, you are literally designing for nobody."

- *Todd Rose*

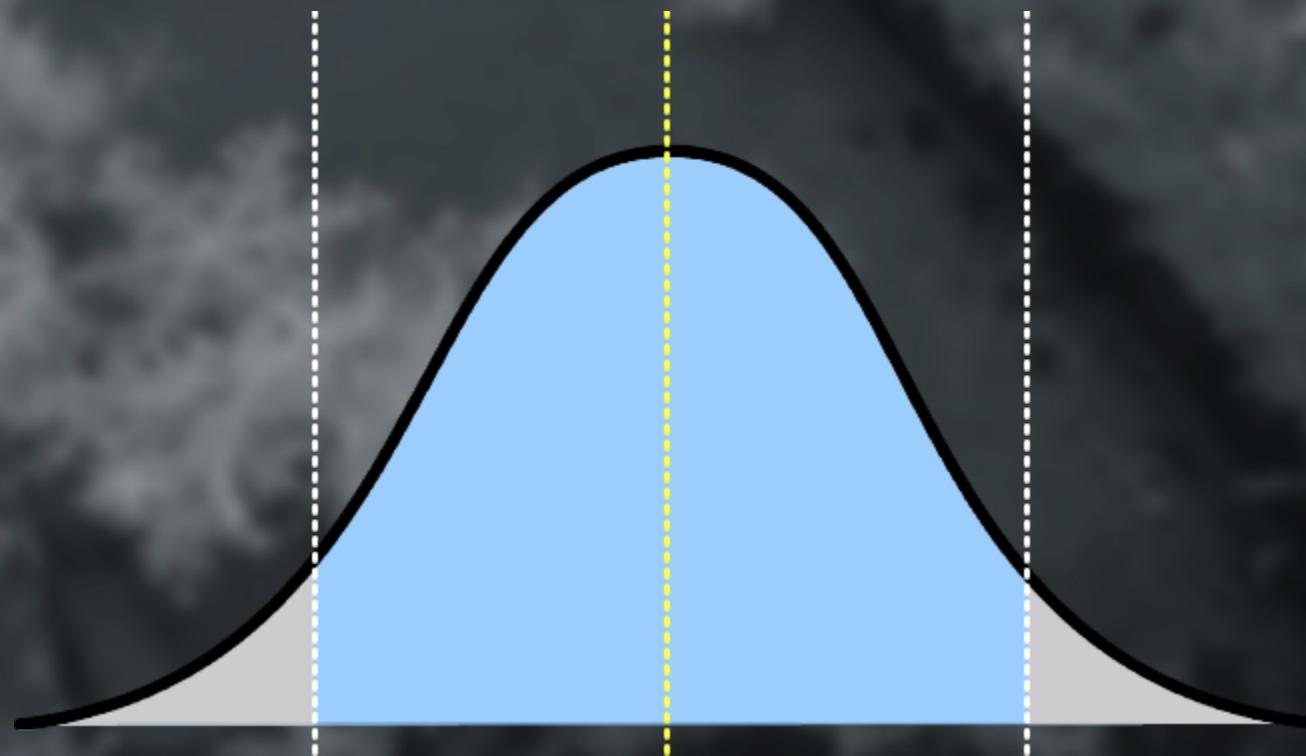
[bit.ly/IDXAvgMyth](http://bit.ly>IDXAvgMyth)

The average user does not exist



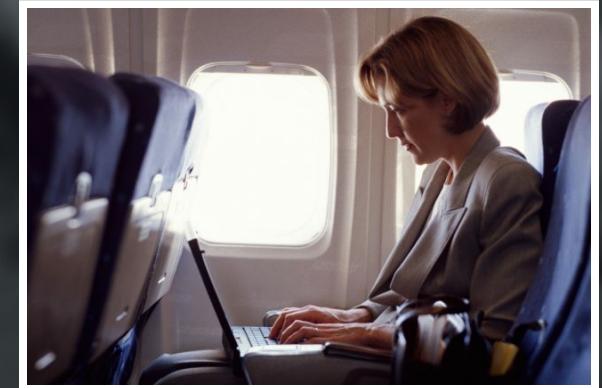
Building for the "average user" is the same as building for no user. Every user has a unique difference

Plan beyond the average user



Planning for unique users (outliers) and their differences, means capturing everyone in between.

