

# The Future of Web Accessibility Research: Surveys, User Testing, and Beyond

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WebAIM  
web accessibility in mind



We need more and better data  
(preferably from user testing)

# WCAG 2.0

“Web Content Accessibility Guidelines (WCAG) 2.0 defines how to make Web content more accessible to people with disabilities.”

- WCAG 2.0 Introduction

How many user-based studies are  
cited in WCAG 2.0?

ZERO

8 user-based studies cited in WCAG  
supporting materials

2 are currently available

Average publication date: 1994

1994



W3C typically does not reference research that is not sound... or that is behind a paywall

Are our web accessibility “requirements” for user accessibility based on user research?

User research is happening...

... but it typically fits into one of two categories:

1. User testing that lacks the rigor for formal publication.
2. User research that is published exclusively in academic journals - typically behind paywalls.

The web accessibility field has minimal access to these

# A Color Model in the Usability of Computer Interface Applied to Users with Low Vision

Cíntia Costa Kulpa, Fábio Gonçalves Teixeira, Régio Pierre da Silva

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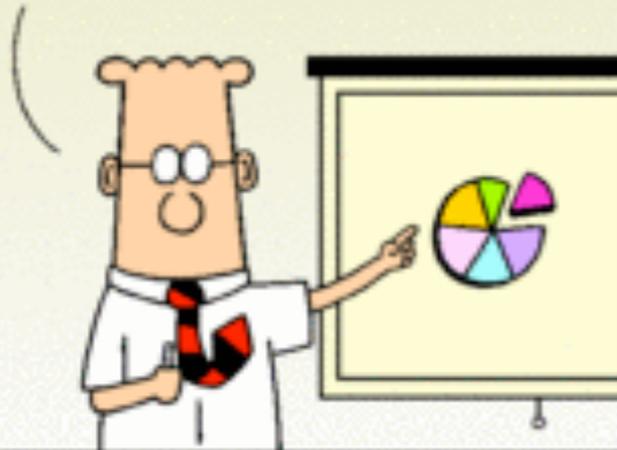
# WebAIM Surveys

- Screen Reader Users - January 2009, October 2009, December 2010, May 2012, January 2014, and June 2015
  - New screen reader user survey soon
- Users w/ Low Vision - March 2013
- Users w/ Motor Disabilities - March 2013
- Web Accessibility Practitioners - July 2014

# Disclaimers

- Samples are not controlled
- Is data representative? Representative of whom?
- Surveys do not explore highly technical topics

I DIDN'T HAVE ANYTHING USEFUL TO SAY SO I MADE THIS PIE CHART.



www.dilbert.com scottadams@aol.com

OOOH!

OOOH!

IT MUST BE TRUE BECAUSE IT'S PIE.



