


In Their Own Words



I'm **Helena**, and I'm a front-end
developer at Lullabot!

I specialize in making the web awesome for everybody.



Strategy // Design // Development



We're an interactive **strategy**, **design**, and **development** company.

We create delightful experiences using Drupal and open
source technologies.

What is Web Accessibility?



USERS WHO BENEFIT

Web Accessibility Helps Everyone

Visually Impaired

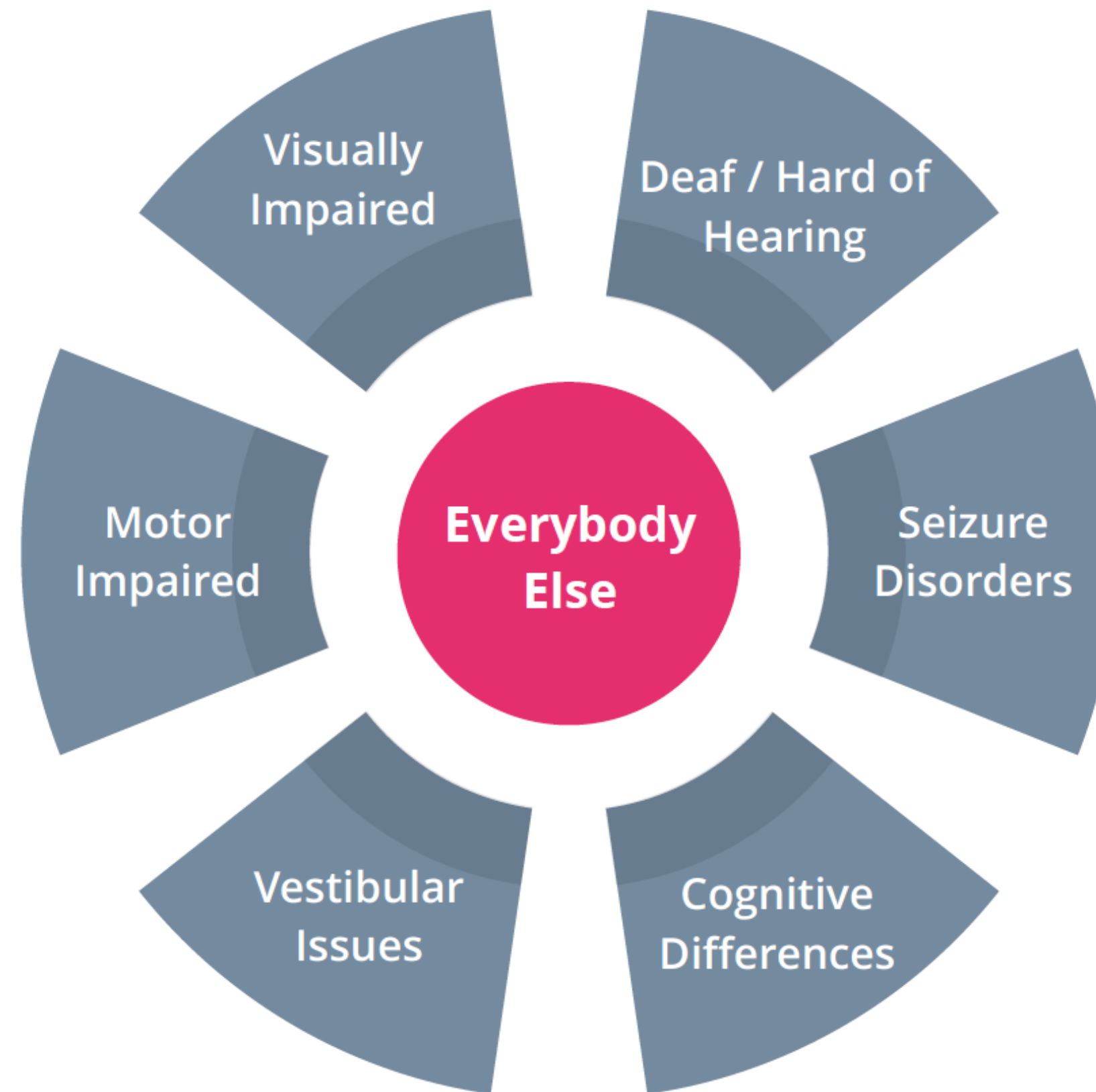
Visually impaired users may have trouble distinguishing between colors, viewing content without enough contrast, or may not be able to see at all.

Motor Impaired

Motor impaired users may have trouble with dexterity or movement. This may make using the fine motor skills required for using a mouse difficult or impossible.

Vestibular Issues

Individuals with vestibular issues can feel sick from content with special effects that trigger motion sickness.



Deaf / Hard of Hearing

Deaf and hard of hearing users may have trouble understanding audio content if there is not an appropriate alternative transcript or captioning.

Seizure Disorders

Users who are prone to seizures can be triggered into an attack by flashing effects.

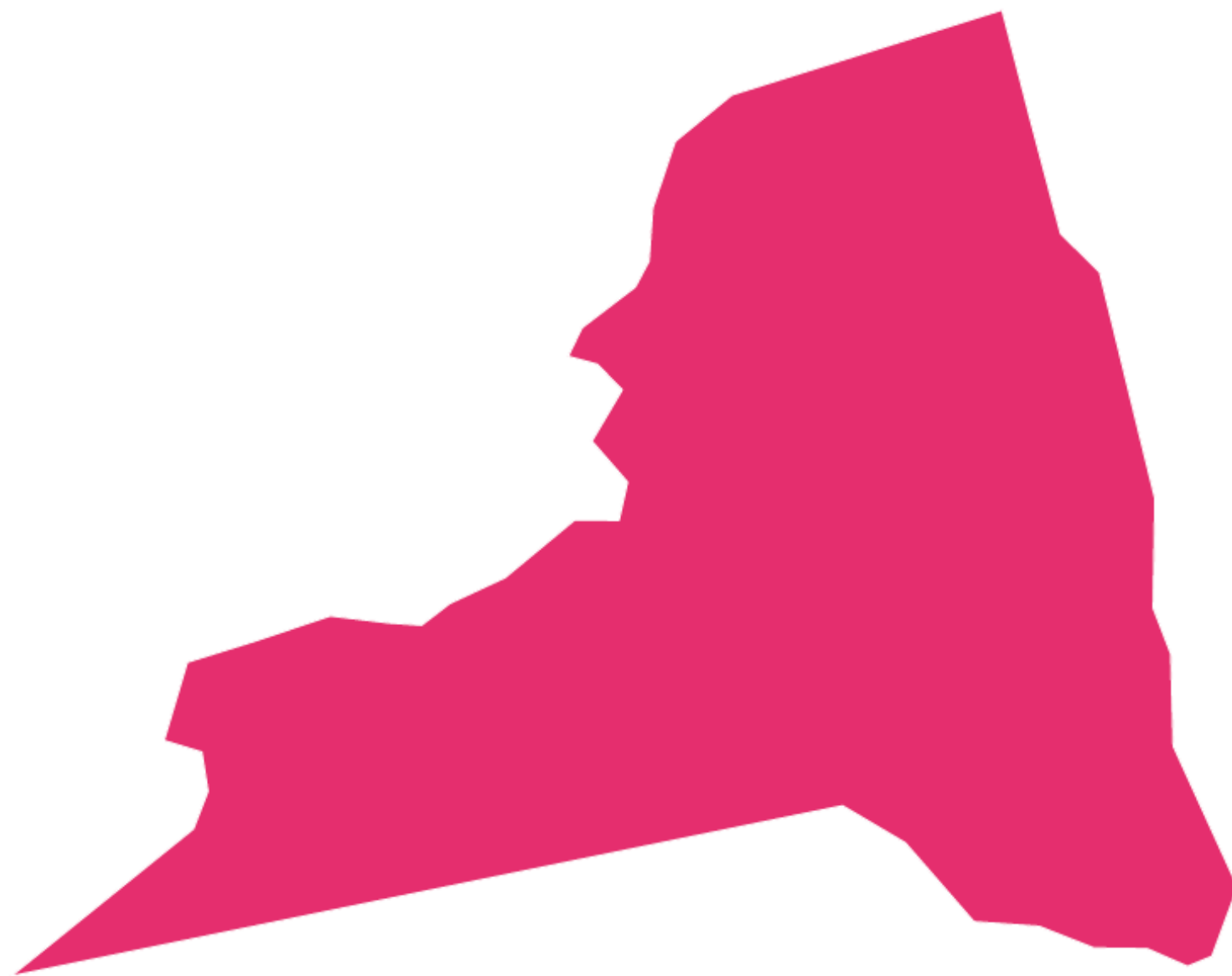
Cognitive Differences

Users with cognitive differences might need more time to ingest material. Allowing users to explore content at their own pace is best.

THE 'EDGE CASE' MYTH

Did you know...?

There are 18.55 million more severely disabled people in the United States than there are **people living in the entire state of New York.**



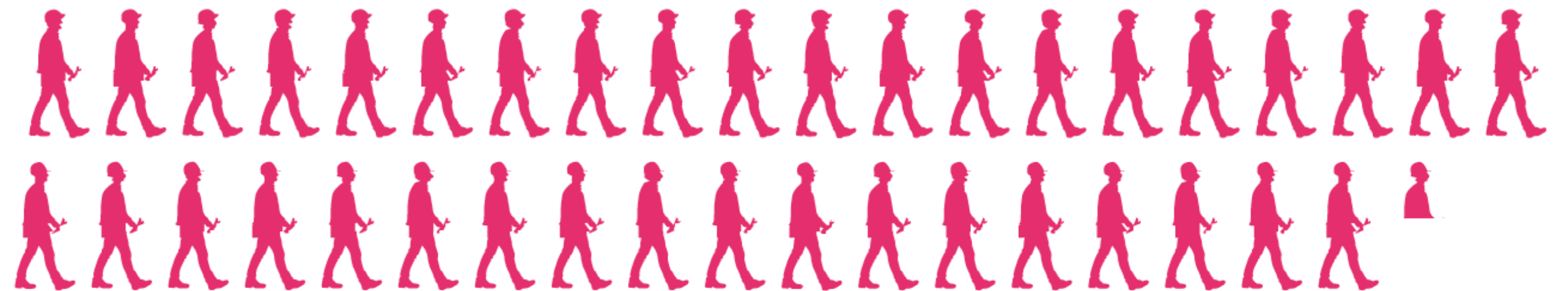
19.8m

People Living in the State of New York (illustrated by million)



38.3m

Severely Disabled People in the US (illustrated by million)



THE 'EDGE CASE' MYTH

Did you know...?

There are more than twice as many people with disabilities in the US as **the entire population of Australia.**

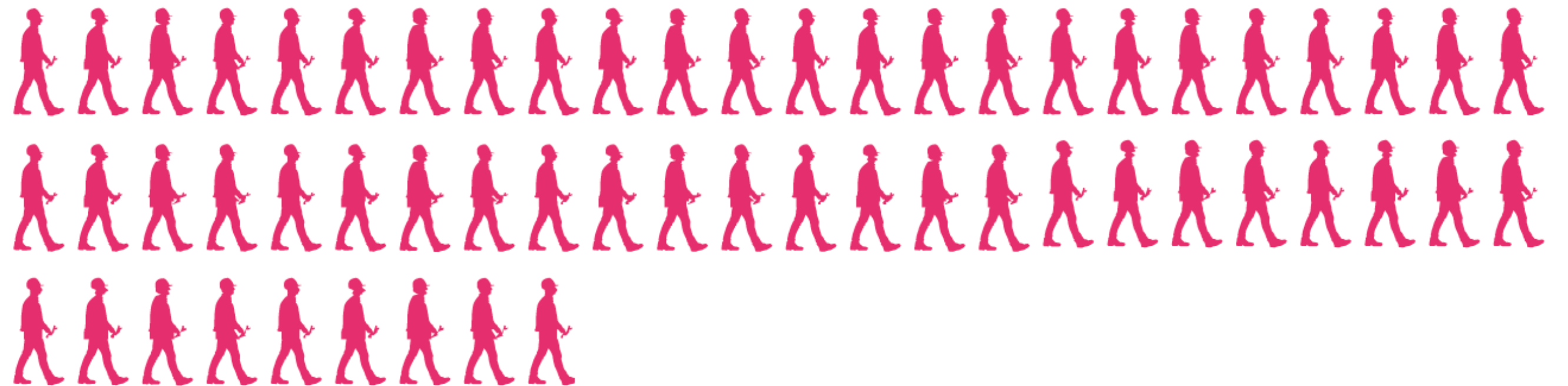


24m

Population of Australia (illustrated by million)



Disabled People in the US (illustrated by million)





















“If there is one thing I could say to summarize what makes my life unique from that of the average 22-year-old, it would be, “Damn, this ‘existence’ gig takes a lot of planning.”

Kathleen Downes

<http://thesqueakywheelchair.blogspot.com/>



“Spontaneity is like that distant relative I’ve seen in photo albums and heard a few weird stories about, but never actually met. I know he exists and that others have met him. But he’s just an idea, so I smile and say he sounds like a lovely guy. Then I go back to figuring out what time someone can help me bathe next Friday. If that cute café I wanted to try can accommodate a wheelchair. If I can get a ride to work, to school or to a friend’s house. Normally, the only spontaneous thing I expect is the spontaneous combustion of my ancient paratransit bus! I’m used to some serious planning. Long ago, I accepted that spontaneity and I, for the most part, would be strangers.”

Kathleen Downes

<http://thesqueakywheelchair.blogspot.com/>





POUR

Understanding the Needs of Users

POUR Principles - the Foundation of Accessibility

It's not about hard and fast rules or specific technical requirements. It's about **understanding the needs of users**.