Create personas with limitations



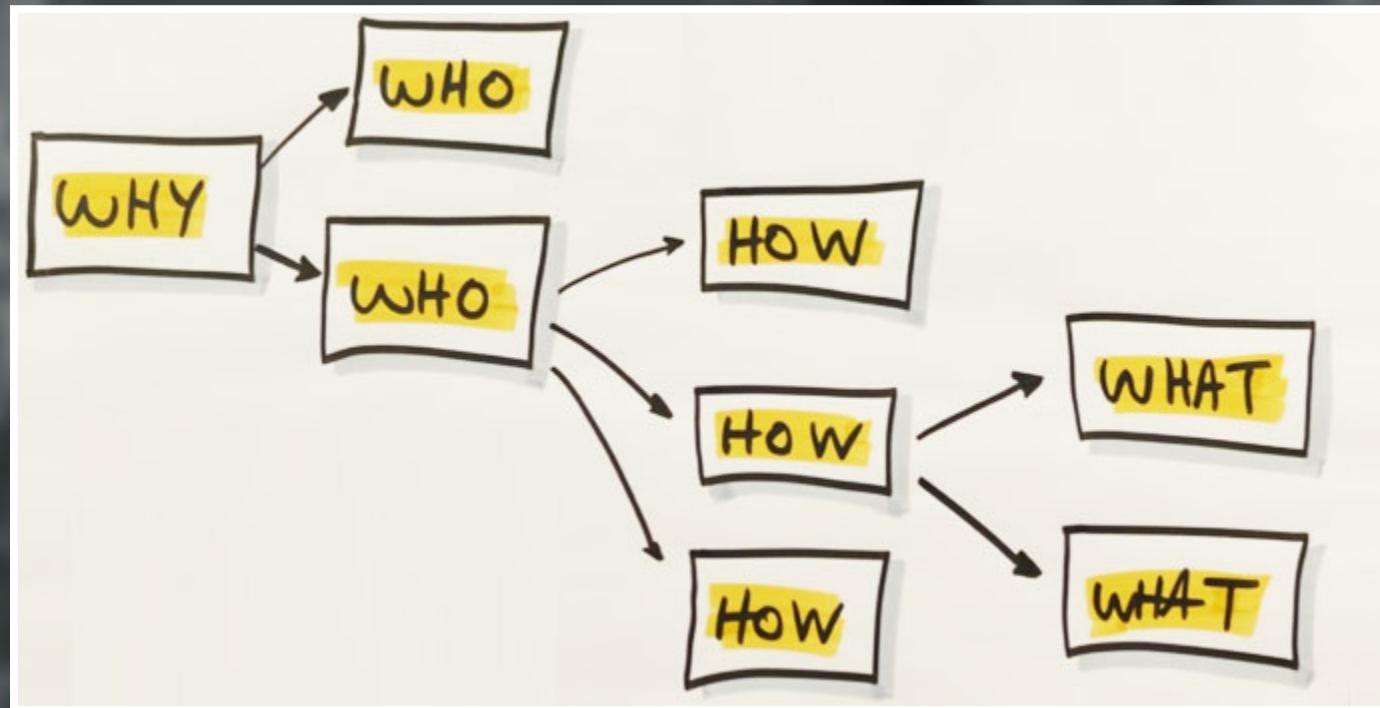
"Suffers from red-green colorblindness"

"Has a broken wrist due to a skiing accident"

"Does most work while traveling"

Map users based on behaviors

- Create an impact map of expected behaviors



© Dominic Krimmer www.dkrimmer.de

Plan out the journey you want users to have. Base it on the real behaviors they will take and how they can reach your intended endpoint.