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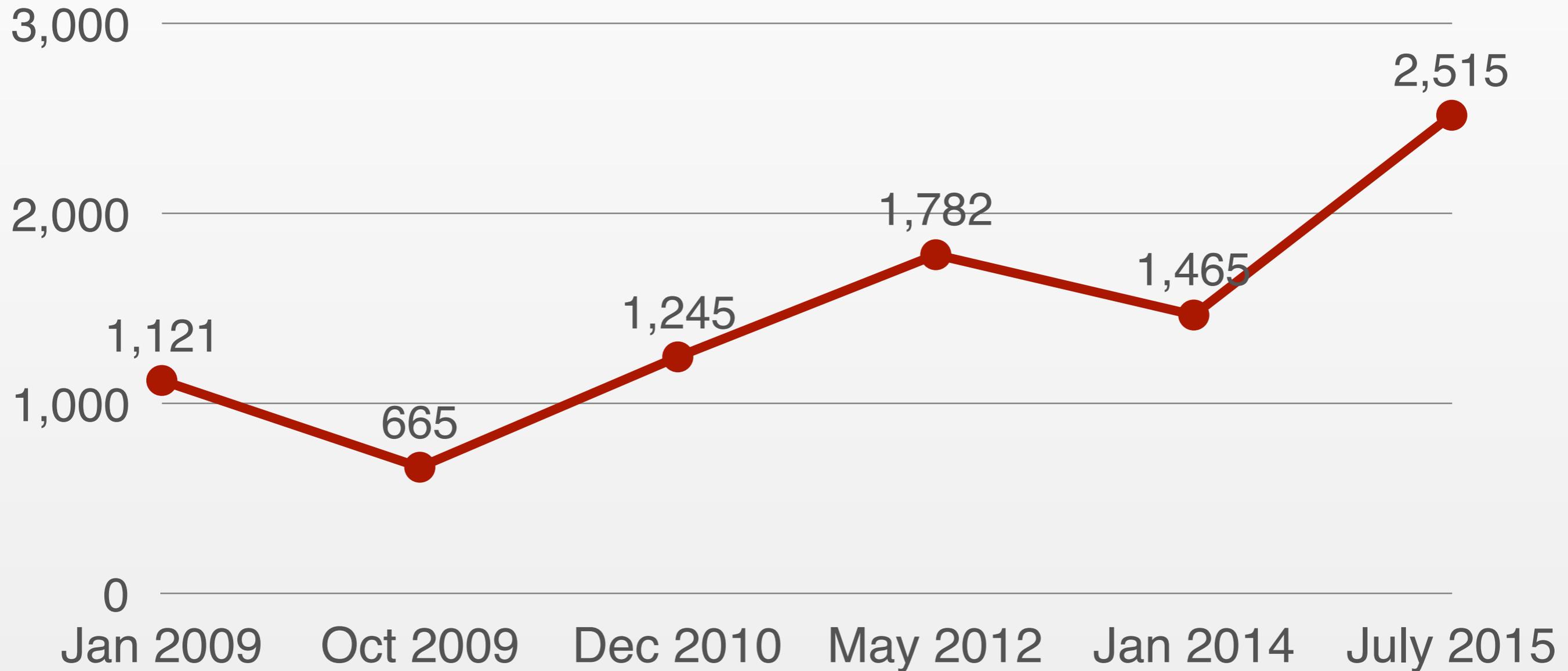
THAT WORKED TOO WELL.

I PLEDGE MY LIFE AND MY FORTUNE TO THE PIE!

