

# Inclusive Design

[nedcamp.org/node/366](http://nedcamp.org/node/366)

NEDCamp 2016

#NEDCamp



# Mike Miles

Genuine ([wearegenuine.com](http://wearegenuine.com))

All the internet places: [mikemiles86](#)



The background is a dark, textured surface with a hand-drawn diagram. The diagram features a central circle with several arrows pointing outwards in different directions. There are also some faint, illegible handwritten notes or scribbles around the diagram.

**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



Slewyn Goldsmith



Patricia Moore

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*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.*

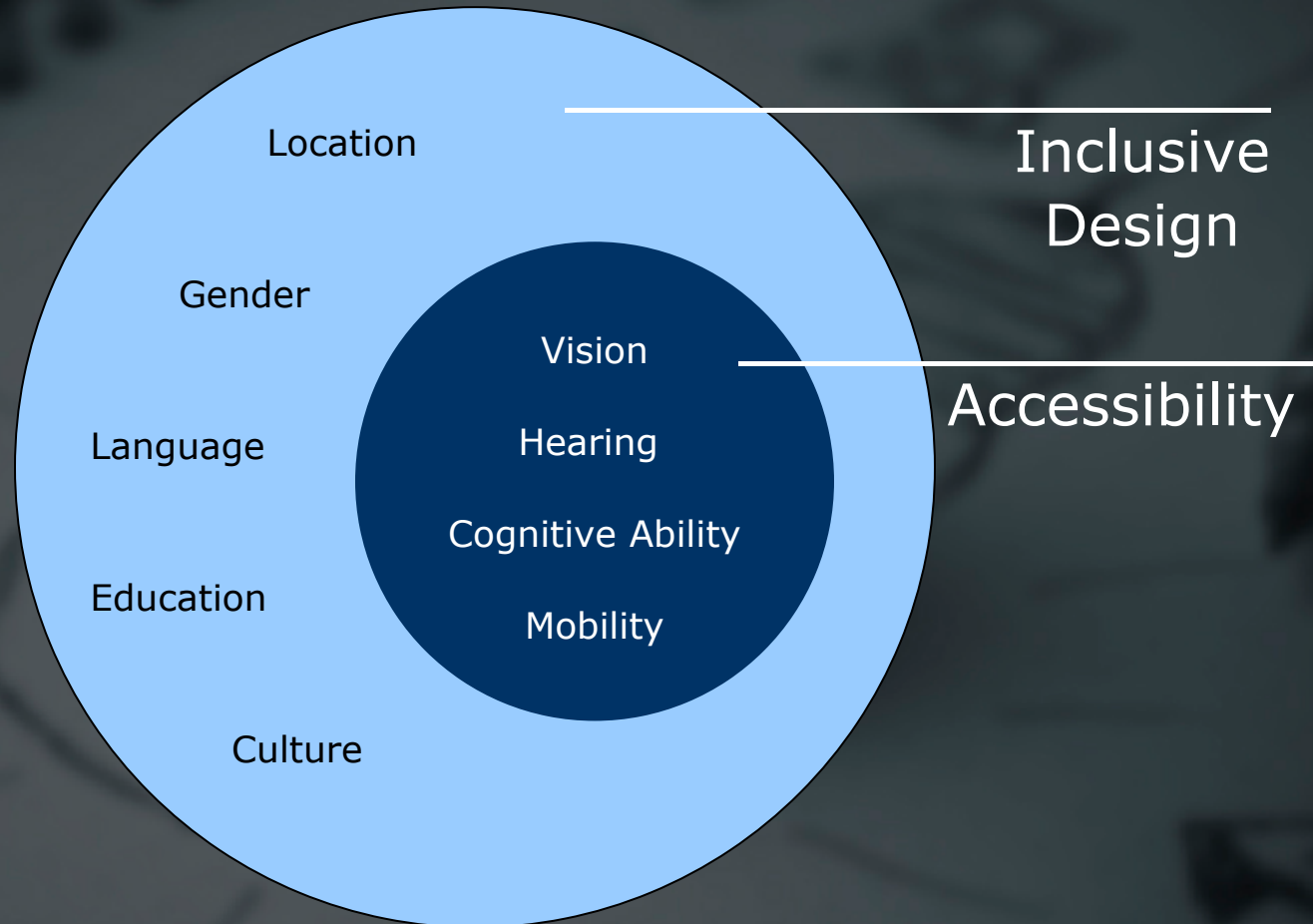




*The sloped curb is a result of barrier free/universal design. It helps those with accessibility issues, but also beyond. Parents with strollers, delivery people, even people distracted by a text on their cellphone.*