Perceivable



Operable



Understandable



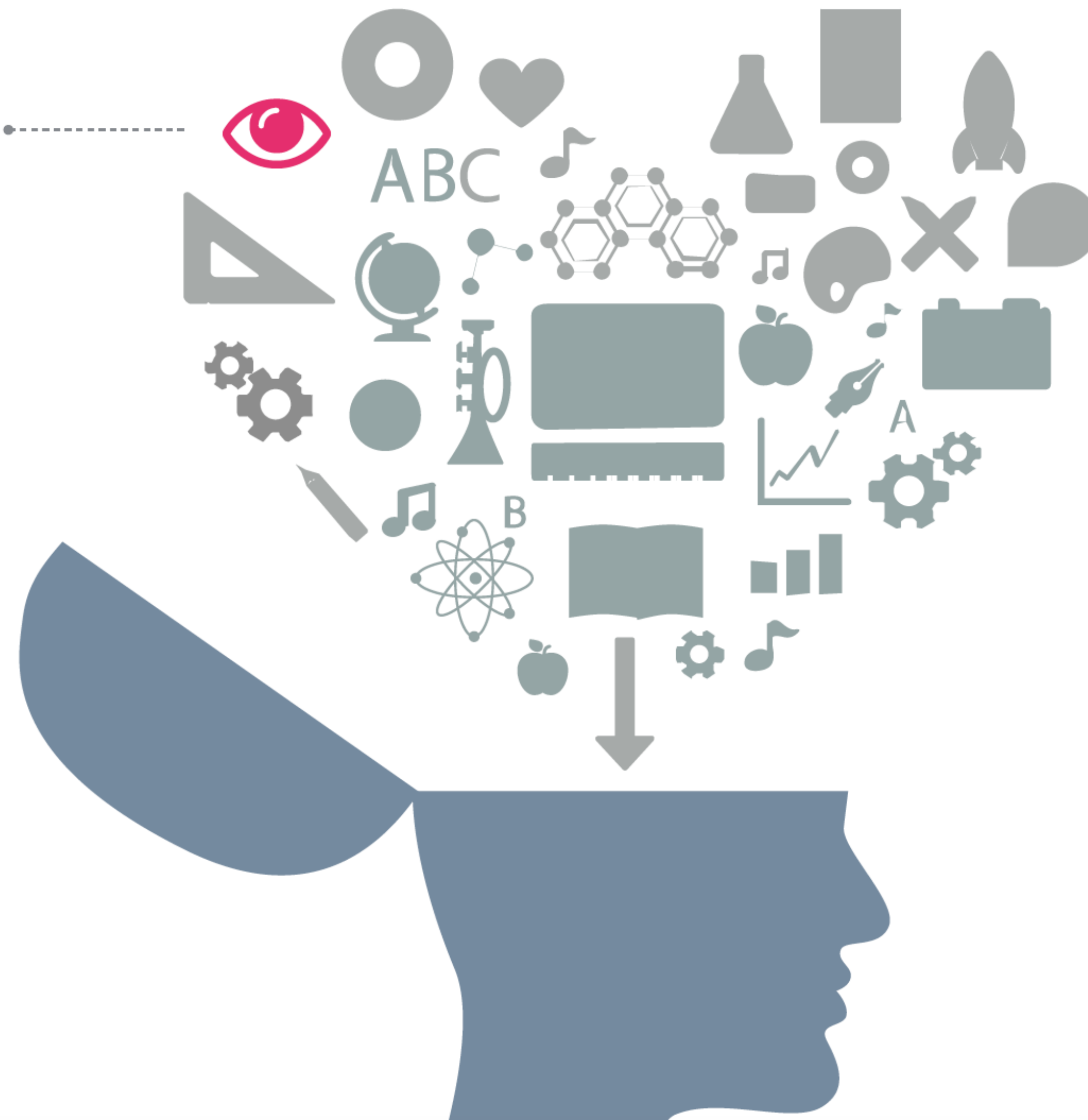
Robust

POUR

Understanding the Needs of Users

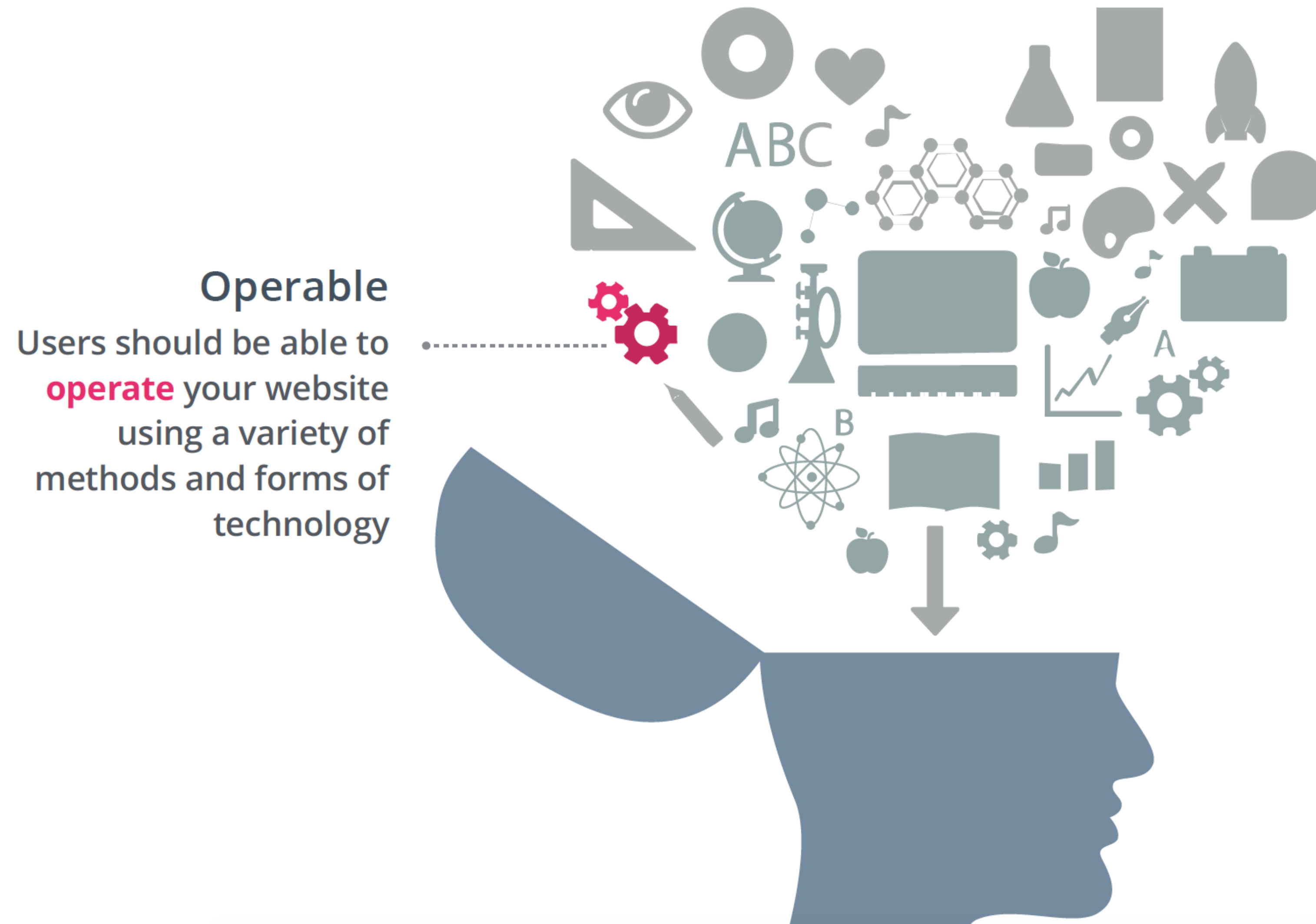
Perceivable

Users should be able to **perceive** your content, despite possibly needing to access the information in an alternative way.



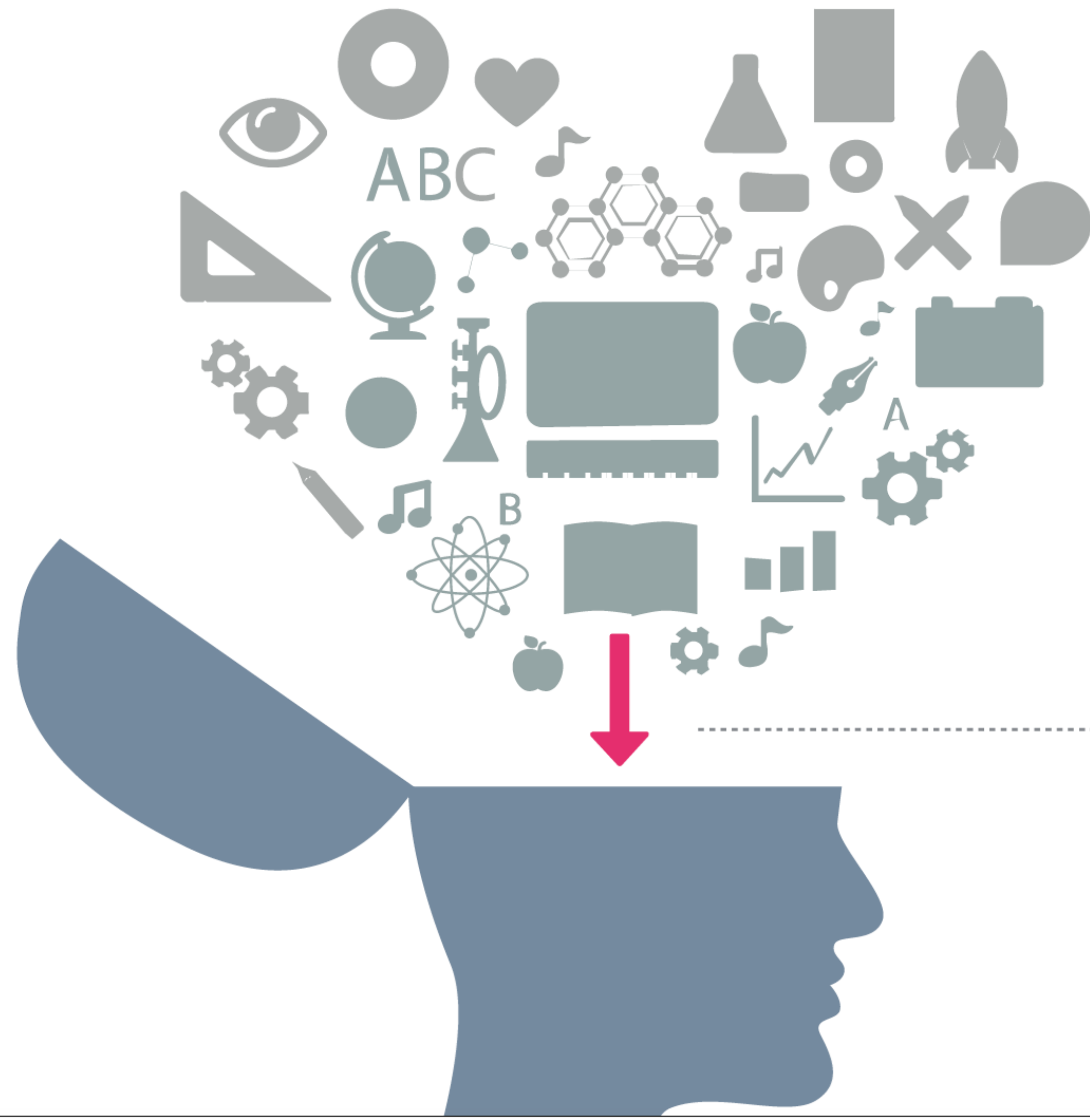
POUR

Understanding the Needs of Users



POUR

Understanding the Needs of Users

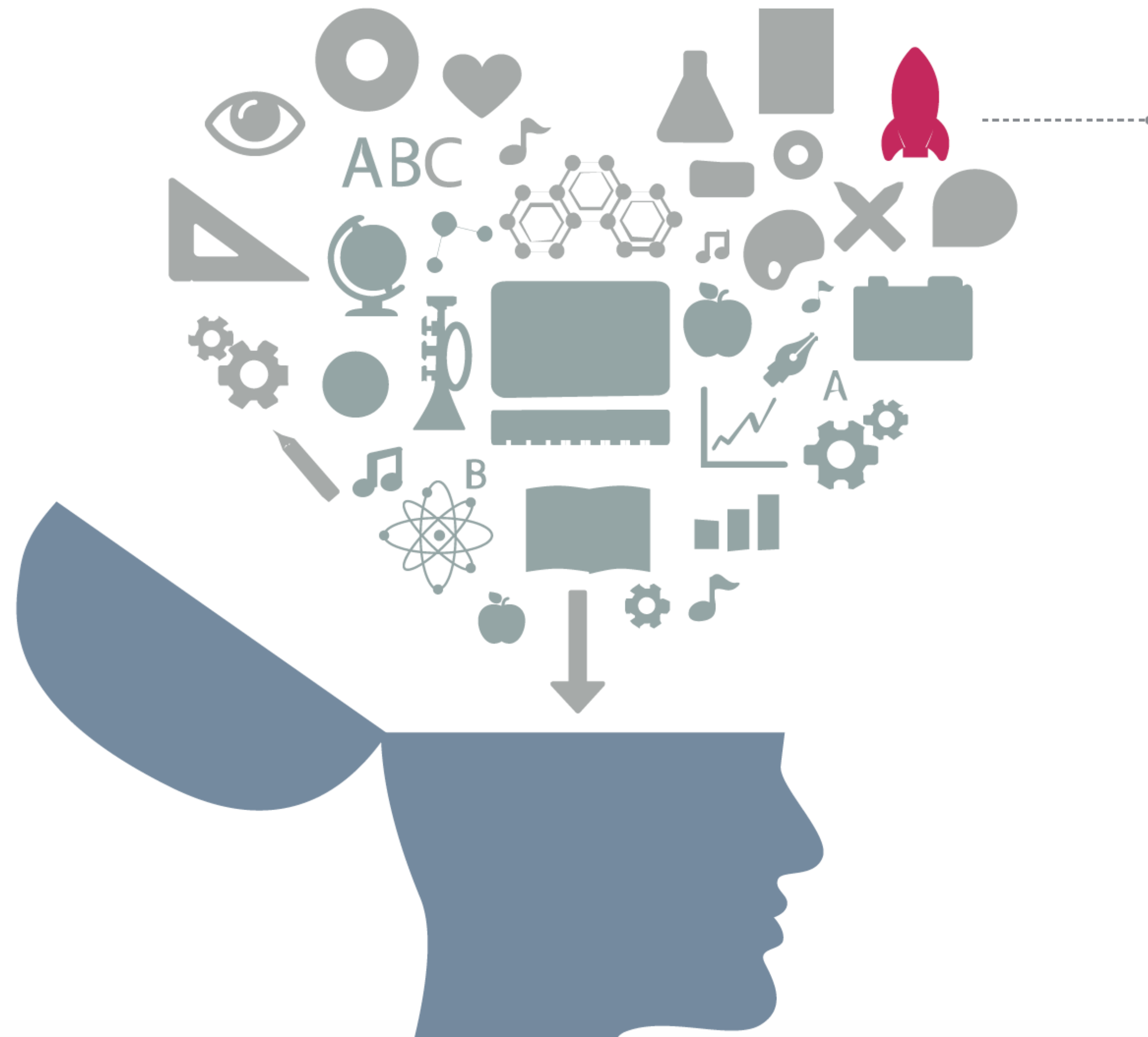


Understandable

Your content should be **understandable**. Be clear, concise, and allow users to explore content at their own pace

POUR

Understanding the Needs of Users



Robust

Your website should be **robust** enough to stand up to reasonably outdated, current, and anticipated tech standards and the AT that goes with them



How Do People with Disabilities Use the Internet?



Try it yourself!

Mac VoiceOver



- ✓ You have a free screen reader on your computer!
- ✓ On a Mac, just press command+F5 to bring up VoiceOver
- ✓ Use tab and enter to navigate a site

Try it yourself!

Window-Eyes



If you have Windows 10 or later, Window-Eyes is available to you free of charge.



Steadily gaining on JAWS for the biggest piece of the market share amongst fully-blind users



In Their Own Words

Meet Sara

User Spotlight: Sara Ruh

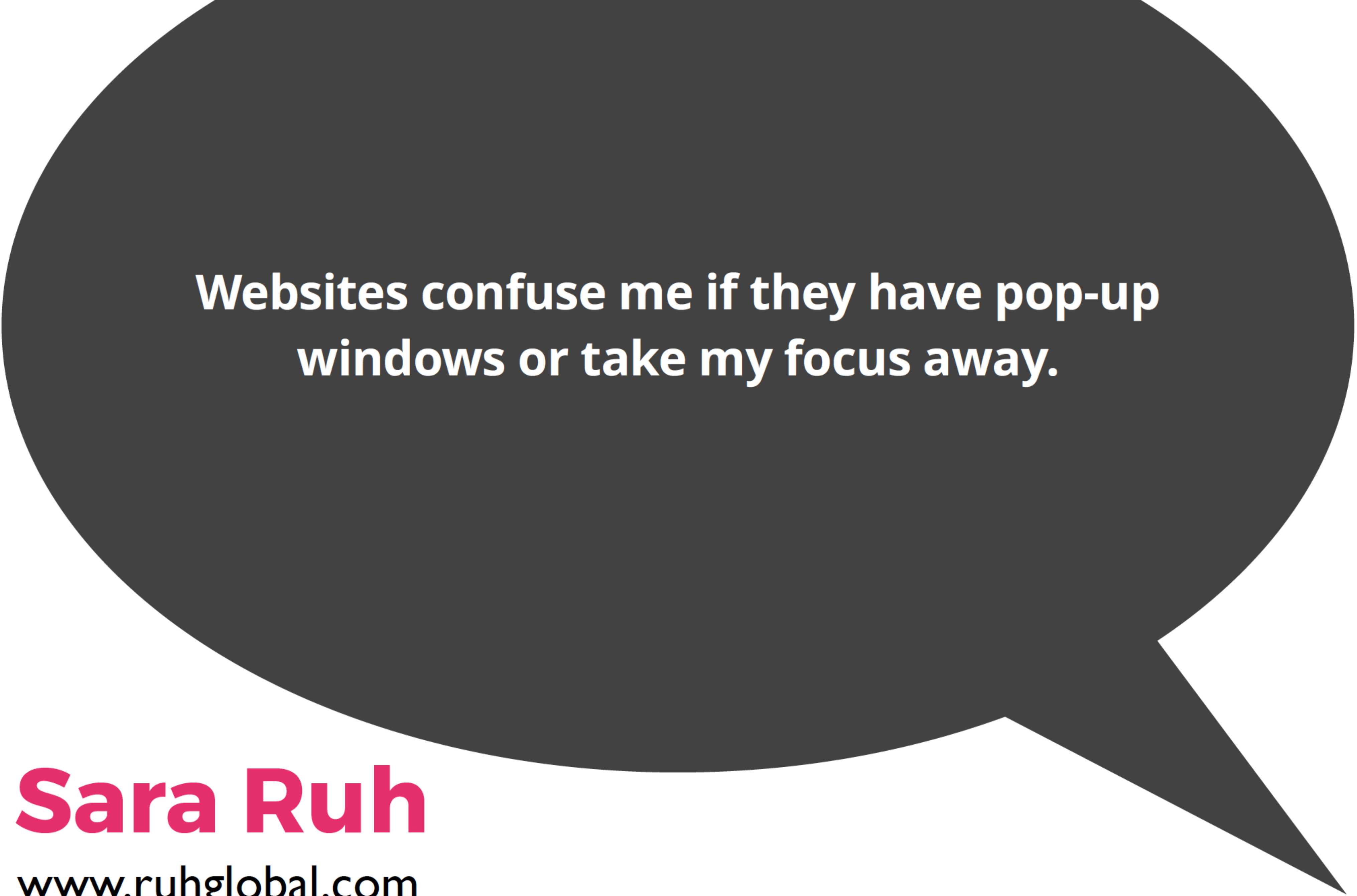


Sara is an adult disability advocate, artist, speaker, model, dancer, author, and trainer. She works for Ruh Global and Nordstrom, and she is proud to have Down Syndrome.