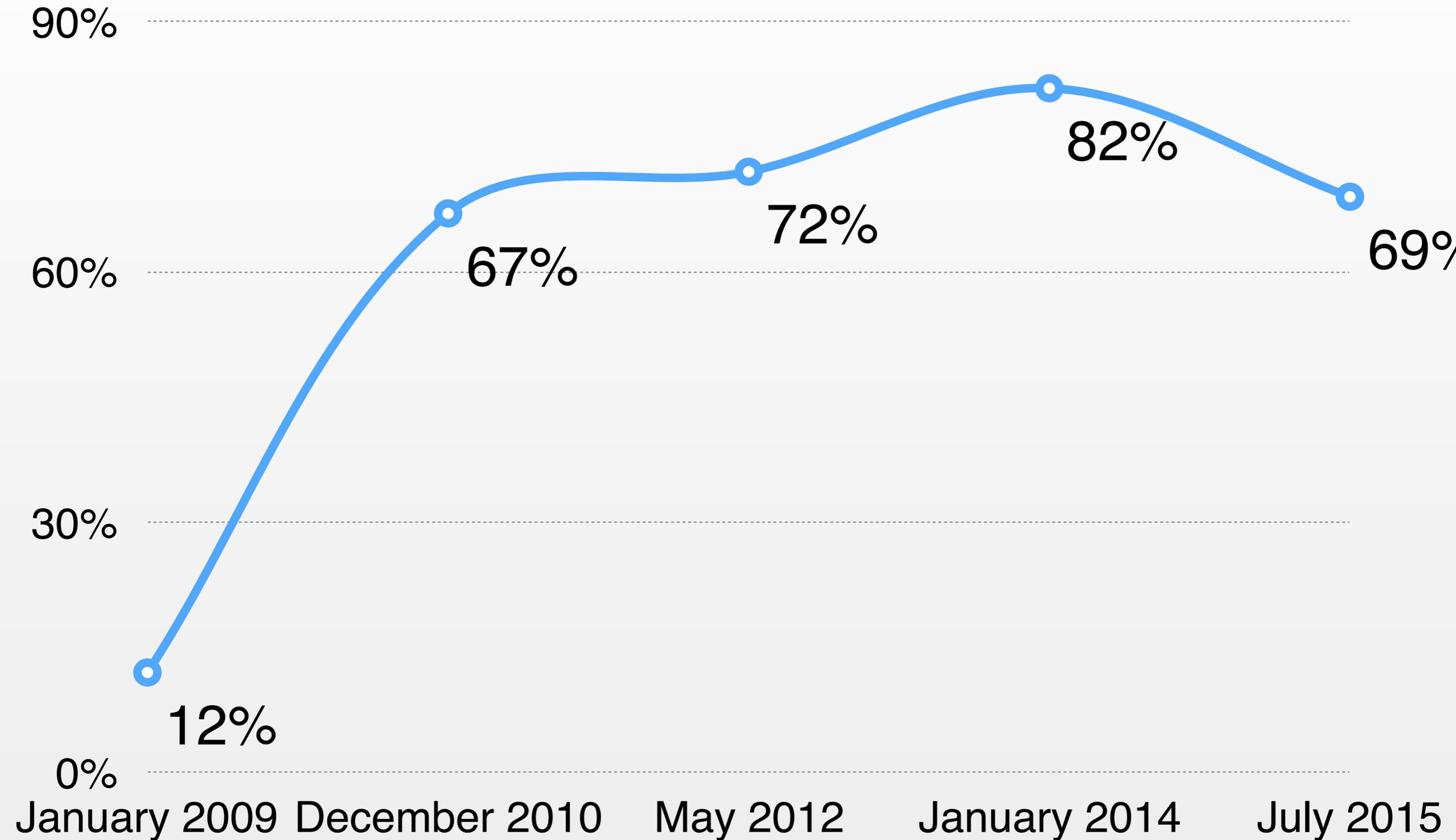


# Screen Reader User Surveys

## Number of Respondents

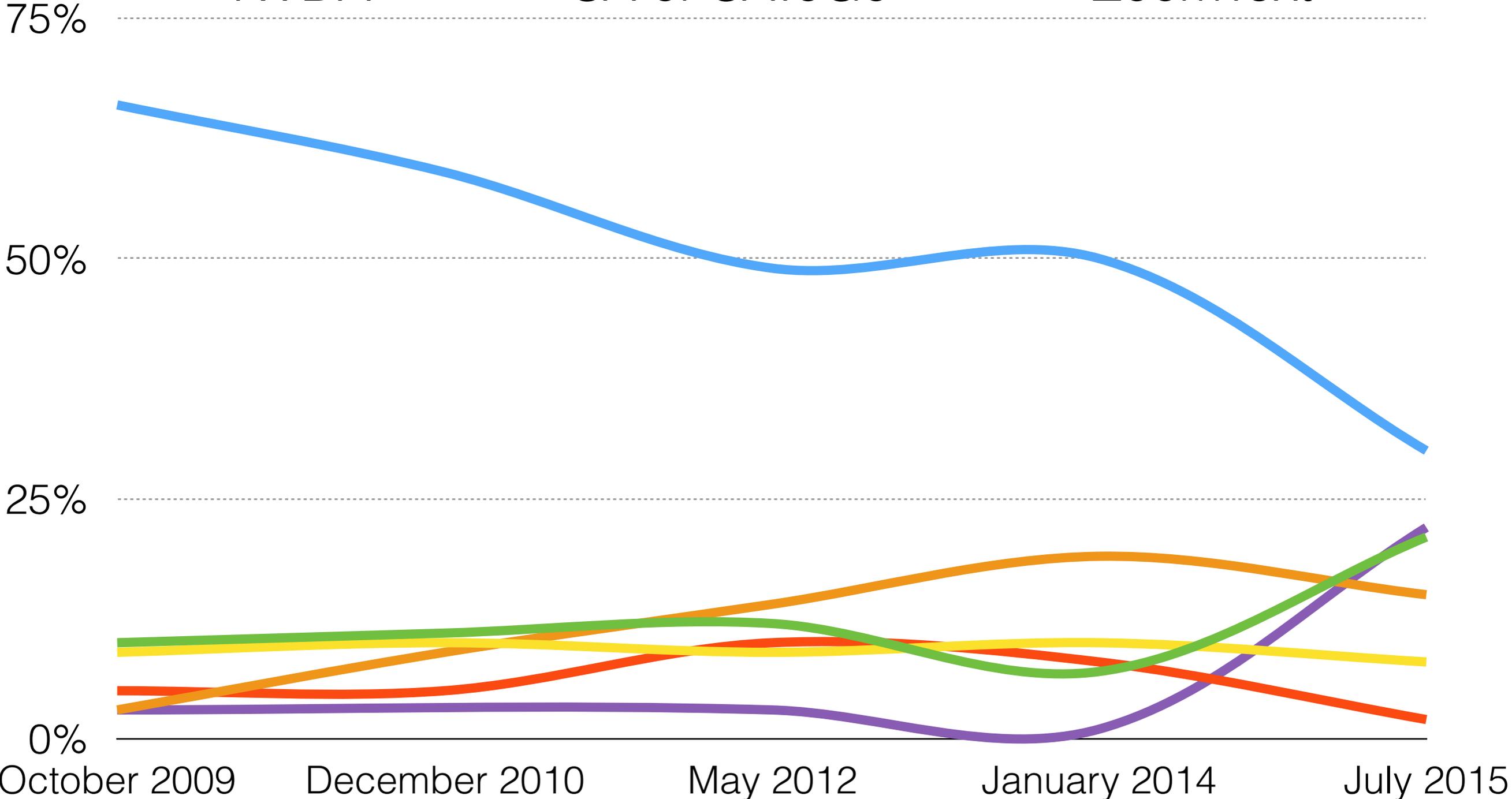


# Mobile Screen Reader Usage



# Primary Screen Reader

- JAWS
- NVDA
- Window-Eyes
- SA or SAToGo
- VoiceOver
- ZoomText





**“My face when I see ZoomText the #2 Screen reader in the WebAIM survey” -  
@KarlGroves**

“But that doesn’t match my experience!”

“I don’t know a single user who...”

# CAUTION!!!

Are the users that web accessibility experts interact with “typical”?

Are those with disabilities working in the web accessibility field “typical”?

Much, much more in the survey results articles

<http://webaim.org/projects/>

We must be careful with preferential  
user research data due to  
**introspection illusion**

Think of a movie

Any movie

You have thousands of movies to choose from, but just pick one

Got it?

Why did you pick THAT movie?

Of the thousands of movies you could have chosen, what made you pick that one?

Did you even consider other  
movies?

Which ones?



The Wizard of Oz is a great movie, did you consider it?

Why or why not?



What about The Godfather?

How many movies did you even  
consider?

Why did you consider so few?

So... you probably think that you know why you chose that one particular movie out of the small set of options you considered.

...but you probably don't know for sure how you came up with those few limited options out of the entire pool of thousands of movies that you could have considered.

It just happened!

It wasn't until AFTER I prompted you to think about why certain movies were considered (or not considered) that you created the justifications for thinking (or not thinking) of them.

And that's

**introspection illusion**

Asking  
**“Why did I do  
or think that?”**  
is introspection.

Our **subconscious** mind  
makes innumerable decisions  
that we don't even consider...  
until we think **consciously**  
about them.

And as soon as we become aware of our unawareness, we make stuff up to explain those decisions... usually without even realizing it.

When we think about a past decision, we often can no longer accurately convey why we actually made that decision.

And when we think about current decisions, we often make different decisions than we would have if we had not consciously considered our options.



Why am I  
watching cat videos?



Your subconscious mind makes  
free-will decisions 1/2 to  
several seconds before your  
conscious mind is aware it has  
done so.