II. Every user deserves equal access



45% of internet browsing is from desktop

desktop

mobile / other

Data Source: gs.statcounter.com/platform-market-share/desktop-mobile-tablet

Only a few years ago we were asking clients if they wanted a mobile site. Now we tell them they need a responsive site. The market changed. The same thing is happening for accessibility, we need to tell clients they have to plan this way.

Structure in a way that makes sense

- Use semantic markup, bit.ly/IDXSemBBC
- Use progressive design to deliver experience
- Prioritize what needs to be loaded

Gmail Images



Sign in

Google

 |

Google Search

I'm Feeling Lucky

Queen's Bohemian Rhapsody comes to VR on [Android](#) and [iOS](#)

Google does not care about how your website looks. They care about the markup and being able to read your content in the correct order. As do people with screen readers. If you plan for them, then you plan for better SEO

Average global internet speed: 6.3Mbps



Republic of Mali

0.5 Mbps

South Korea

26.3 Mbps

Data Source: www.fastmetrics.com/internet-connection-speed-by-country.php#top-10-comparison

If you just build for South Korea, people in Mali are going to have a poor experience. However, if you plan and build for people in Mali then everyone is going to have a positive experience.

Artificially limit yourself

- Use tools to throttle connection
- Disable JavaScript
- Can you navigate without a mouse?



III. Provide understandable content to every user

The screenshot shows the City of Boston website's homepage. At the top left is a red 'MENU' button. Next to it is the 'CITY of BOSTON' logo. In the center is the city seal. To the right are links for '311', 'EVENTS', 'TRANSACTIONS', 'FEEDBACK', a magnifying glass search icon, and a gear icon. Below the header is a large blue banner featuring a stylized 'B' logo.

SUNDAY, SEPTEMBER 25

STREET CLEANING No day-time street cleaning on Sundays. Overnight street cleaning is on a normal schedule.	BUILDING CLOSURES Some community centers are open and only the Central Library is open 1 p.m. - 5 p.m. All other municipal buildings are closed.	TRASH AND RECYCLING There is no residential trash and recycling pickup on Sundays.	PARKING METERS Parking meters are free with no time limit on Sundays.	TOW LOTS The tow lot is closed today. Automated kiosks are available 24 hours a day, seven days a week for vehicle releases.
--	--	--	---	--

COMMON TRANSACTIONS

Pay a parking ticket	Report an issue on 311	Get a resident parking	Vote early in the
--------------------------------------	--	--	-----------------------------------

The new boston.gov website was redesigned and the content was reorganized with real users in mind.

"The website should act like a helpful human. This is one of the big differences between the old site and the new site... on the old site, it would feel like you were interacting with some sort of lawyer-robot that was speaking to you in government-speak"

Jascha Franklin-Hodge, the city's chief of information technology

Source: [The Boston Globe](#)

Be clear and direct

- Use simple phrasing and avoid jargon
- Pay attention to font, spacing, line length
- Be meaningful, tools to check readability

www.hemingwayapp.com

B I : : P H1 H2 H3

Hemingway App makes your writing bold and clear.

The app highlights long, complex sentences and common errors; if you see a yellow sentence, shorten or split it. If you see a red highlight, your sentence is so dense and complicated that your readers will get lost trying to follow its meandering, splitting logic — try editing this sentence to remove the red.

You can utilize a shorter word in place of a purple one. Mouse over it for hints.

Adverbs are helpfully shown in blue. Get rid of them and pick verbs with force instead.

Phrases in green have been marked to show passive voice.

You can format your text with the toolbar.

Paste in something you're working on and edit away. Or, click the Write button to compose something new.

Hemingway Editor

Write Edit Help

Readability

Grade 6 (Good)

Words: 130 More ▾

1 of 11 sentences is hard to read.

1 of 11 sentences is very hard to read.

1 phrase has a simpler alternative.

1 adverb. Remove it.

1 use of passive voice. Aim for 2 or fewer.

Tools like hemingwayapp.com can help you write clear, direct and meaningful content. A readability score of "Grade 6" means the content is engaging enough for advanced users, but clear and inviting enough for new users.