A3 Why would you want to hide?
Lets all be us, I strive to be the best me everyday, no shame, flaws are beautiful & make us unique [#axschat](#)

20 ↻ | 5 months ago






**Websites confuse me if they have pop-up
windows or take my focus away.**

Sara Ruh


www.ruhglobal.com



**I also get confused with italics or fancy fonts.
It helps me to have clear language, clean
design, and good white space.**

Sara Ruh

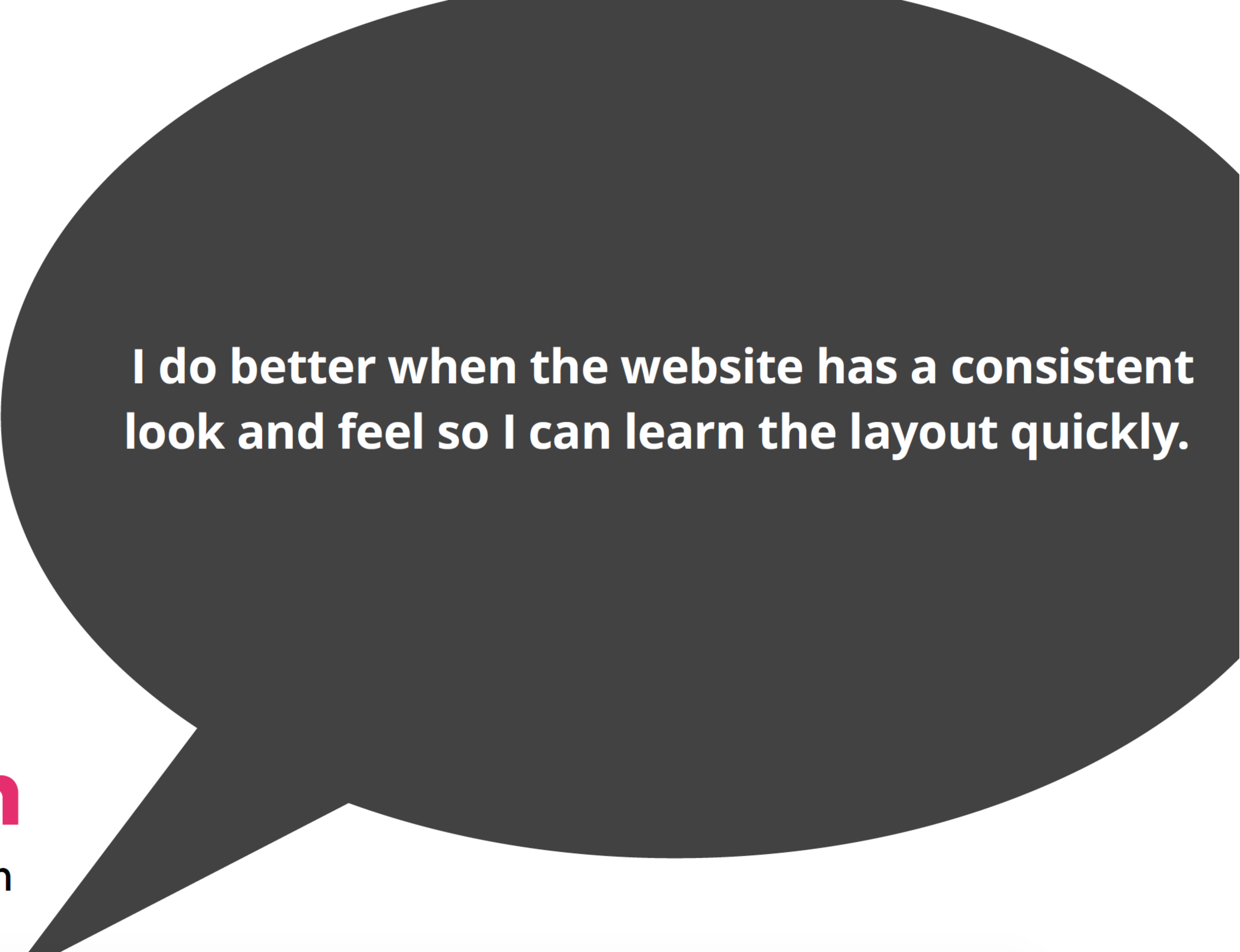
www.ruhglobal.com



I like lots of colors and graphics, audio and video. The more interactive the website is, the more I like it, as long as it is easy to navigate and easy to interact.

Sara Ruh

www.ruhglobal.com



I do better when the website has a consistent look and feel so I can learn the layout quickly.

Sara Ruh

www.ruhglobal.com

In Their Own Words

Meet Casey


User Spotlight: Casey Mathews



Casey is an Access Technology specialist at Lighthouse who is blind. He teaches classes on AT to students living with vision loss who want to get computer skills to remain tech savvy and/or return to the workforce.

(He's also a gamer - bonus points with me.)


On **Crappy** Accessibility



“There’s a company called [something something], and they have steadfastly remained non-accessible. It’s a really nice service, because they take you from Miami to Orlando and there is plenty of space for service dogs, but making a reservation online is a major pain in the butt.”

Casey Mathews

<http://www.lighthousecentralflorida.org/>



“To add insult to injury, if you call to make a reservation over the phone they try to get you to use the website. There’s a fee for booking over the phone, and when you explain that [the website] is not accessible, they just have an attitude like ‘that’s not our problem’, and they just don’t care.”

Casey Mathews

<http://www.lighthousecentralflorida.org/>

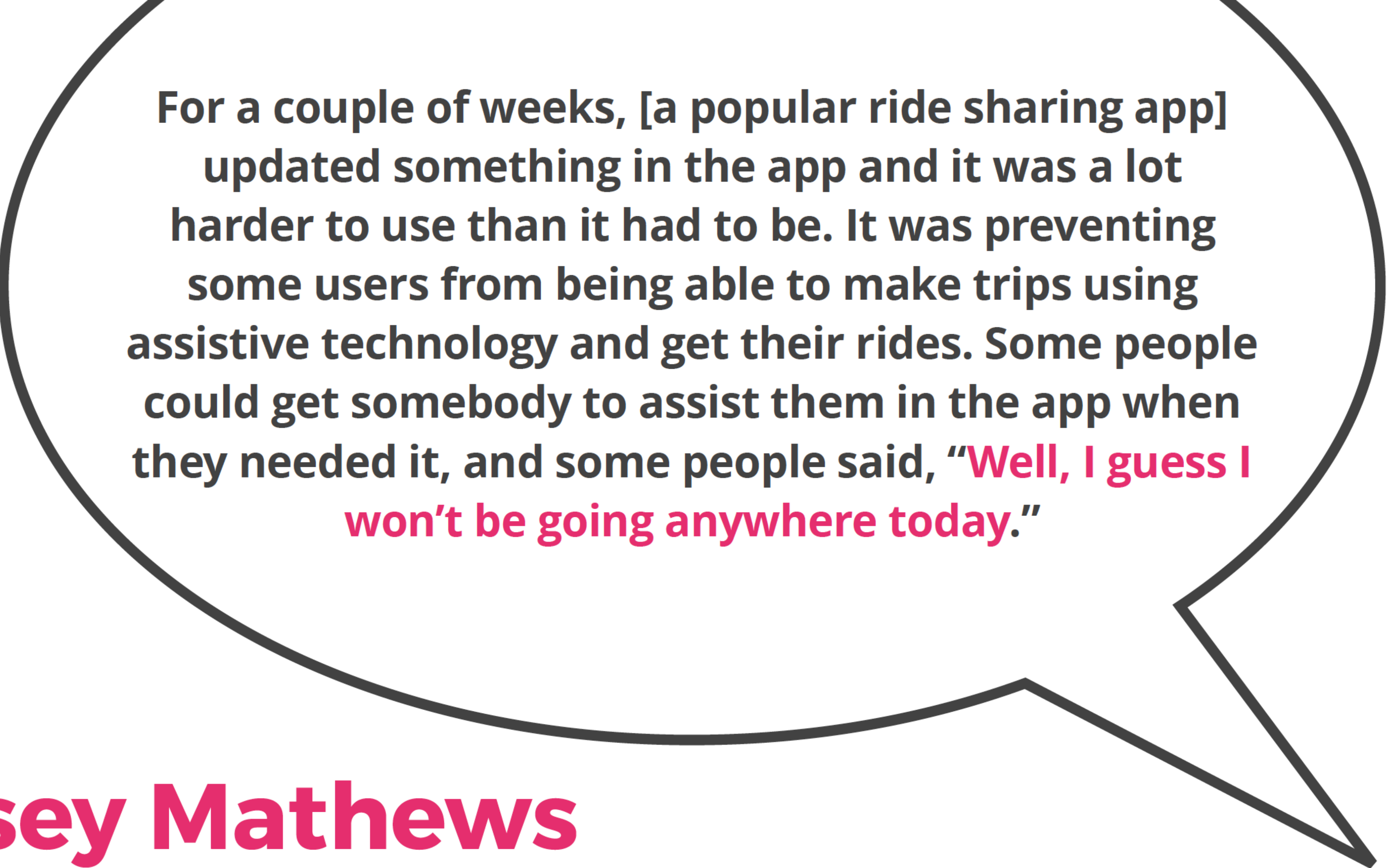


“They’re a small company, and I guess they just don’t feel like it’s a big enough deal. Well, we just won’t use you guys.

That’s kind of a shame, you know?”

Casey Mathews

<http://www.lighthousecentralflorida.org/>




For a couple of weeks, [a popular ride sharing app] updated something in the app and it was a lot harder to use than it had to be. It was preventing some users from being able to make trips using assistive technology and get their rides. Some people could get somebody to assist them in the app when they needed it, and some people said, “Well, I guess I won’t be going anywhere today.”

Casey Mathews

<http://www.lighthousecentralflorida.org/>

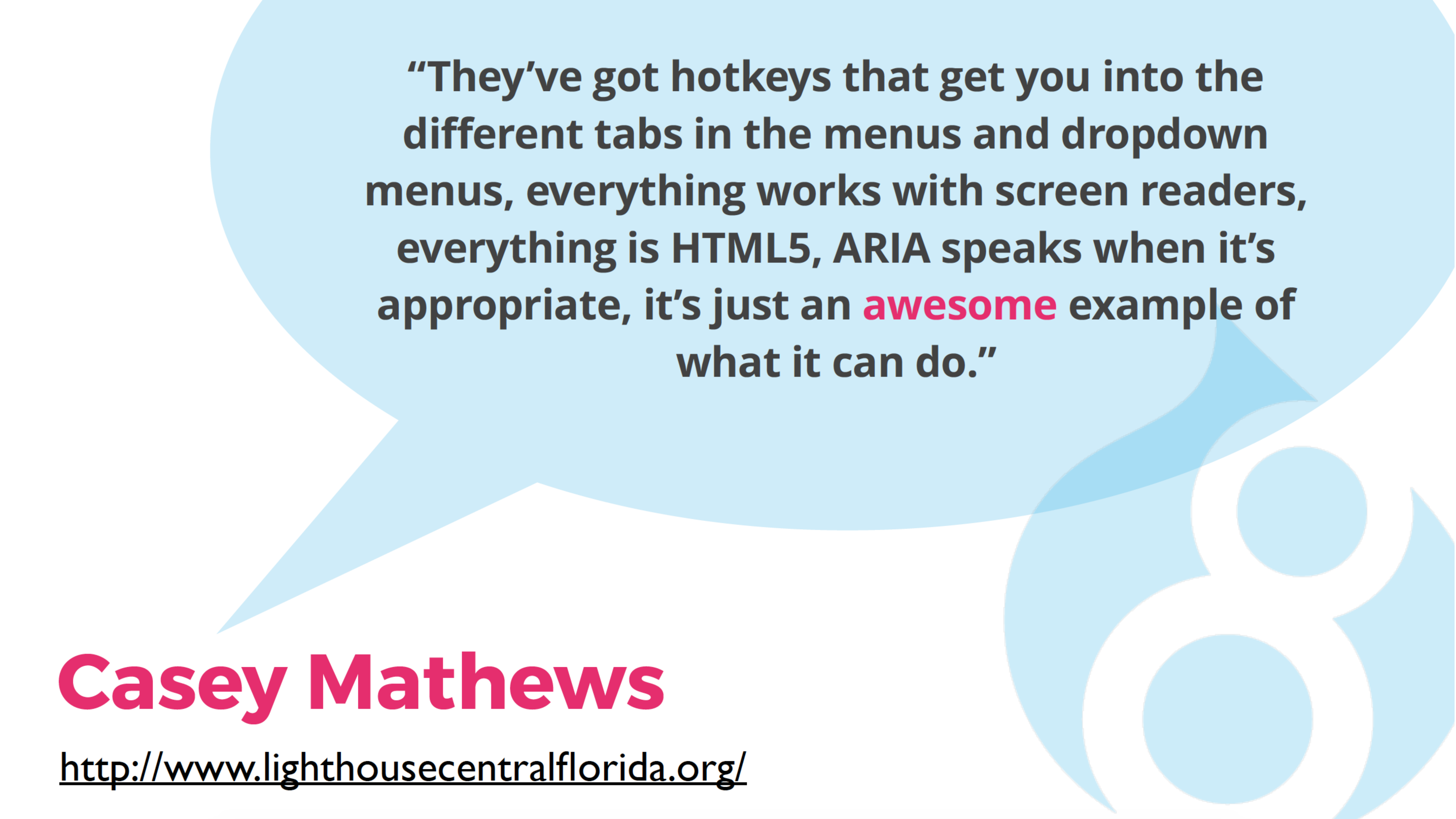
On **Web Development**



“Drupal 8 is AWESOME. ... I do some websites volunteering for people and I’ve gotta tell you, they did a fantastic job making it accessible.”