Someone monitoring an MRI  
would have known that you  
had picked your movie before  
you were aware that you had.

Asking users what they want or prefer is a poor way of learning what they actually want or prefer.

Asking users why they did something forces them to consciously explain their subconscious decisions with explanations that may not have been present in their actual decision making process.

This effect is amplified when actions are being monitored or evaluated.





graze

hello, Lee

your recurring deliveries (1)

**variety box**  
whisked for this week of delicious treats  
from our Natural Delicacies line. Not your  
average box.

**try the new SHARING BOX**  
if sharing bags of snacks doesn't do it, try  
more of your favorites.

have you found the right graze box for you?

our favourites

**sharing box**  
it's designed to be shared, so you can  
share it with your friends.

**variety box**  
a variety of delicious treats  
whisked in the perfect graze box for  
you.

**breakfast box**  
a variety of delicious breakfast  
treats designed to give you the energy  
you need to start your day.

**recovery box**  
a variety of delicious snacks  
designed to help you recover from  
work.



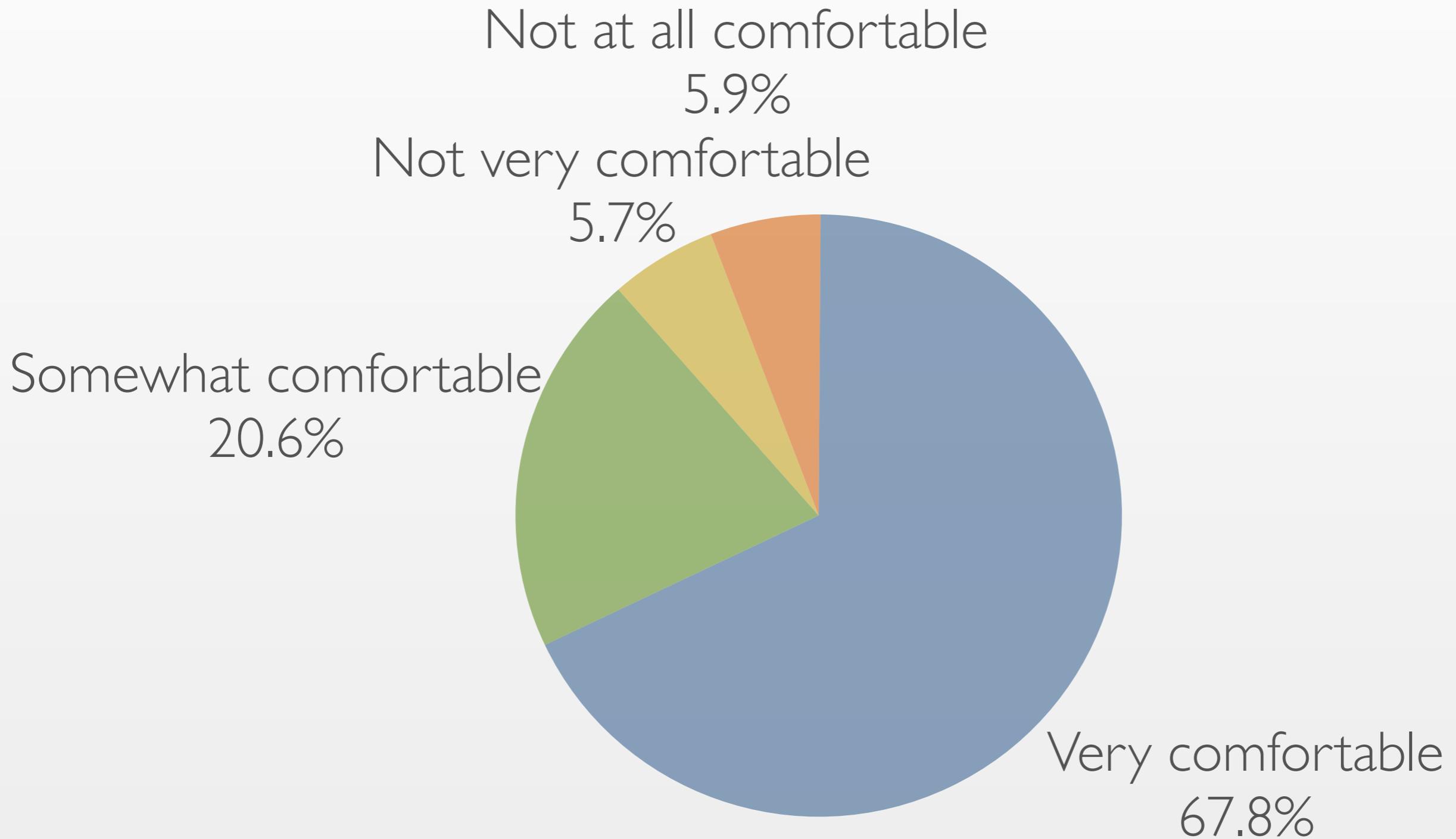
# Introspection Illusion

The best method of getting user experience data is to collect it without them knowing it.

# Introspection Illusion

... but that's difficult  
...and sometimes unethical.