# 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 Straightfoward
4. Be Perceptible
5. Be Informative
6. Be Preventative
7. Be Tolerant
8. Be Effortless
9. Be Accomidating
10. Be Consistent

© 05/2011 *Sandi Wassmer*

[bit.ly/IDXPrinciples](http://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

© 09/2016 *Mike Miles*



A black and white photograph of a snowy, rocky landscape. The foreground and background are filled with snow-covered rocks and patches of dark, possibly wet, ground. A dark, horizontal band runs across the middle of the image, containing the text "I. No user is average" in white. The text is centered and appears to be a title or a key point.

**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.*



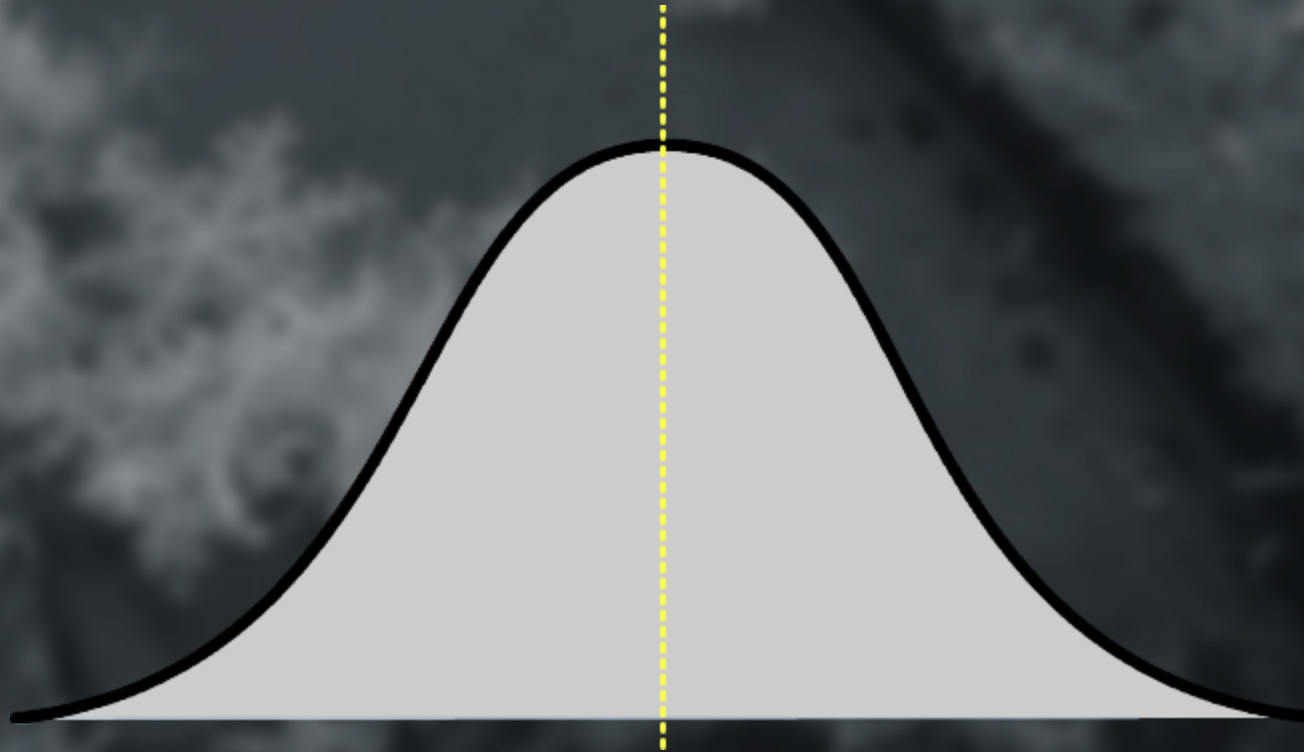
# The Myth of Average

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

- Todd Rose

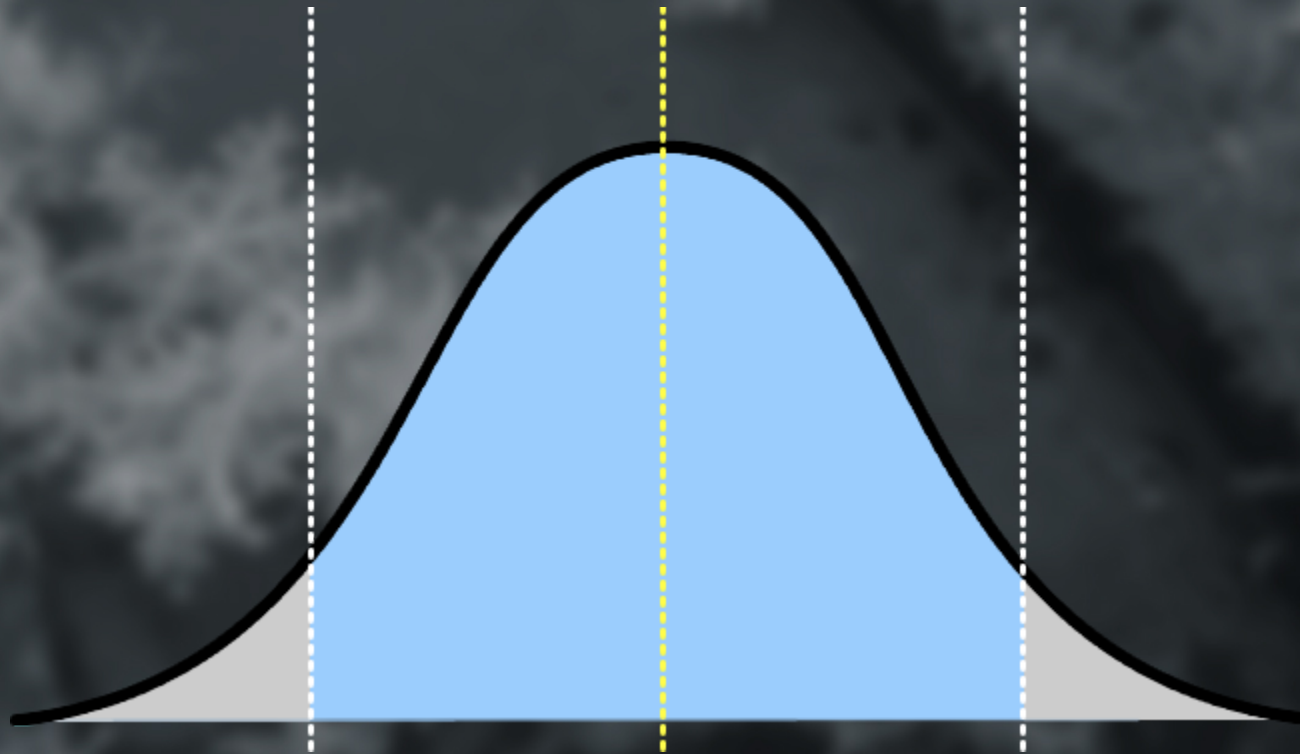
[bit.ly/IDXAvgMyth](http://bit.ly/IDXAvgMyth)