Inform and guide

- Display useful error messaging
- Plan a user's journey
- Provide contextual relations

The screenshot shows the City of Boston website's homepage. At the top, there is a red 'MENU' button, the 'CITY of BOSTON' logo, the city seal, and navigation links for '311', 'EVENTS', 'TRANSACTIONS', 'FEEDBACK', a search icon, and a gear icon. Below the header is a large blue banner featuring a stylized 'B' logo. The main content area has a dark background with a grid pattern. A horizontal line separates the header from the date 'SUNDAY, SEPTEMBER 25'. Below the date are five cards, each with an icon and text. The first card, 'STREET CLEANING', is highlighted with a red border. The other four cards are grouped together with a red border around them. The cards are: 'BUILDING CLOSURES', 'TRASH AND RECYCLING', 'PARKING METERS', and 'TOW LOTS'. Below this section is a large gray box containing the heading 'COMMON TRANSACTIONS' and four smaller cards with icons and text: 'Pay a parking ticket', 'Report an issue on 311', 'Get a resident parking', and 'Vote early in the'.

CITY of BOSTON

BOSTONIA
CONSTITUTA AD
1630

311 EVENTS TRANSACTIONS FEEDBACK

SUNDAY, SEPTEMBER 25

STREET CLEANING

No day-time street cleaning on Sundays. Overnight street cleaning is on a normal schedule.

BUILDING CLOSURES

Some community centers are open and only the Central Library is open 1 p.m. - 5 p.m. All other municipal buildings are closed.

TRASH AND RECYCLING

There is no residential trash and recycling pickup on Sundays.

PARKING METERS

Parking meters are free with no time limit on Sundays.

TOW LOTS

The tow lot is closed today. Automated kiosks are available 24 hours a day, seven days a week for vehicle releases.

COMMON TRANSACTIONS

Pay a parking ticket

Report an issue on 311

Get a resident parking

VOTE

The new boston.gov website feature contextually linked sections such as street cleaning and tow lots.



IV. Provide every user with trust and respect

Inclusive Design: Excluding no gender

"The easiest way to do inclusive design? Stop asking about gender!"

- *Sarah Leren*

bit.ly/IDXGender

 <https://www.drupal.org/user/471470/edit>

Personal information	First or given name	Last name or surname
Drupal	Michael	Miles
Work		

Country
United States

Save my location
Your location will be saved and may be shared.

Languages spoken

- None -
Abkhazian
Afar
Afrikaans

Select one or more languages you speak.