How comfortable would you be with allowing web sites to detect whether you are using a screen reader if doing so resulted in a more accessible experience?



“The worst way to design a website is to get five smart people in a room drinking lattes and posting post-it notes.

The next worst way is to get 10 customers in a room drinking lattes and giving their opinions on the new design. That model is really, truly broken.”

- Gerry McGovern

*It's Not What People Say, It's What They Do*



If I had asked people  
what they wanted,  
they would have said  
faster horses.

Henry Ford  
1920



If I had asked people  
what they wanted,  
they would have said  
faster horses.

~~Henry Ford~~  
~~1920~~



If I had asked people  
what they wanted,  
they would have said  
faster horses.

Some kid on the Internet  
circa 2002



Which of the following (A or B)  
is more visually distinctive and  
readable to you?

**A**

The quick  
brown fox  
jumps over  
the lazy dog.

**B**

The quick  
brown fox  
jumps over  
the lazy dog.

**A**

The quick  
brown fox  
jumps over  
the lazy dog.

**B**

The quick  
brown fox  
jumps over  
the lazy dog.

# A

The quick  
brown fox  
jumps over  
the lazy dog.

The quick  
brown fox  
jumps over  
the lazy dog.

# B

The quick  
brown fox  
jumps over  
the lazy dog.

The quick  
brown fox  
jumps over  
the lazy dog.

# FAIL

The quick  
brown fox  
jumps over  
the lazy dog.

The quick  
brown fox  
jumps over  
the lazy dog.

# PASS

The quick  
brown fox  
jumps over  
the lazy dog.