Casey Mathews


<http://www.lighthousecentralflorida.org/>



“They’ve got hotkeys that get you into the different tabs in the menus and dropdown menus, everything works with screen readers, everything is HTML5, ARIA speaks when it’s appropriate, it’s just an **awesome example of what it can do.”**

Casey Mathews

<http://www.lighthousecentralflorida.org/>



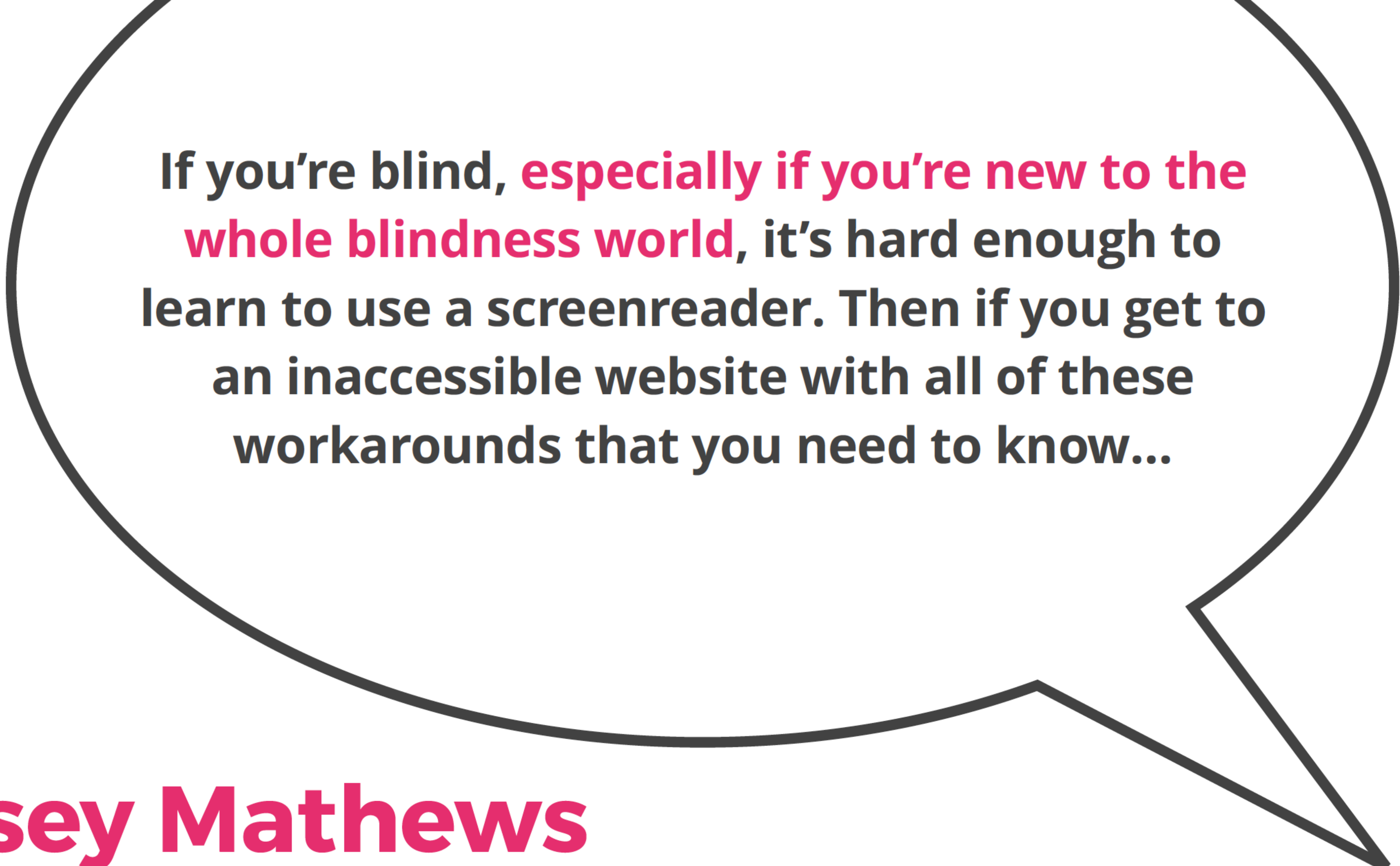
“I’ve personally been waiting for Drupal 8 for a long time because I knew they were going to have some of these accessibility fixes. I’m so glad it’s finally here!”

Casey Mathews

<http://www.lighthousecentralflorida.org/>

(totally unsolicited, by the way.)


On Being Newly Blind



If you're blind, **especially if you're new to the whole blindness world**, it's hard enough to learn to use a screenreader. Then if you get to an inaccessible website with all of these workarounds that you need to know...

Casey Mathews


<http://www.lighthousecentralflorida.org/>



It's **hard enough** when someone has come from a sighted world where they're used to easily getting what they wanted.

Casey Mathews

<http://www.lighthousecentralflorida.org/>



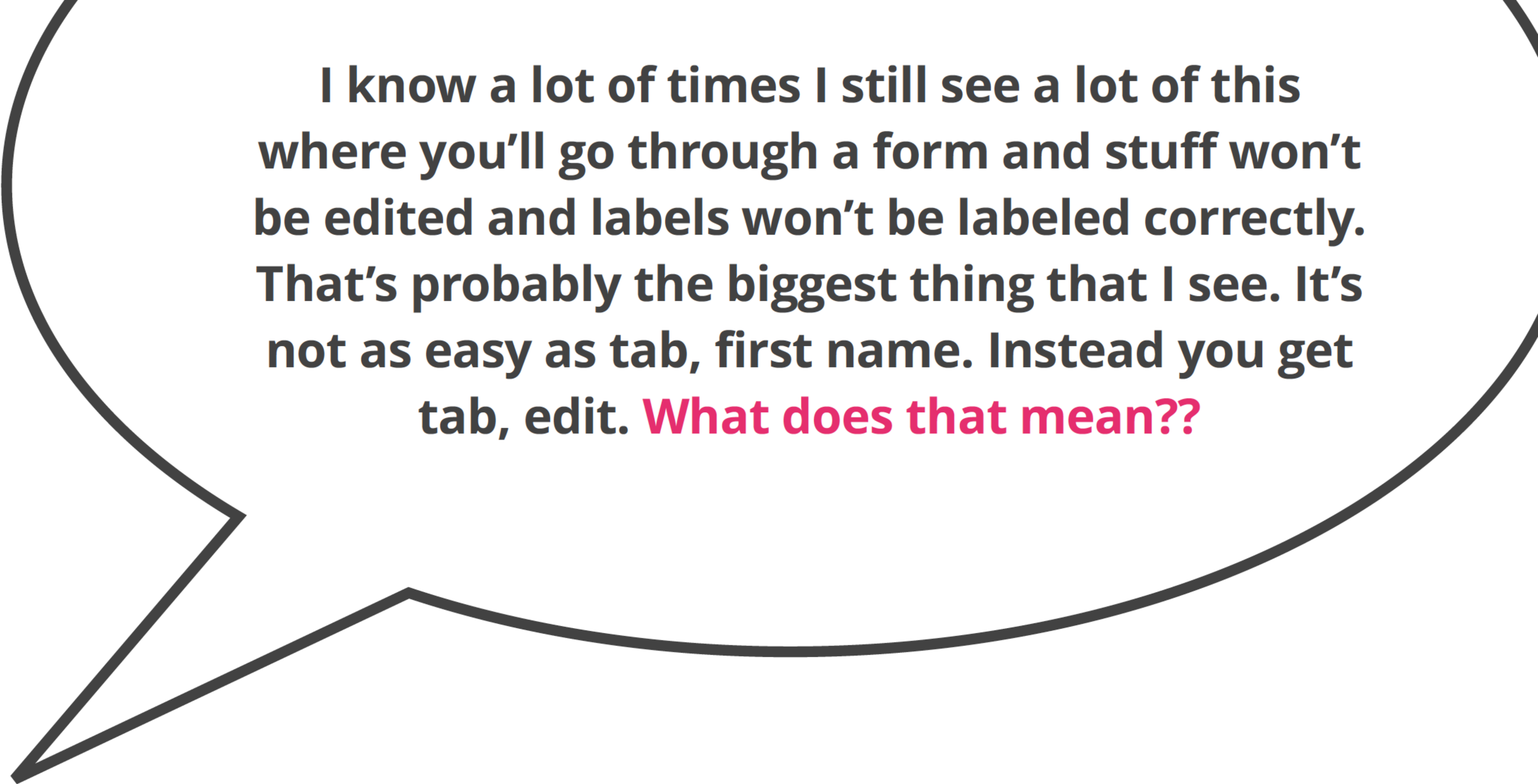
When a site isn't accessible it's really a frustrating experience. People end up throwing up their hands and saying, **"I'll just get someone else to do it for me"**.

It's sad to see that happen.

Casey Mathews

<http://www.lighthousecentralflorida.org/>

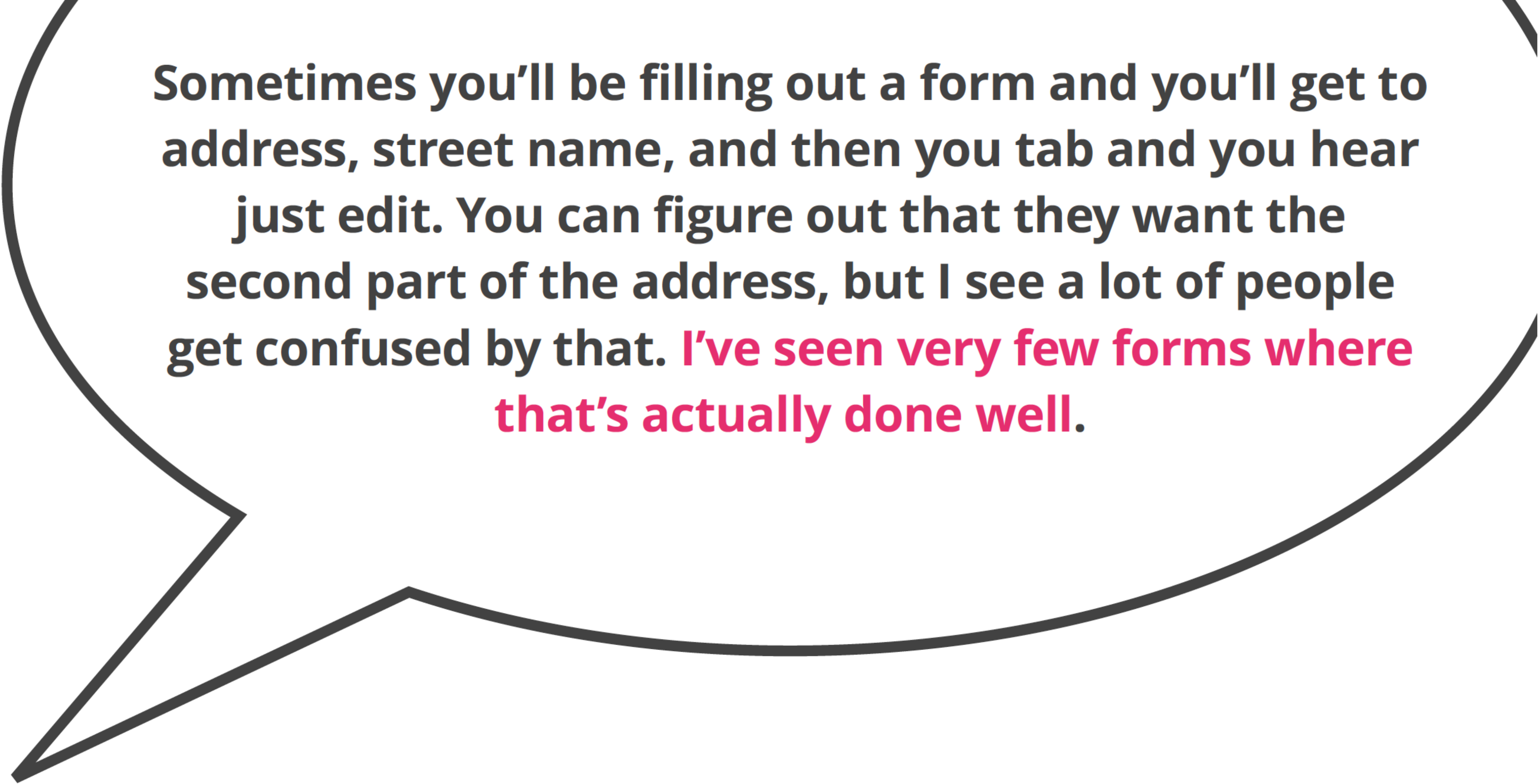
On Web Forms



I know a lot of times I still see a lot of this where you'll go through a form and stuff won't be edited and labels won't be labeled correctly. That's probably the biggest thing that I see. It's not as easy as tab, first name. Instead you get tab, edit. **What does that mean??**

Casey Mathews

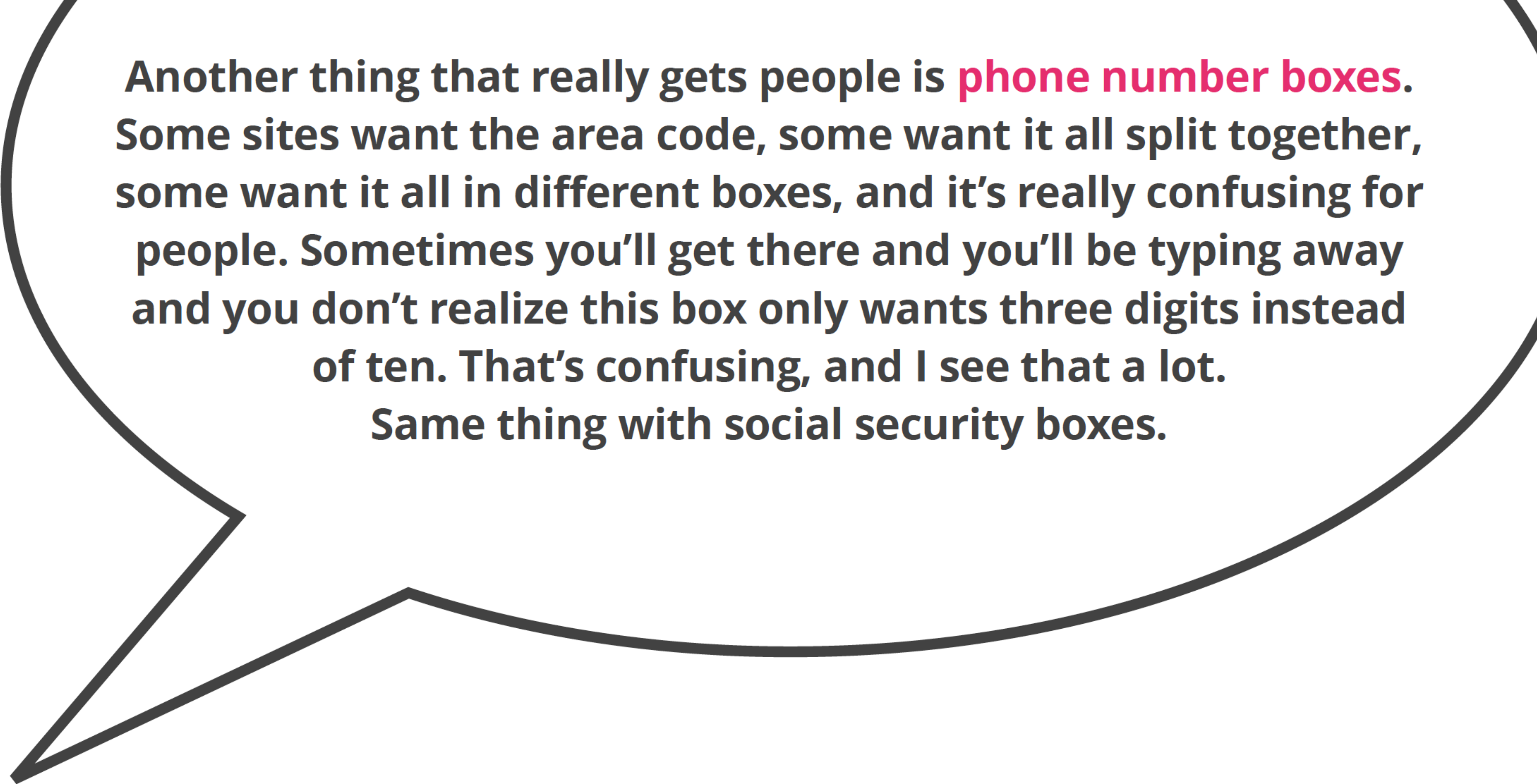
<http://www.lighthousecentralflorida.org/>



Sometimes you'll be filling out a form and you'll get to address, street name, and then you tab and you hear just edit. You can figure out that they want the second part of the address, but I see a lot of people get confused by that. **I've seen very few forms where that's actually done well.**