Gender

Prefer not to share
 male
 female
 transgender
 other

Bio

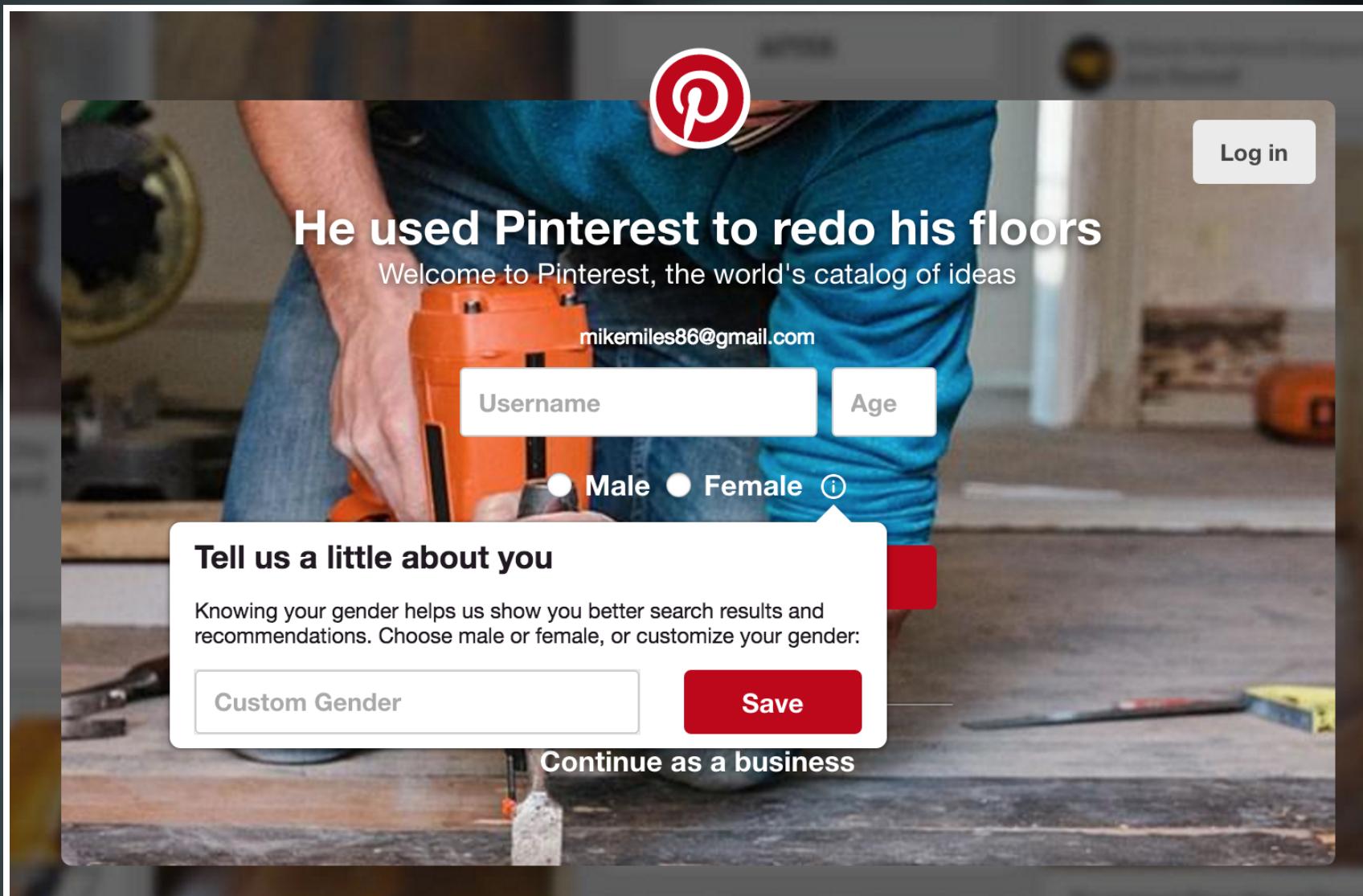
I am passionate about development and working with the latest open source technology. I have experience in an agency setting. I have been working with Drupal for the past 7 years in the community and project. I contribute to code sprints, IRC support and give sessions at conferences.

Acquia MVP 2014. Acquia Grand Master.

Drupal.org give users multiple options on how to identify their gender, or not select an option at all.

Collect only the information you need

- Ask "Why do we need this data?"
- Ask "What options can we give users?"
- Ask "Why should users give this to us?"



Pintrest not only gives users options, but also explains to the user why they collect gender information.

Be responsible with data

- Explain how the data is used
- Explain how the data is protected
- Give users control of their data

Four Pillars of Inclusive Design

- I. No user is average
- II. Every user deserves equal access
- III. Provide understandable content for every user
- IV. Every user deserves our trust and respect

If we agree to these four pillars when building our applications, then we have to think differently.

We make a positive impact on as many people as possible

And if we follow the four pillars, then we will reach a wider audience.

Resources

bit.ly/NERD17IDX

This presentation

bit.ly/IDXPrinciples

10 Principles of Inclusive Design

bit.ly/IDXSemBBC

BBC Semantic guidelines

bit.ly/NERD17IDXSlides

Presentation Slides

bit.ly/IDXAvgMyth

The Myth of Average

bit.ly/IDXGender

Inclusive Design: Excluding No Gender

Feedback

@mikemiles86

#NERDSummit

Thank You!