# 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

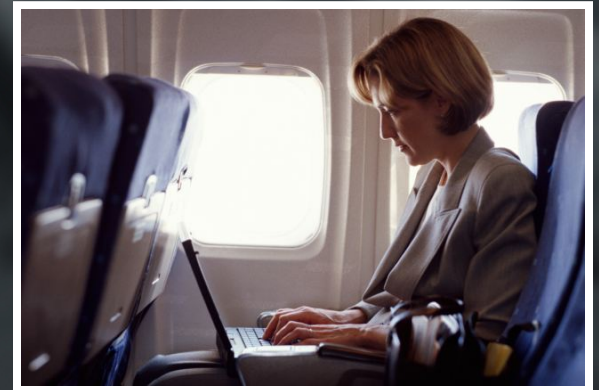


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"Suffers from red-green colorblindness"



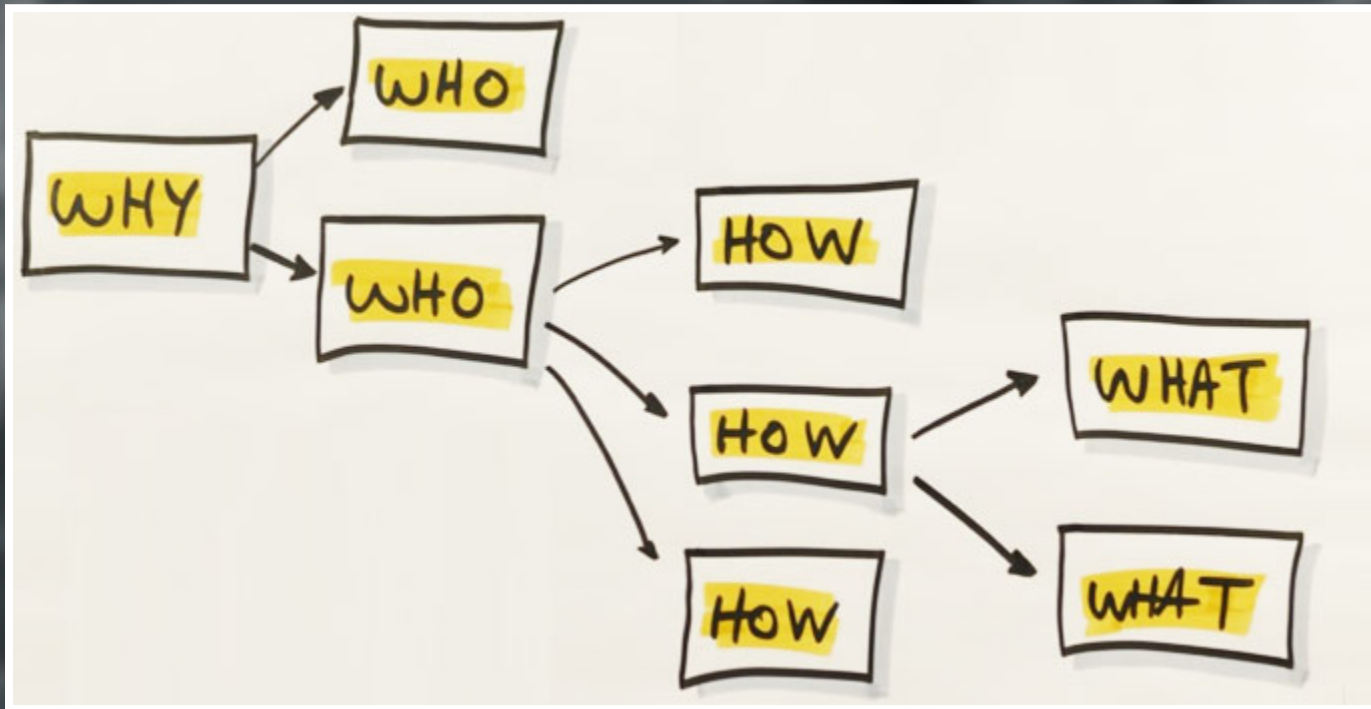
"Has a broken wrist due to a skiing accident"



"Does most work while traveling"

# Map users based on behaviors

- Create an impact map of expected behaviors



© Dominic Krimmer [www.dkrimmer.de](http://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.*



A black and white photograph showing a person's hands holding a smartphone. The person is sitting at a dark wooden table. In front of them is an issue of 'UPPERCASE MAGAZINE' which features a large stylized 'U' logo and a graphic of a fan or wing. To the right of the magazine is a white cup of coffee on a saucer with a spoon. The text 'II. Every user deserves equal access' is overlaid in white on a dark rectangular background across the middle of the image.