Casey Mathews

<http://www.lighthousecentralflorida.org/>

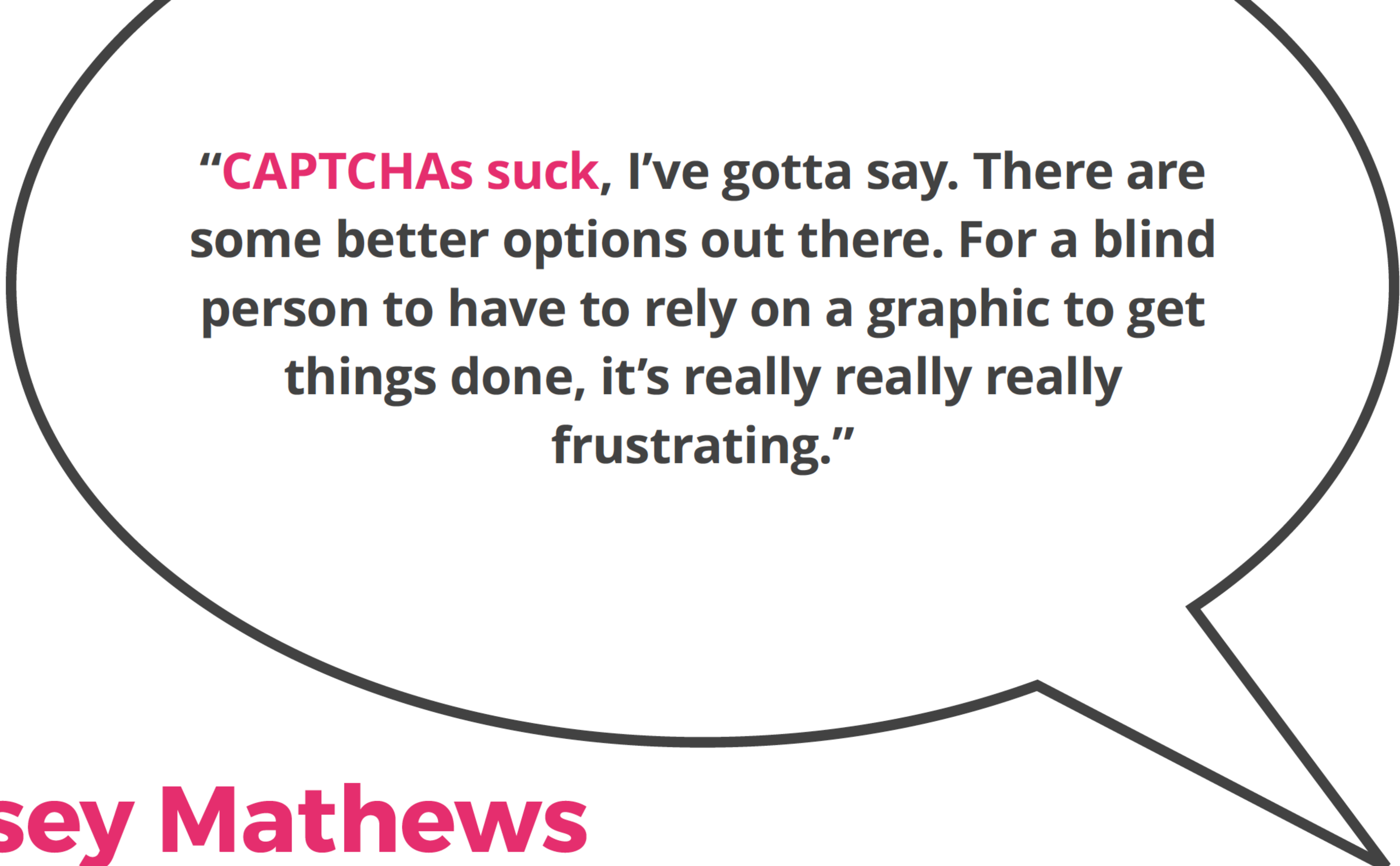


Another thing that really gets people is **phone number boxes**. Some sites want the area code, some want it all split together, some want it all in different boxes, and it's really confusing for people. Sometimes you'll get there and you'll be typing away and you don't realize this box only wants three digits instead of ten. That's confusing, and I see that a lot. Same thing with social security boxes.

Casey Mathews

<http://www.lighthousecentralflorida.org/>

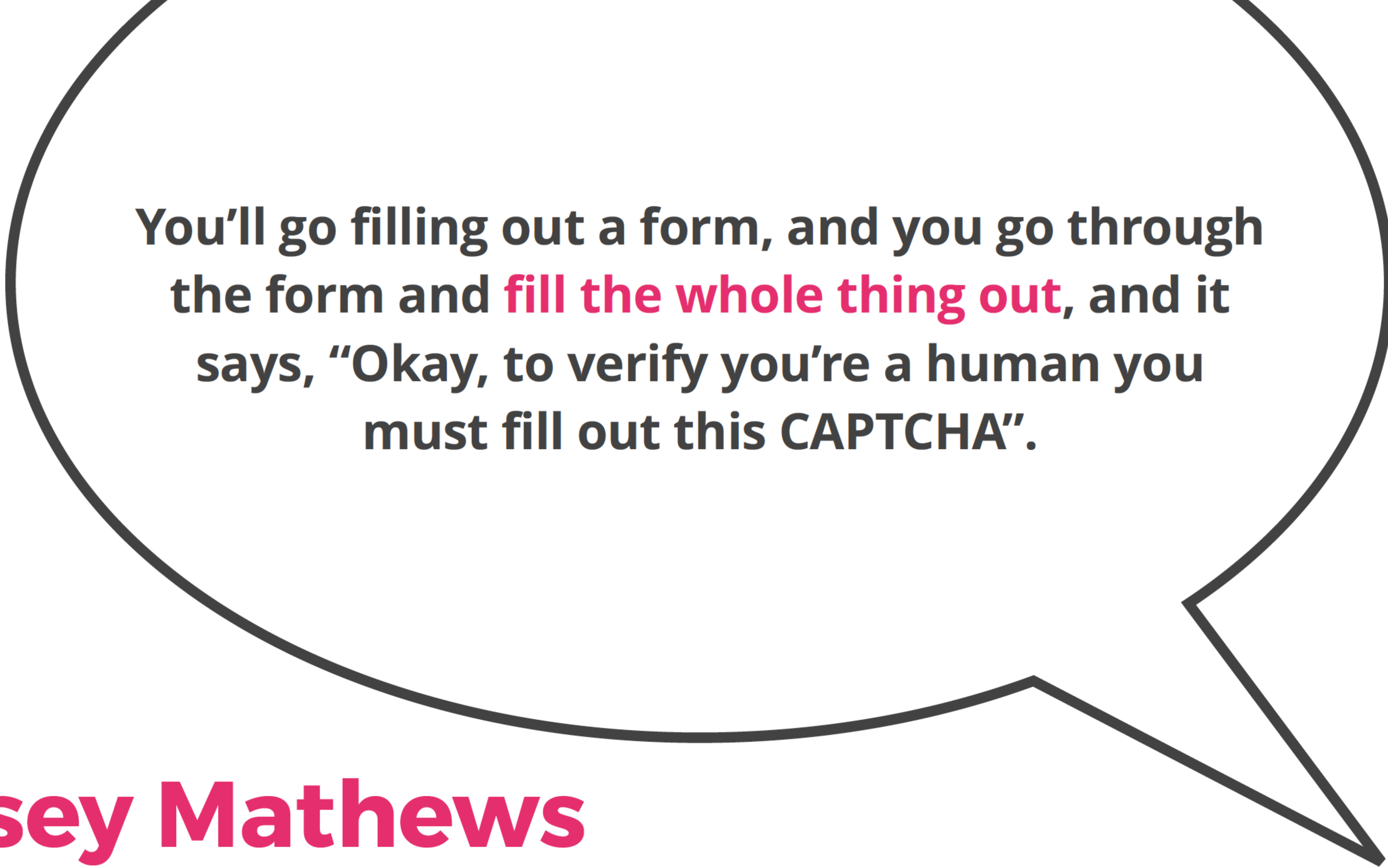
On CAPTCHAs



“CAPTCHAs suck, I’ve gotta say. There are some better options out there. For a blind person to have to rely on a graphic to get things done, it’s really really really frustrating.”

Casey Mathews

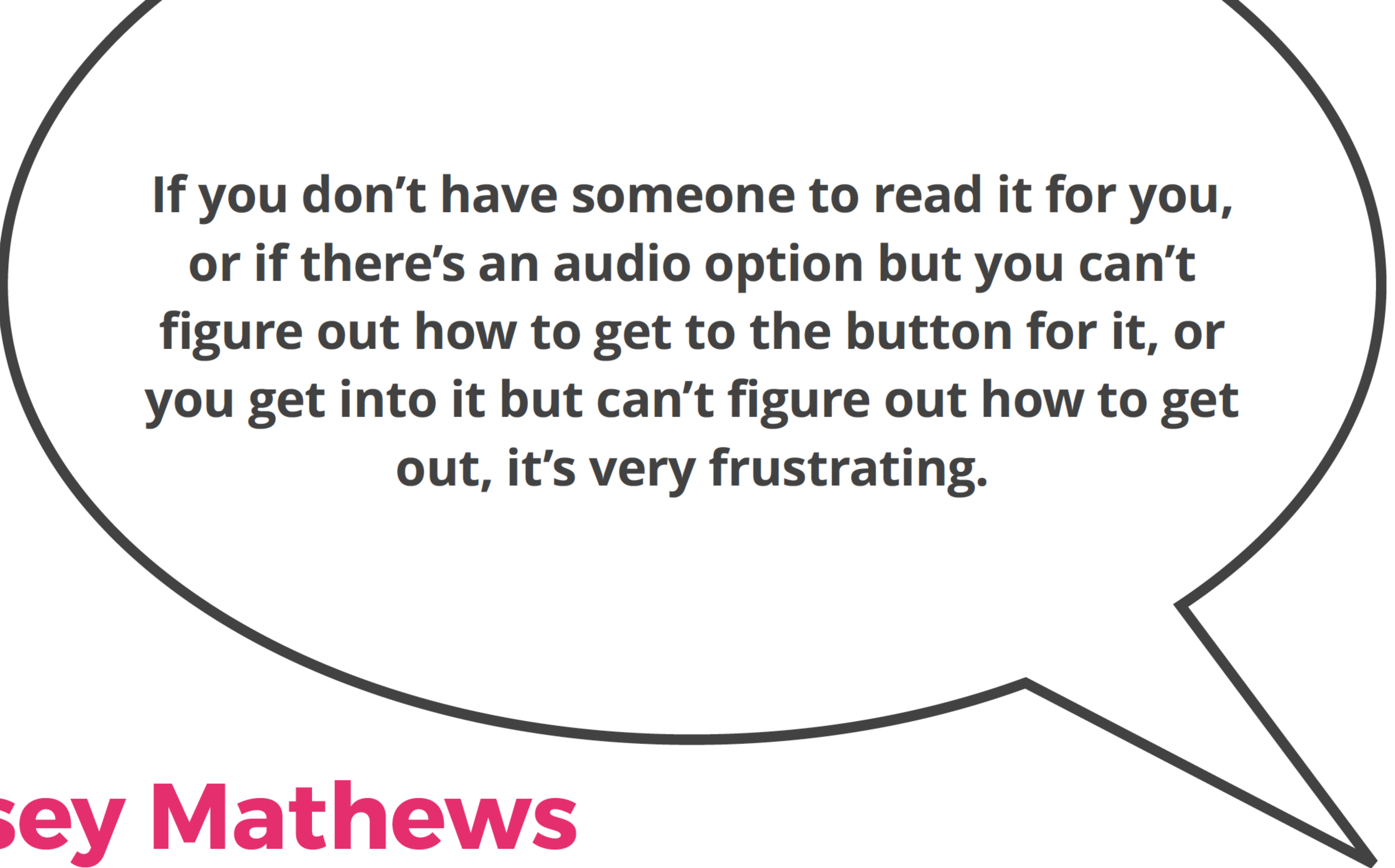
<http://www.lighthousecentralflorida.org/>



You'll go filling out a form, and you go through the form and **fill the whole thing out, and it says, "Okay, to verify you're a human you must fill out this CAPTCHA".**

Casey Mathews


<http://www.lighthousecentralflorida.org/>



**If you don't have someone to read it for you,
or if there's an audio option but you can't
figure out how to get to the button for it, or
you get into it but can't figure out how to get
out, it's very frustrating.**

Casey Mathews


<http://www.lighthousecentralflorida.org/>



People try to use the audio and the audio isn't clear, so I've seen trouble with that, too.

Casey Mathews

<http://www.lighthousecentralflorida.org/>



But I've seen forms that handle it really well,
so it is doable. Google has this new thing
where you just check a box. That's great!

Casey Mathews

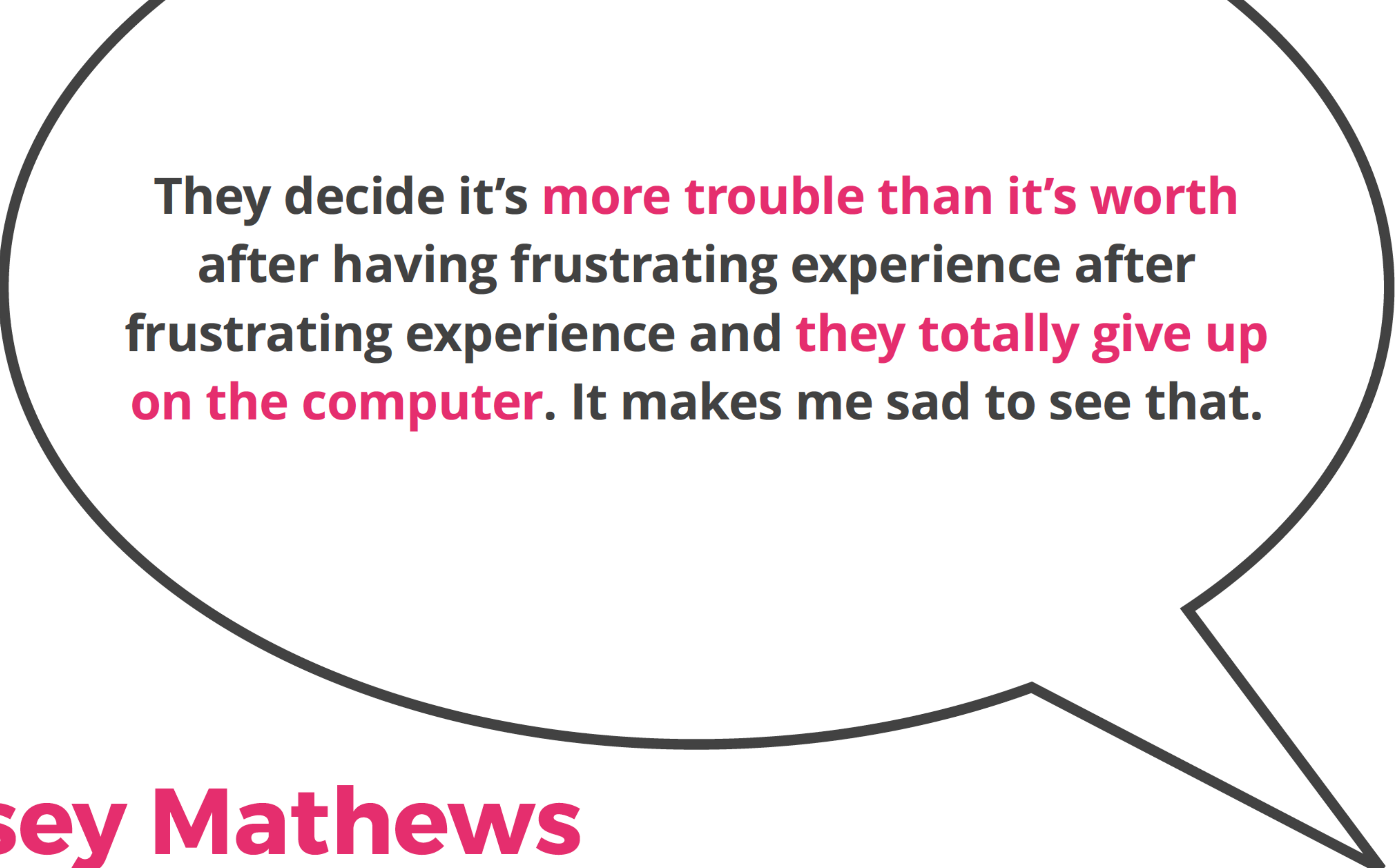
<http://www.lighthousecentralflorida.org/>