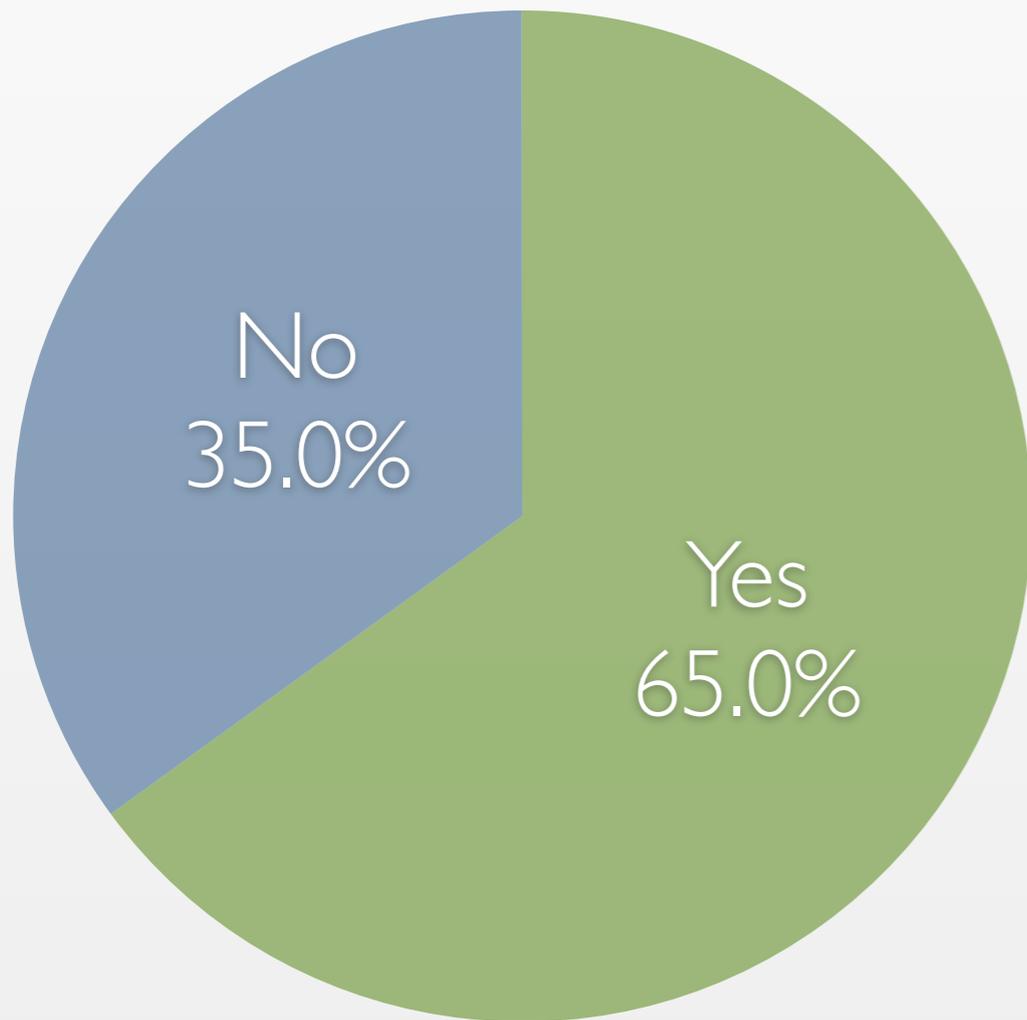
The quick  
brown fox  
jumps over  
the lazy dog.