II. Every user deserves equal access

# 51% of US internet browsing is from mobile



Data Source: [www.slideshare.net/kleinerperkins/internet-trends-v1/14-14Internet\\_Usage\\_Engagement\\_Growth\\_Solid11](http://www.slideshare.net/kleinerperkins/internet-trends-v1/14-14Internet_Usage_Engagement_Growth_Solid11)

*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.*



# Average global internet speed: 5.6Mbps



Republic of Mali

0.5 Mbps



South Korea

26.7 Mbps

Data Source: [www.fastmetrics.com/internet-connection-speed-by-country.php](http://www.fastmetrics.com/internet-connection-speed-by-country.php)

*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.*

## Structure in a way that makes sense

- Use semantic markup, [bit.ly/IDXSemBBC](http://bit.ly/IDXSemBBC)
- Use progressive design to deliver experience
- Prioritize what needs to be loaded

Gmail Images



Sign in



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 readers your content in the correct order. As do people with screen readers. If you plan for them, then you plan for better SEO*

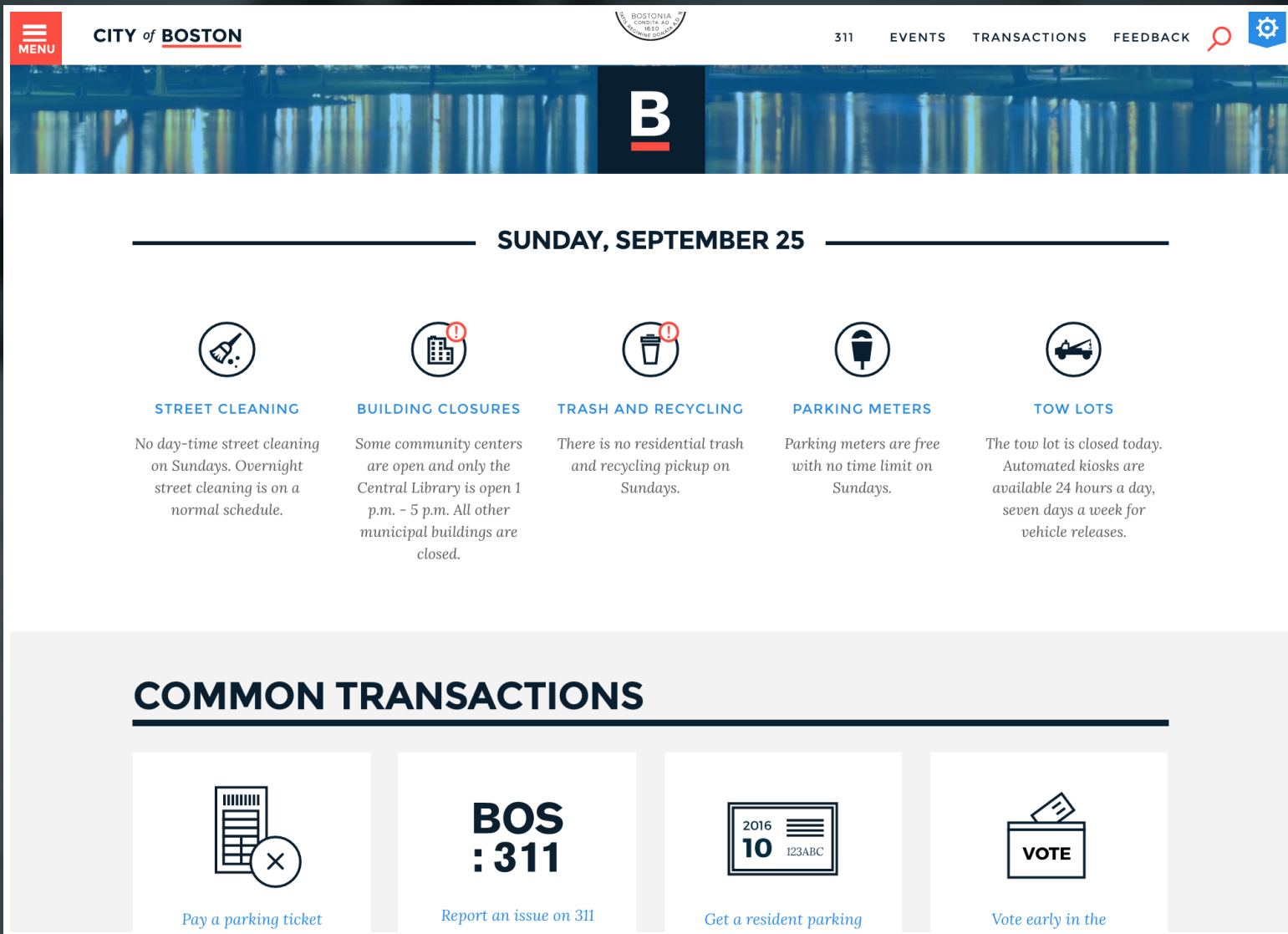


## Artificially limit yourself

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

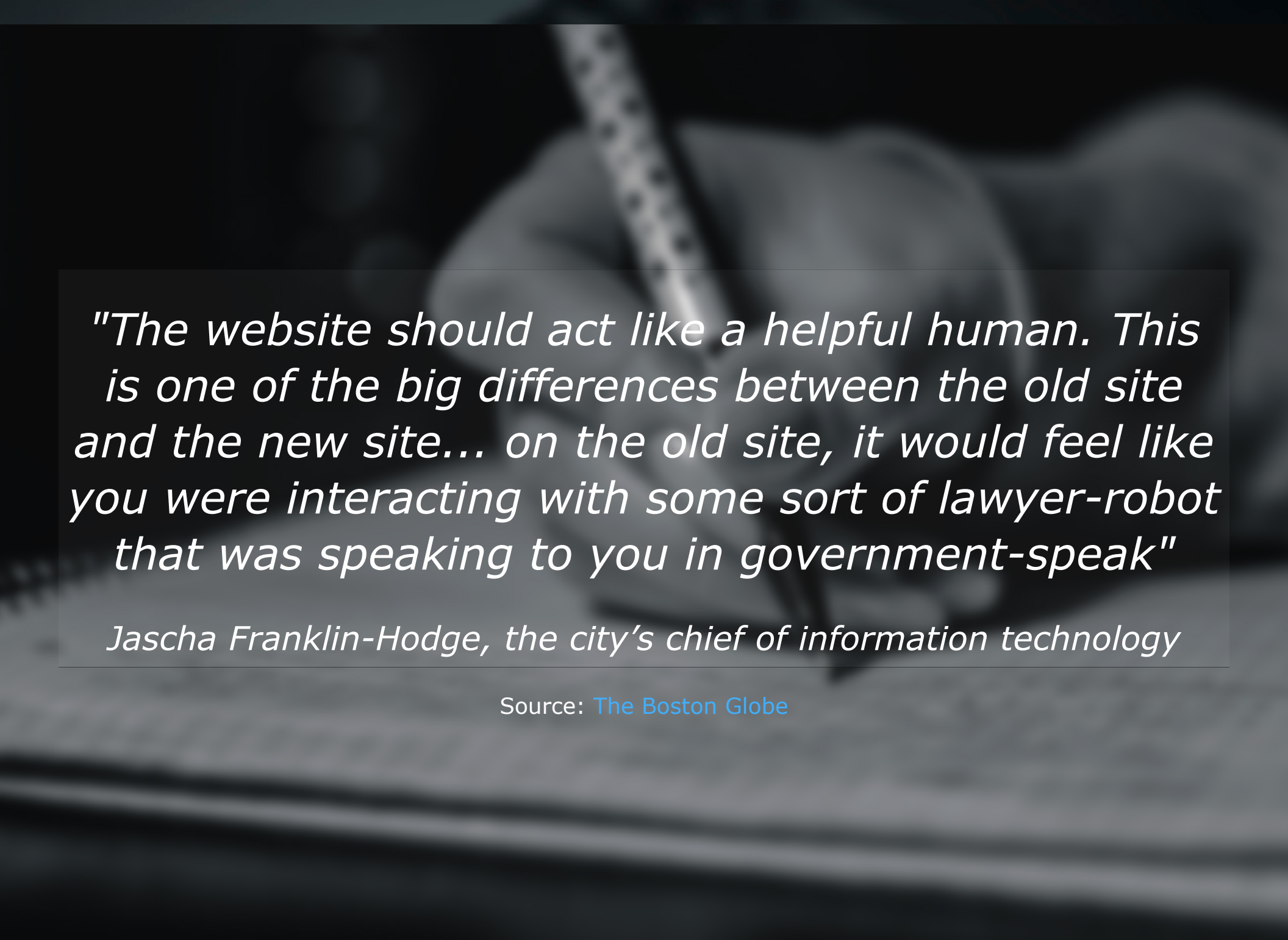
A black and white photograph of a hand holding a pen, writing on a notepad. The pen has a white body with black dots. The notepad has lined paper with some handwritten text. A dark rectangular box is overlaid on the image, containing the text 'III. Provide understandable content to every user' in white.