People who are new to using a screen reader can get so frustrated after going through so much work to fill out a form and then not being able to submit it **that they won't even want to use technology anymore.**

Casey Mathews

<http://www.lighthousecentralflorida.org/>

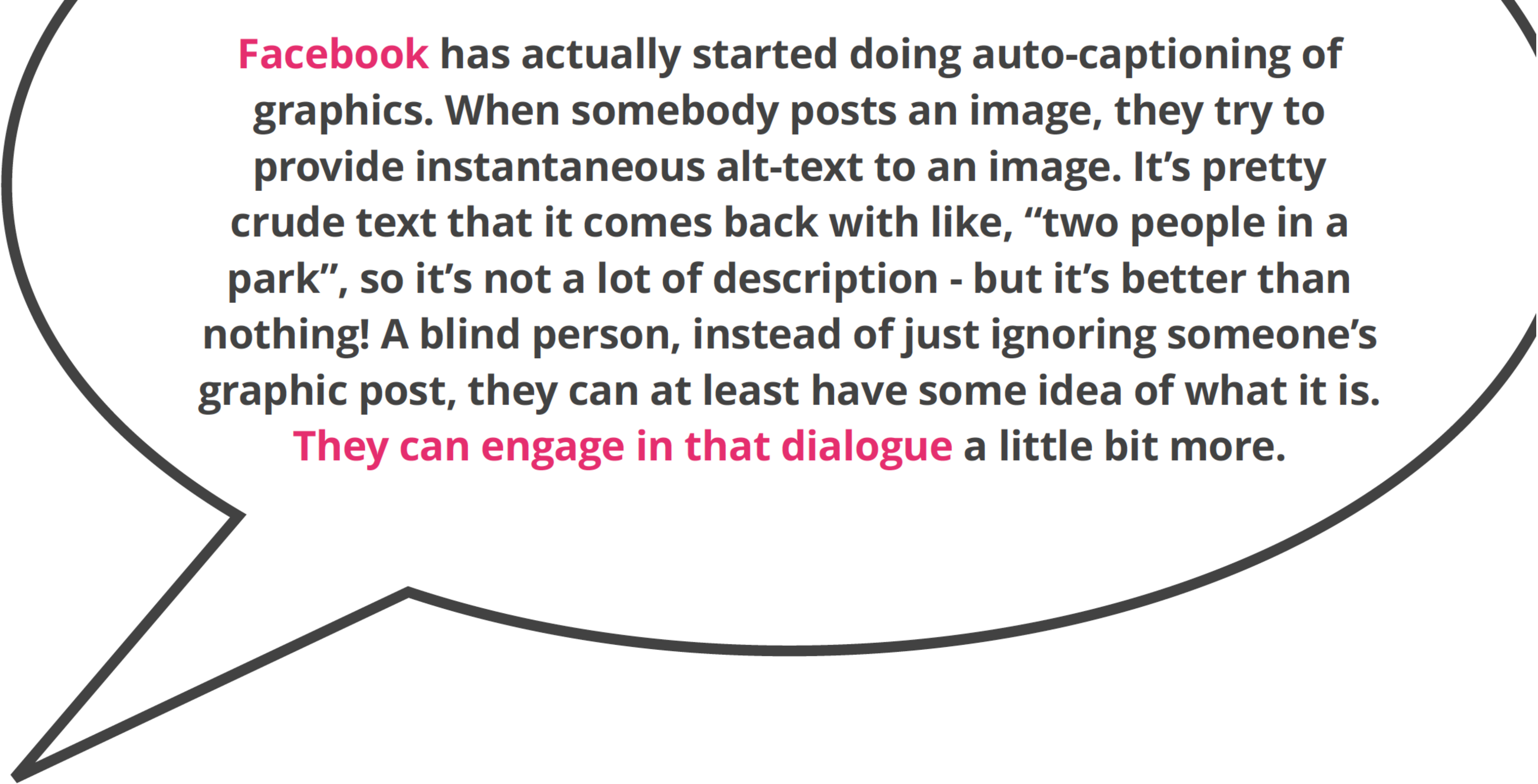


They decide it's **more trouble than it's worth** after having frustrating experience after frustrating experience and **they totally give up on the computer**. It makes me sad to see that.

Casey Mathews

<http://www.lighthousecentralflorida.org/>

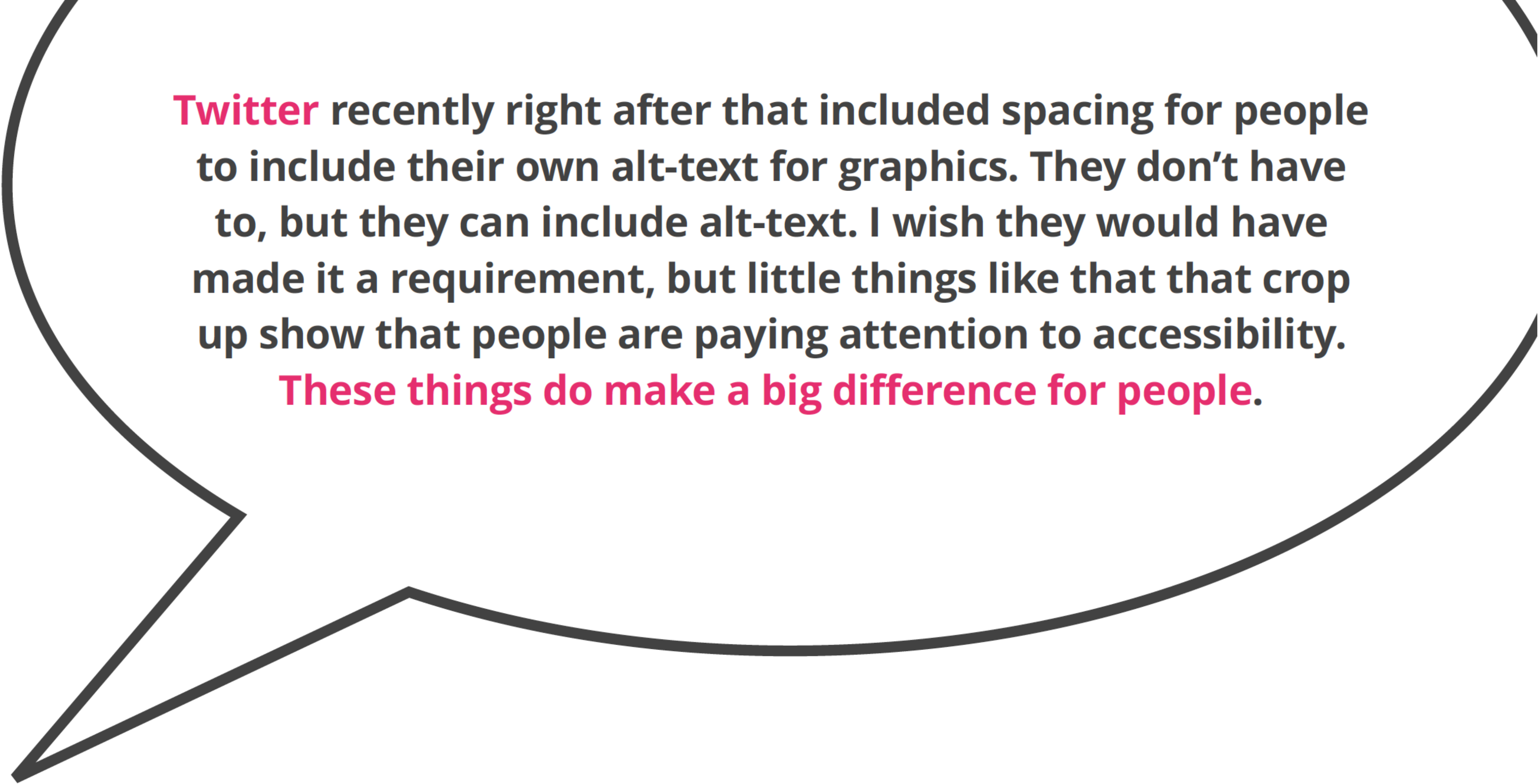
On **Alternative Text**



Facebook has actually started doing auto-captioning of graphics. When somebody posts an image, they try to provide instantaneous alt-text to an image. It's pretty crude text that it comes back with like, "two people in a park", so it's not a lot of description - but it's better than nothing! A blind person, instead of just ignoring someone's graphic post, they can at least have some idea of what it is. **They can engage in that dialogue** a little bit more.

Casey Mathews

<http://www.lighthousecentralflorida.org/>



Twitter recently right after that included spacing for people to include their own alt-text for graphics. They don't have to, but they can include alt-text. I wish they would have made it a requirement, but little things like that that crop up show that people are paying attention to accessibility. **These things do make a big difference for people.**

Casey Mathews

<http://www.lighthousecentralflorida.org/>


**Two zebras stand side by side
looking at the camera in the
savannah's dry grass. The
background is dotted with trees.**



**Low-priced Africa nature
excursions cheap discount coupon
zebras lions rhinos safe**

Thanks for the zebras,
Sajjad Fazel


On Restaurant Menus



This is a big, big deal! Of course a blind person can't just grab the menu and find out what's on the menu. A lot of the time we'll get the menu from the website.

Casey Mathews

<http://www.lighthousecentralflorida.org/>

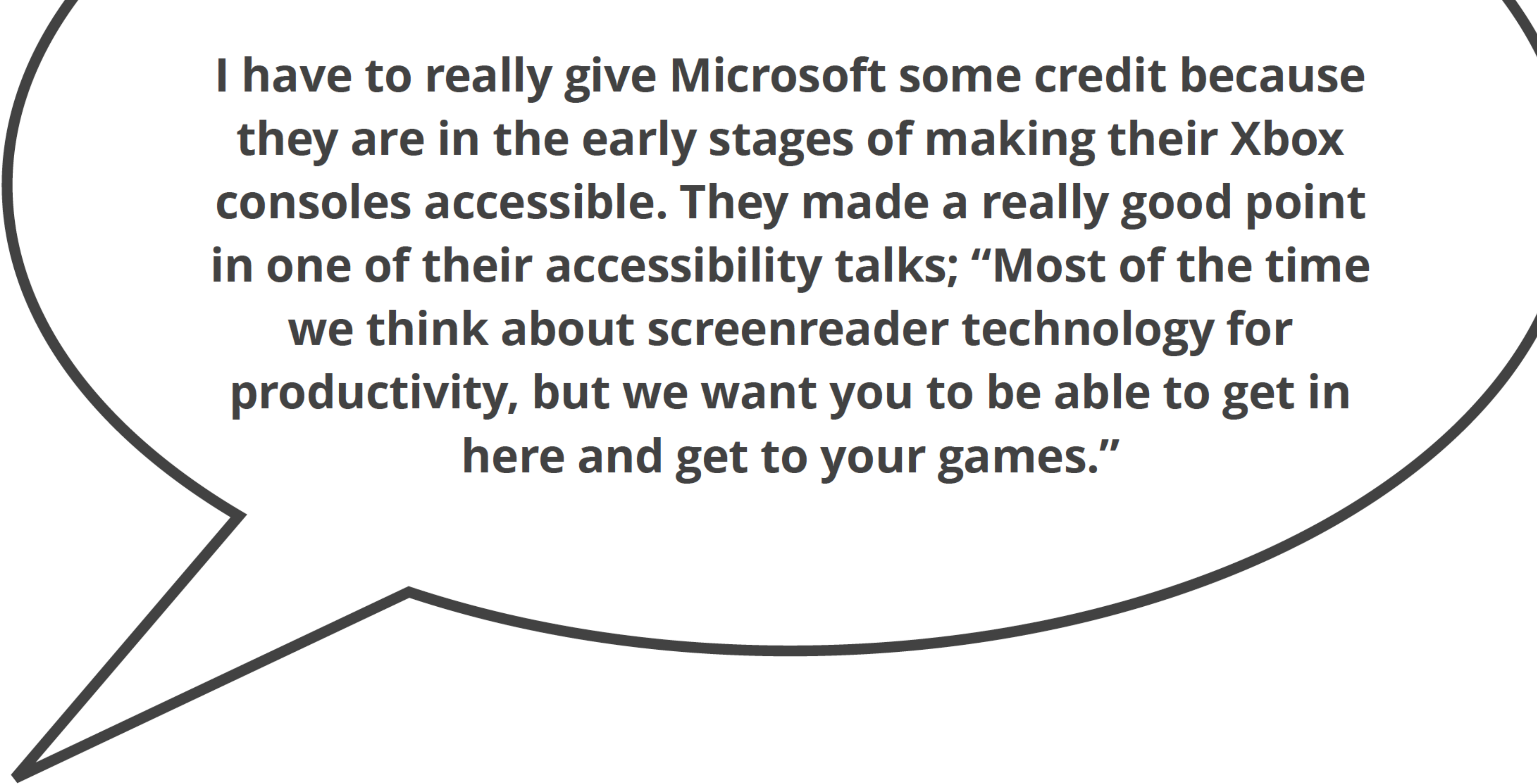


Some restaurants won't update the menu for three or four years, or they'll update the menu by just putting a graphic or PDF up there. When you do that, you're leaving some people out. **I wish all menus had nice headings and were HTML-based.** It would be a dream come true.

Casey Mathews

<http://www.lighthousecentralflorida.org/>

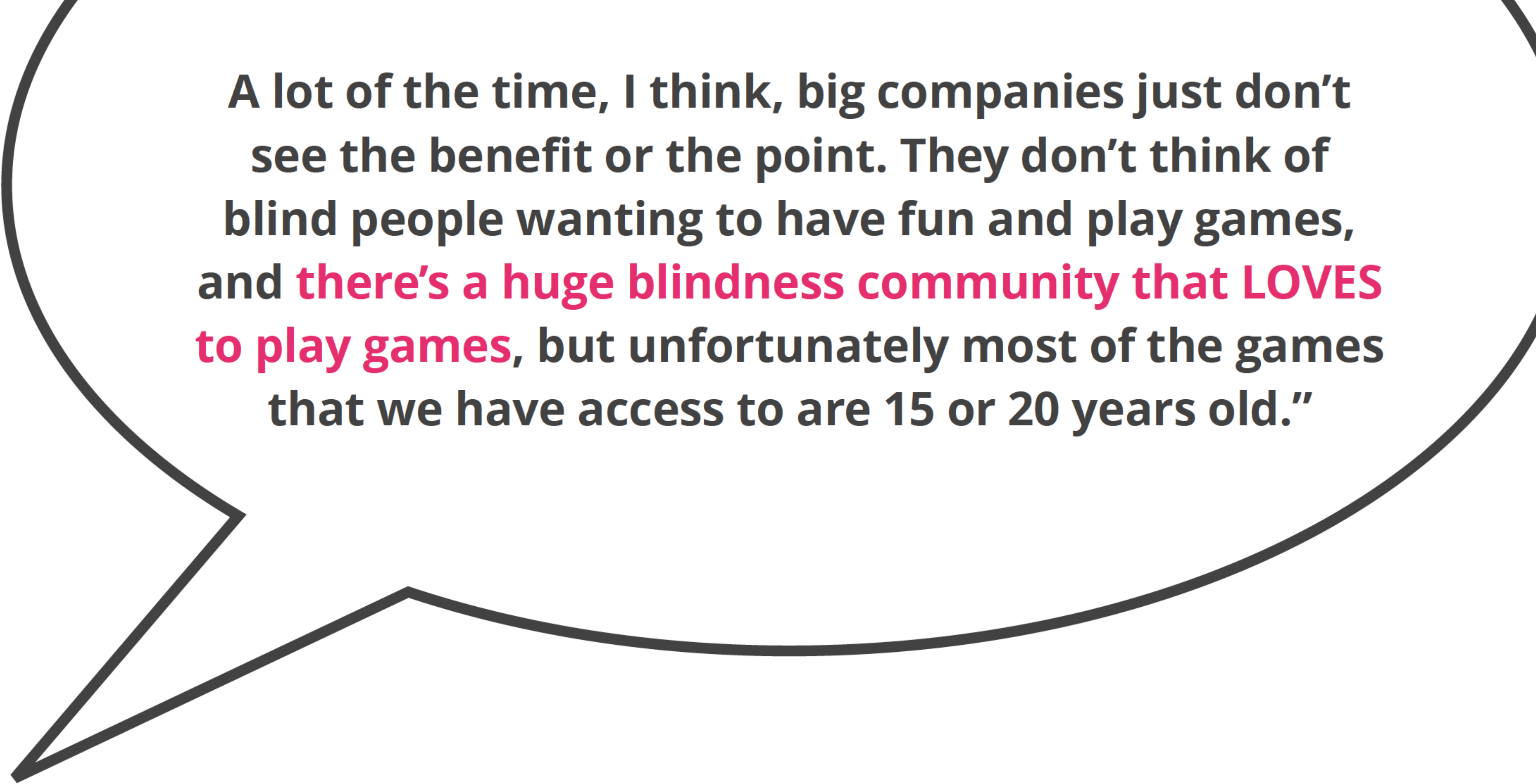
On Video Games



I have to really give Microsoft some credit because they are in the early stages of making their Xbox consoles accessible. They made a really good point in one of their accessibility talks; “Most of the time we think about screenreader technology for productivity, but we want you to be able to get in here and get to your games.”