Be careful of **familiarity bias**

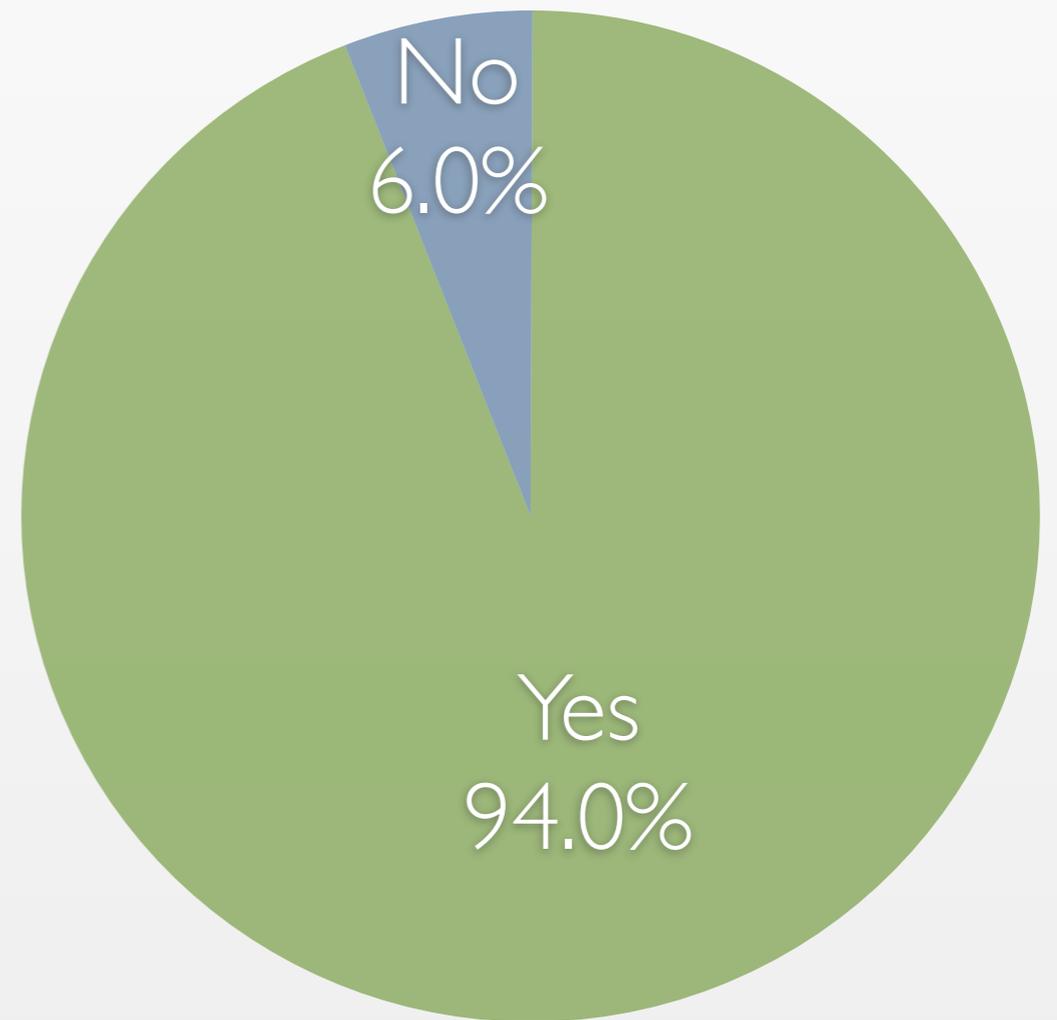


**“My face when I see ZoomText the #2 Screen reader in the WebAIM survey” - @KarlGroves**

Do you see free or low-cost screen readers (such as NVDA or VoiceOver) as currently being viable alternatives to commercial screen readers?



JAWS Users



VoiceOver and NVDA Users

We must be careful with  
data we have because  
**things change**

“This is an ill-compounded mixture of romance and matter-of-fact. The idea of a connected and collected story has obviously visited and abandoned its writer again and again in the course of composition. The style of his tale is in places disfigured by mad (rather than bad) English; and its catastrophe is hastily, weakly, and obscurely managed... We have little more to say in reprobation or in recommendation of this absurd book.”

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- Popular review of “Moby Dick”  
October 25, 1851

DO NOT CLEAR YOUR THROAT

What if there is no such thing as a  
sighted, keyboard-only user?

We must be careful due to the  
**scarcity heuristic**







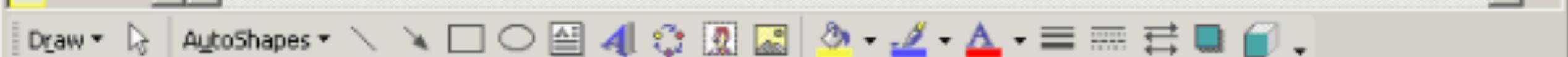
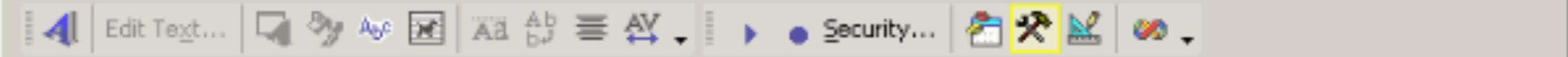


We must be careful due to  
**loss aversion**

<http://webaim.org/blog/loss-aversion-and-web-accessibility/>

# Loss Aversion





Be careful of **false inferences**

Don't do accessibility testing with users with disabilities.

Do user testing and include  
people with disabilities

Steve Krug



**DON'T  
MAKE  
ME  
THINK**

*revisited*

A Common Sense Approach to Web <sup>and Mobile</sup> Usability

We need more and better data  
(preferably from user testing)

We need to share more

We need to stop reinventing the wheel

We need to understand the limitations of  
web accessibility research and surveys

... yet make more decisions based on good research and consider the fallibility of our opinions, experience, or preconceptions

Therefore what???

# Questions?

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WebAIM

web accessibility in mind