**III. Provide understandable content to every user**



*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](#)

A blurred, grayscale background image showing a hand holding a pen and writing on a notepad. The focus is on the text overlay.

## Be clear and direct

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











A grayscale, blurred background image showing a hand holding a pen and writing on a notepad. The text is overlaid on this image.

## Inform and guide

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

**CITY of BOSTON**


311EVENTSTRANSACTIONSFEEDBACK




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**SUNDAY, SEPTEMBER 25**


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**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.


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**COMMON TRANSACTIONS**


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Pay a parking ticket



Report an issue on 311




Get a resident parking



Vote early in the

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://bit.ly/IDXGender)

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

Personal information

Drupal

Work

First or given name

Michael

Last name or surname

Miles

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 experience in an agency setting. I have been working with Drupal for the past 7 years community and project. I contribute to code sprints, IRC support and give sessions at

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?"





Log in

# He used Pinterest to redo his floors

Welcome to Pinterest, the world's catalog of ideas

mikemiles86@gmail.com

Username

Age

☐ Male ☐ Female ⓘ

## Tell us a little about you

Knowing your gender helps us show you better search results and recommendations. Choose male or female, or customize your gender:

Custom Gender

Save

Continue as a business

*Pinterest 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 copy 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.*



A dark, textured background featuring a faint, hand-drawn sketch of a person's head and shoulders. The sketch is centered and rendered in a light gray tone. Several arrows are drawn around the head, pointing outwards in various directions, suggesting a wide reach or impact. The overall aesthetic is that of a conceptual drawing or a lightbulb idea.

# **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/IDXNed16](https://bit.ly/IDXNed16)

*This presentation*

[bit.ly/IDXNed16Slides](https://bit.ly/IDXNed16Slides)

*Presentation Slides*

[bit.ly/IDXPrinciples](https://bit.ly/IDXPrinciples)

*10 Principles of Inclusive Design*

[bit.ly/IDXAvgMyth](https://bit.ly/IDXAvgMyth)

*The Myth of Average*

[bit.ly/IDXSemBBC](https://bit.ly/IDXSemBBC)

*BBC Semantic guidelines*

[bit.ly/IDXGender](https://bit.ly/IDXGender)

*Inclusive Design: Excluding No Gender*

The background is a dark, grayscale image of a spiral-bound notebook. On the page, there is a hand-drawn sketch of a lightbulb in the center. Several arrows are drawn around the lightbulb, pointing outwards in different directions. The notebook's spiral binding is visible on the left side.

# Feedback

@mikemiles86

#NEDcamp





I have a podcast!

[developingup.com](https://developingup.com)

[@devuppodcast](https://twitter.com/devuppodcast)

*Explores the non-technical sides of being a developer.*

# Thank You!