Casey Mathews

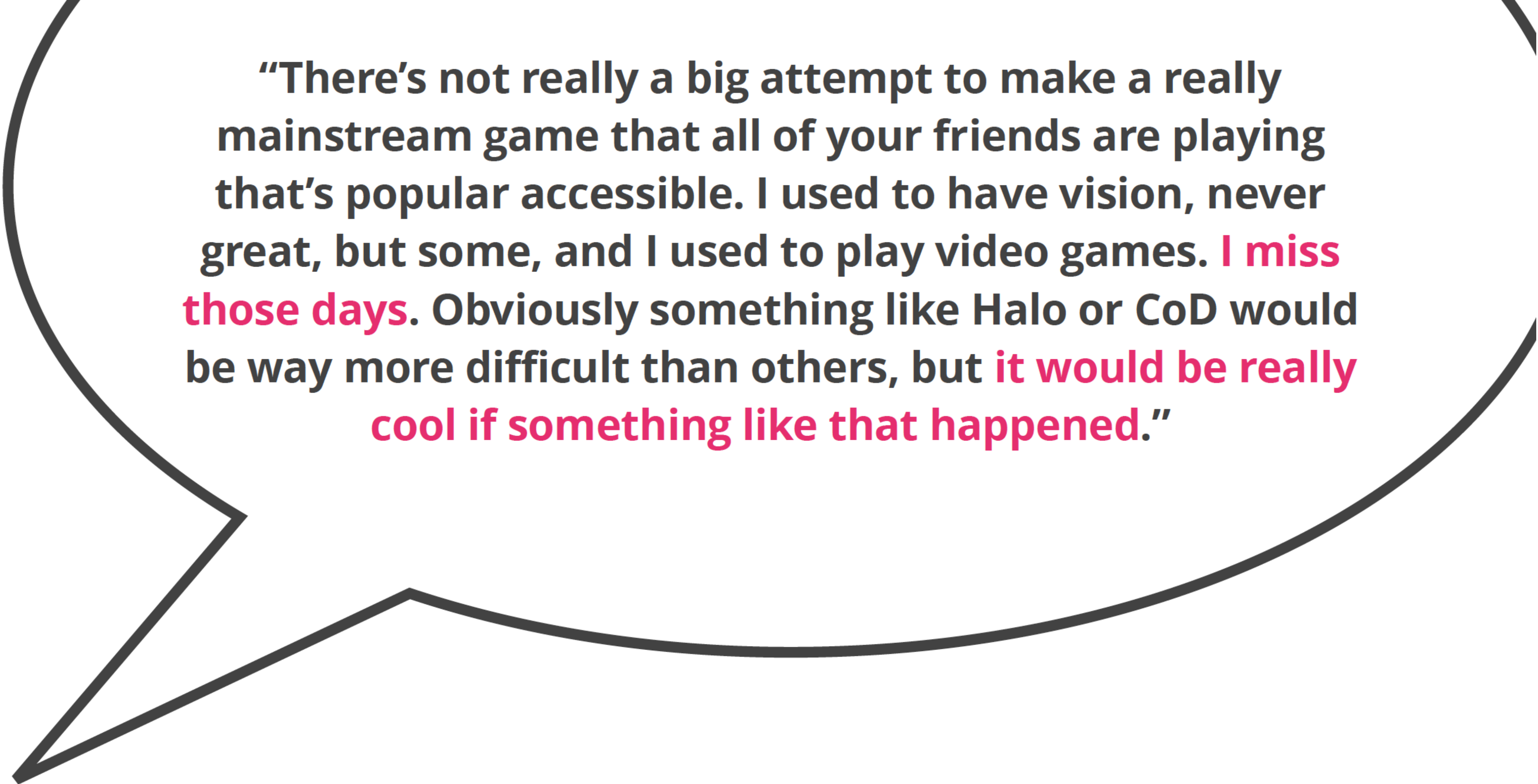
<http://www.lighthousecentralflorida.org/>



A lot of the time, I think, big companies just don't see the benefit or the point. They don't think of blind people wanting to have fun and play games, and **there's a huge blindness community that LOVES to play games**, but unfortunately most of the games that we have access to are 15 or 20 years old."

Casey Mathews

<http://www.lighthousecentralflorida.org/>



“There’s not really a big attempt to make a really mainstream game that all of your friends are playing that’s popular accessible. I used to have vision, never great, but some, and I used to play video games. **I miss those days.** Obviously something like Halo or CoD would be way more difficult than others, but **it would be really cool if something like that happened.**”

Casey Mathews

<http://www.lighthousecentralflorida.org/>

In Their Own Words

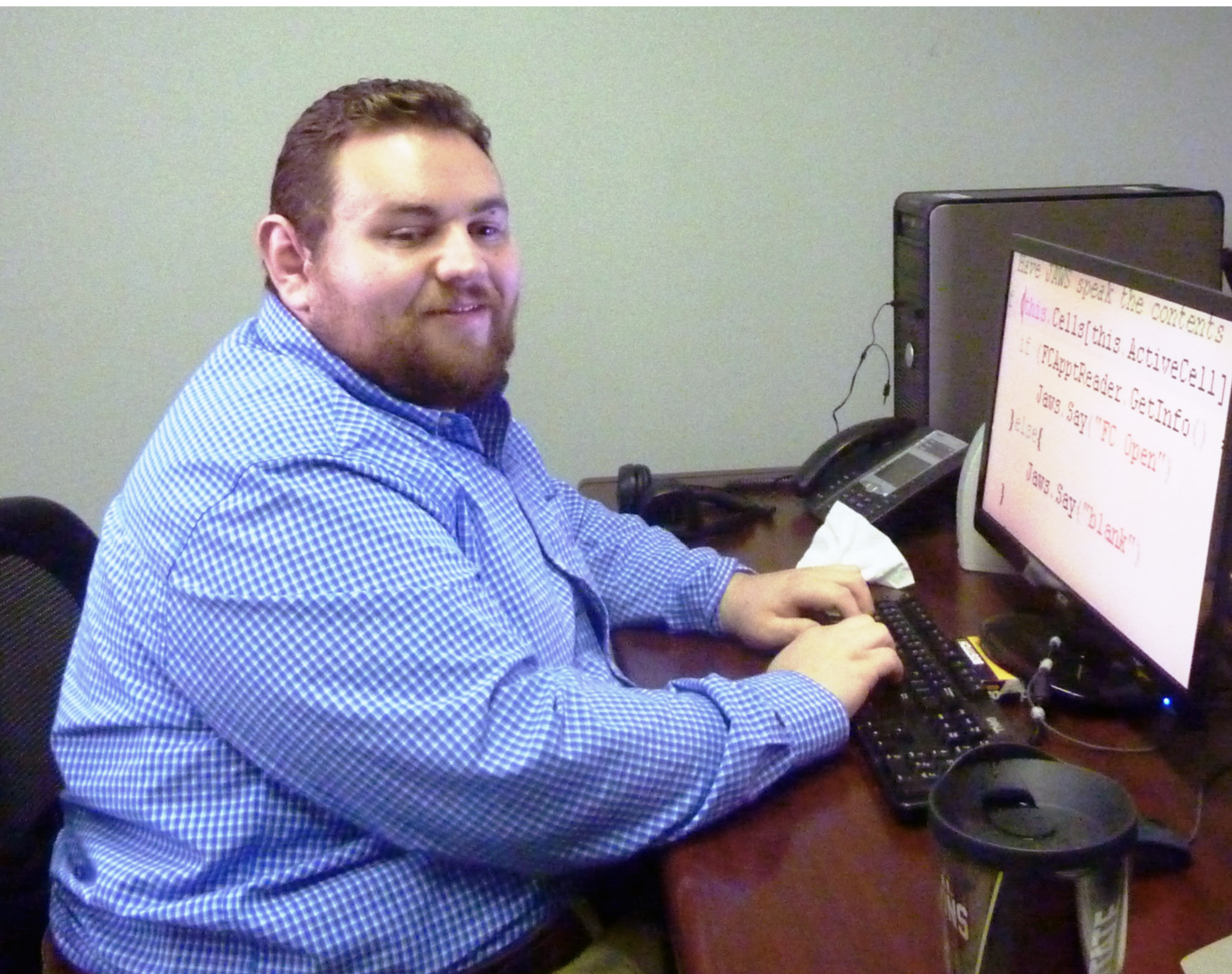
Meet Mike

User Spotlight: Mike Fox

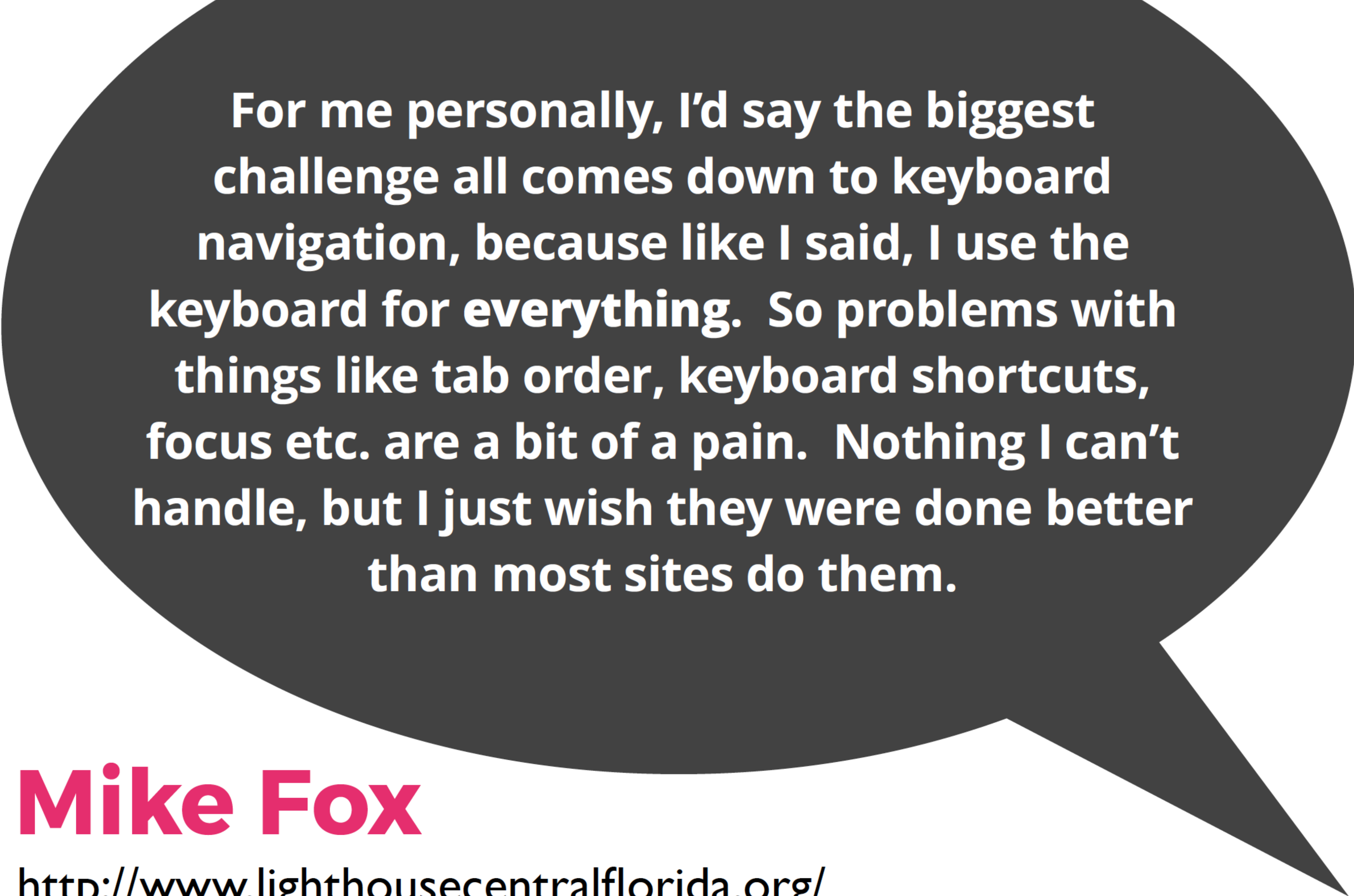


Mike is a software developer who is visually impaired. Mike recently presented at this year's Assistive Technology Industry Association (ATIA) conference on his innovations to streamline digital workflows for Lighthouse call center agents who are visually impaired.

On Being Visually Impaired



I have enough vision that I would still consider myself a visual user; however, I think I'm about as non-visual as a visual user can be. For example, I know how to find the X-button and click on it, but I'm way more efficient just pressing Alt-F4. I use keyboard navigation constantly, and really only use the mouse when I have to.



For me personally, I'd say the biggest challenge all comes down to keyboard navigation, because like I said, I use the keyboard for everything. So problems with things like tab order, keyboard shortcuts, focus etc. are a bit of a pain. Nothing I can't handle, but I just wish they were done better than most sites do them.

Mike Fox

<http://www.lighthousecentralflorida.org/>

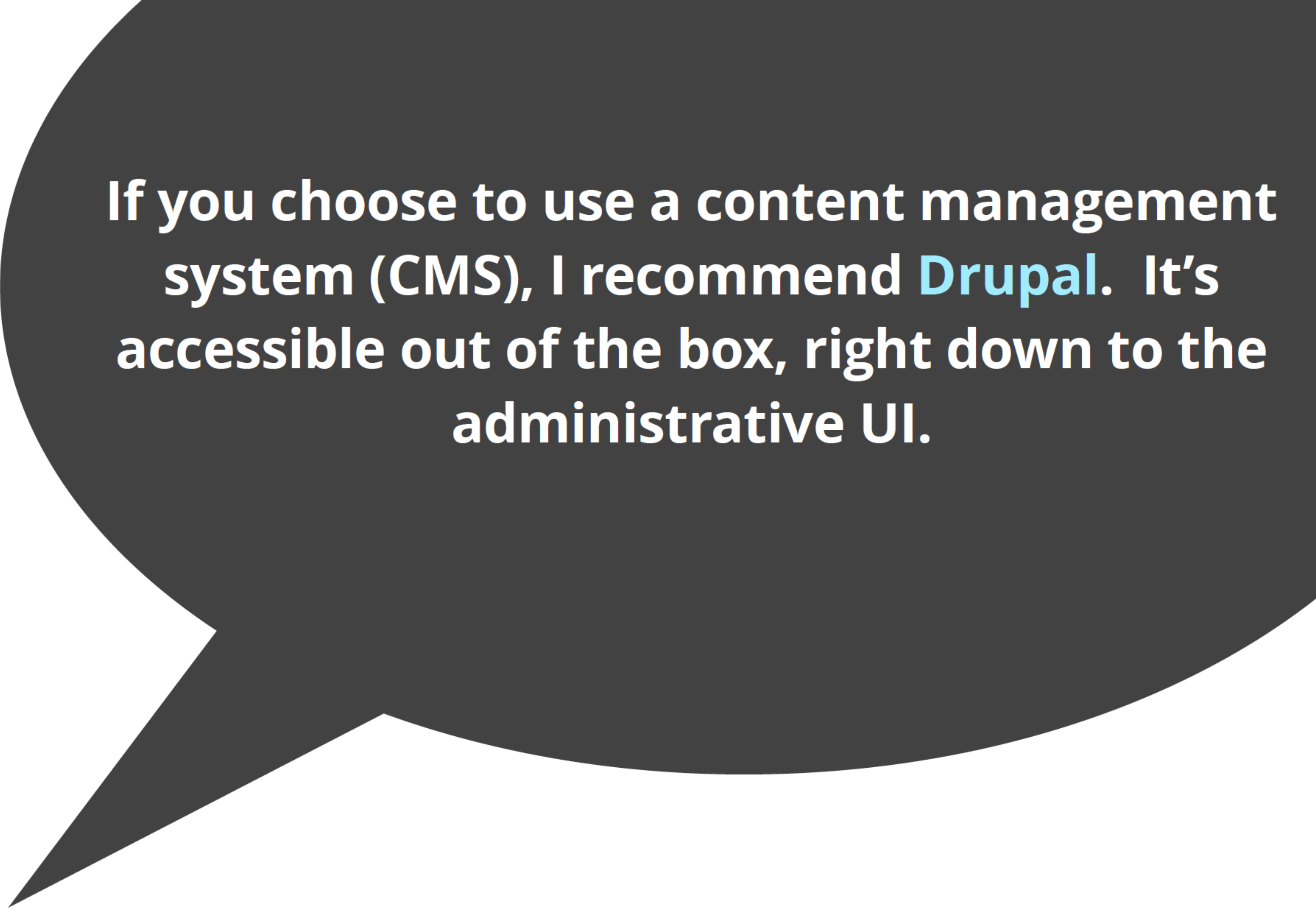
**What would you say to a room full
of Web Developers?**



Don't get me started! ;)

Mike Fox

<http://www.lighthousecentralflorida.org/>

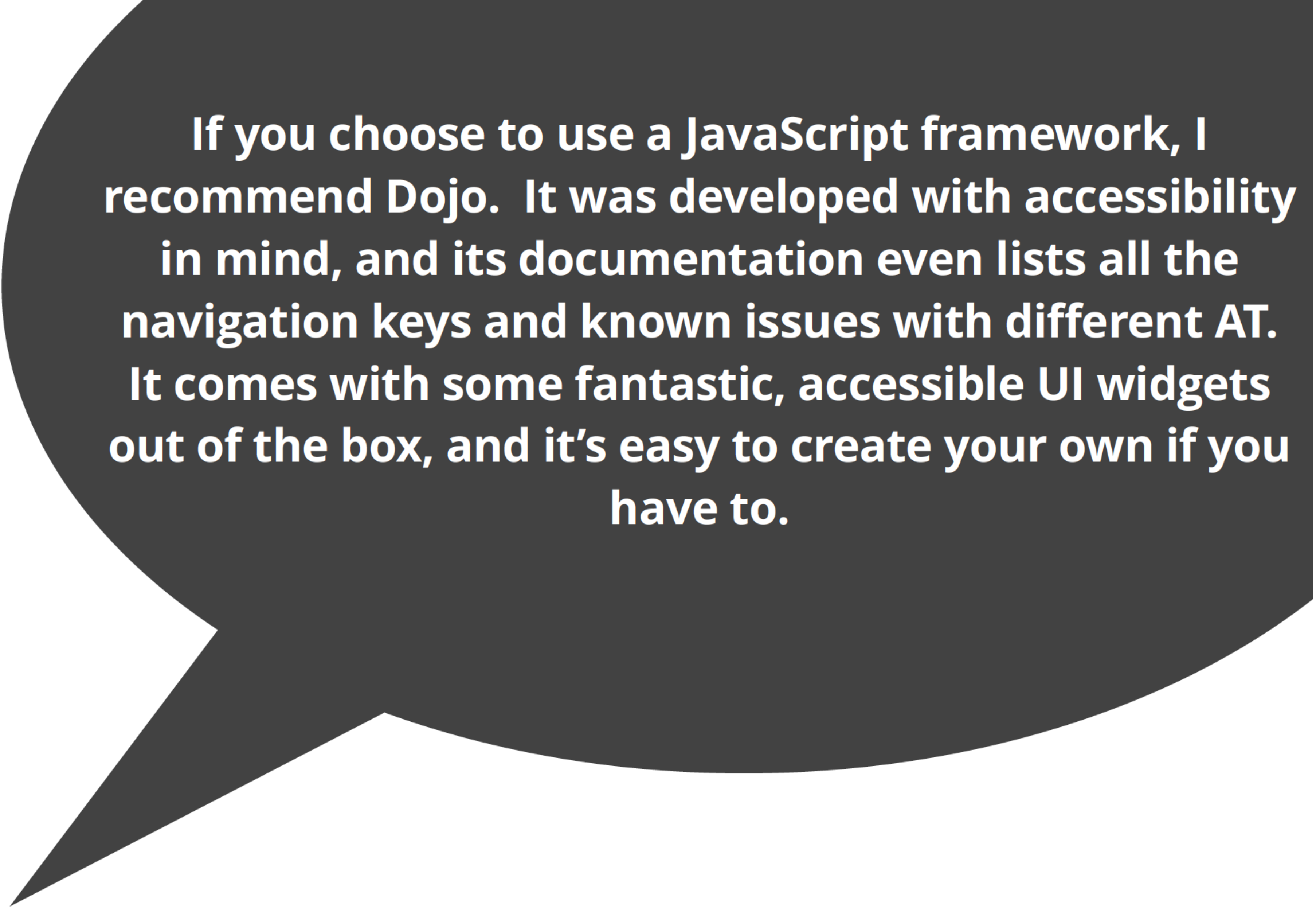


If you choose to use a content management system (CMS), I recommend **Drupal**. It's accessible out of the box, right down to the administrative UI.

Mike Fox

<http://www.lighthousecentralflorida.org/>


(I totally didn't tell him to say that, either!)



If you choose to use a JavaScript framework, I recommend Dojo. It was developed with accessibility in mind, and its documentation even lists all the navigation keys and known issues with different AT. It comes with some fantastic, accessible UI widgets out of the box, and it's easy to create your own if you have to.

Mike Fox

<http://www.lighthousecentralflorida.org/>



If you choose to use pure JavaScript, I strongly
recommend contacting
technology@lighthouseworks.org!

Mike Fox

<http://www.lighthousecentralflorida.org/>

In Their Own Words

Meet Adriana

User Spotlight: Adriana Mallozzi



Adriana is a 36-year-old with quadriplegia cerebral palsy who has been living independently in Boston, MA for over 18 years. She serves on the Board of Directors of Commonwealth Community Care (formerly BCMG), as well as on the Regional Board for Easter Seals Massachusetts.

Using a keyboard with a mouth stick or head pointer is the lowest tech way of accessing a computer and more prevalent than the more sophisticated and expensive options. For this reason, it is imperative that websites can easily be navigated with just a keyboard - i.e., the ability to tab between links, menu options, etc.

Adriana Mallozzi

<http://handicapthis.com/team/adriana-mallozzi/>



Assistive technology used by those with mobility impairments for accessing computers is basically a replacement of the conventional methods - being the keyboard and mouse/trackpad/trackball. So in theory, if a site is completely "browsable" by just using the keys on a keyboard (in conjunction with the accessibility features of the operating system - mouse keys and sticky keys), then it's accessible using any AT.

Adriana Mallozzi

<http://handicapthis.com/team/adriana-mallozzi/>

In Their Own Words

Meet Michelle

User Spotlight: Michelle Hedley



Michelle is from the North East of England. She's been severely deaf since birth and has seen how technology has changed and enhanced her life by way of access. She's also seen that access be prevented when digital media is used without subtitles. She is passionate about provision of subtitles for the 11 million British people with some form of a hearing loss, and of course more around the world!

In Their Own Words

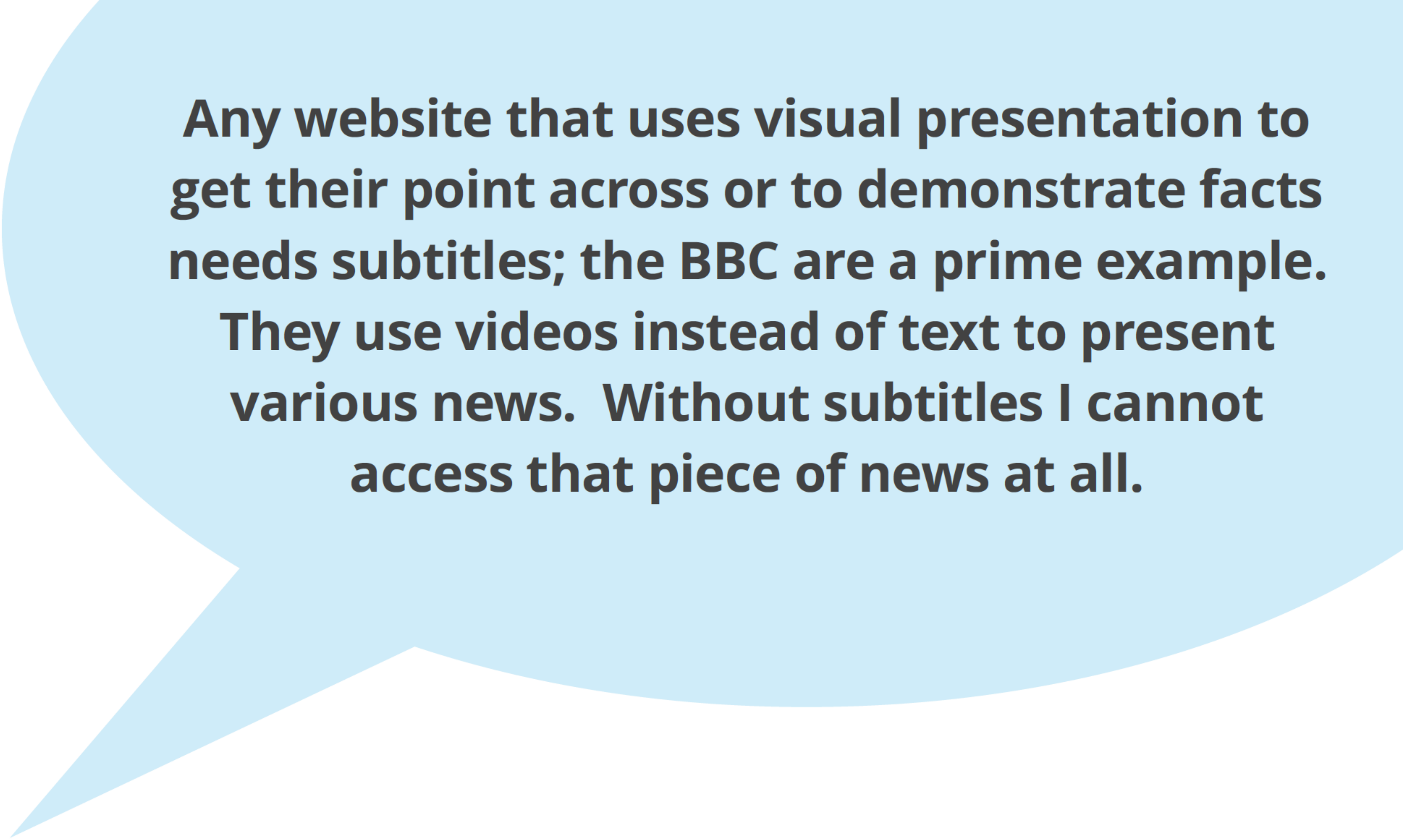
Meet Ellie

User Spotlight: Ellie Parfitt



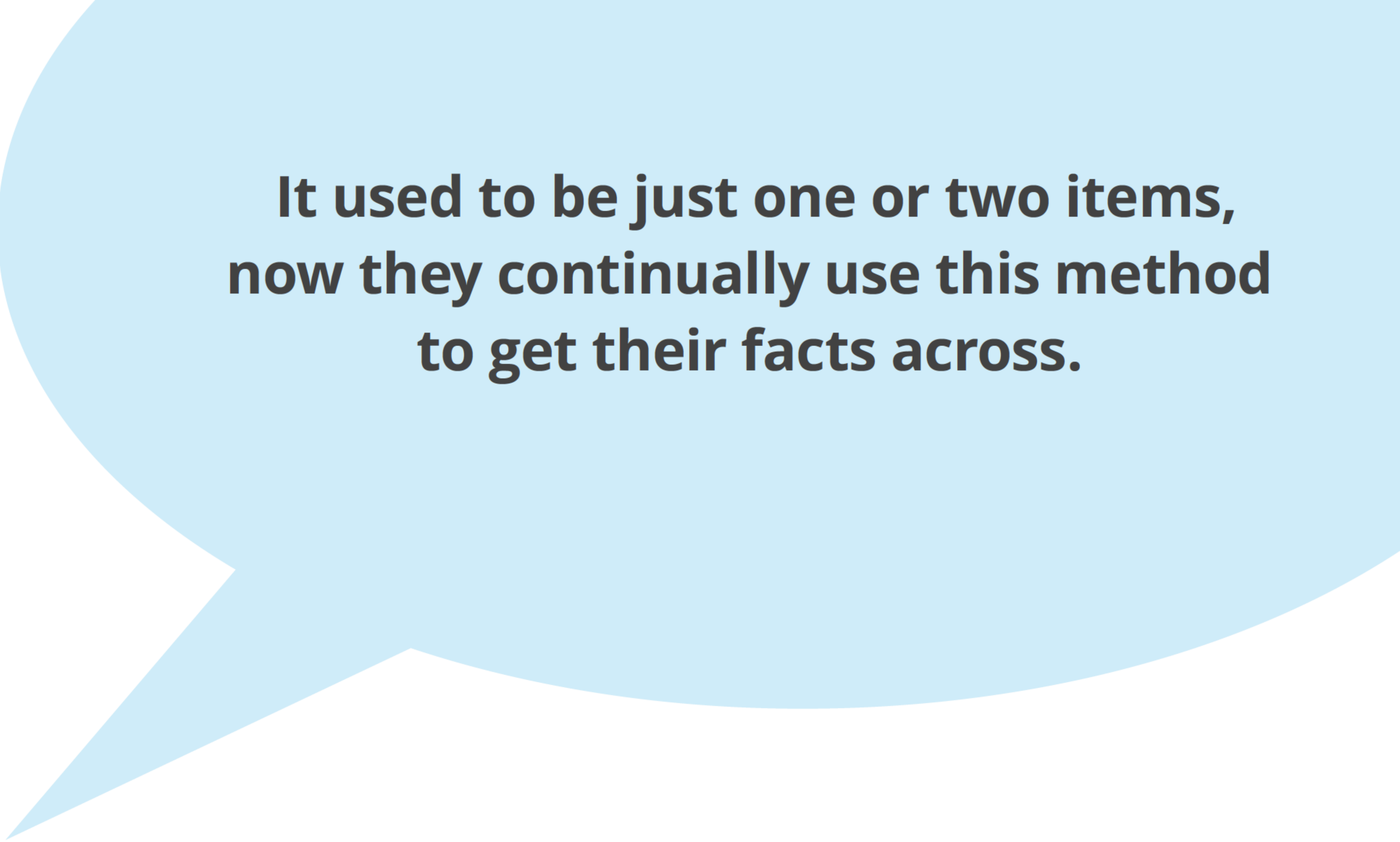
Ellie is 19, a profoundly deaf blogger, and a passionate deaf activist. She's a Brand Ambassador and writer for Phonak Hearing Like Me community blog.

She chronicles her adventures on her blog, 'Day in the Life of a Deafie'




Any website that uses visual presentation to get their point across or to demonstrate facts needs subtitles; the BBC are a prime example. They use videos instead of text to present various news. Without subtitles I cannot access that piece of news at all.

Michelle Hedley



**It used to be just one or two items,
now they continually use this method
to get their facts across.**

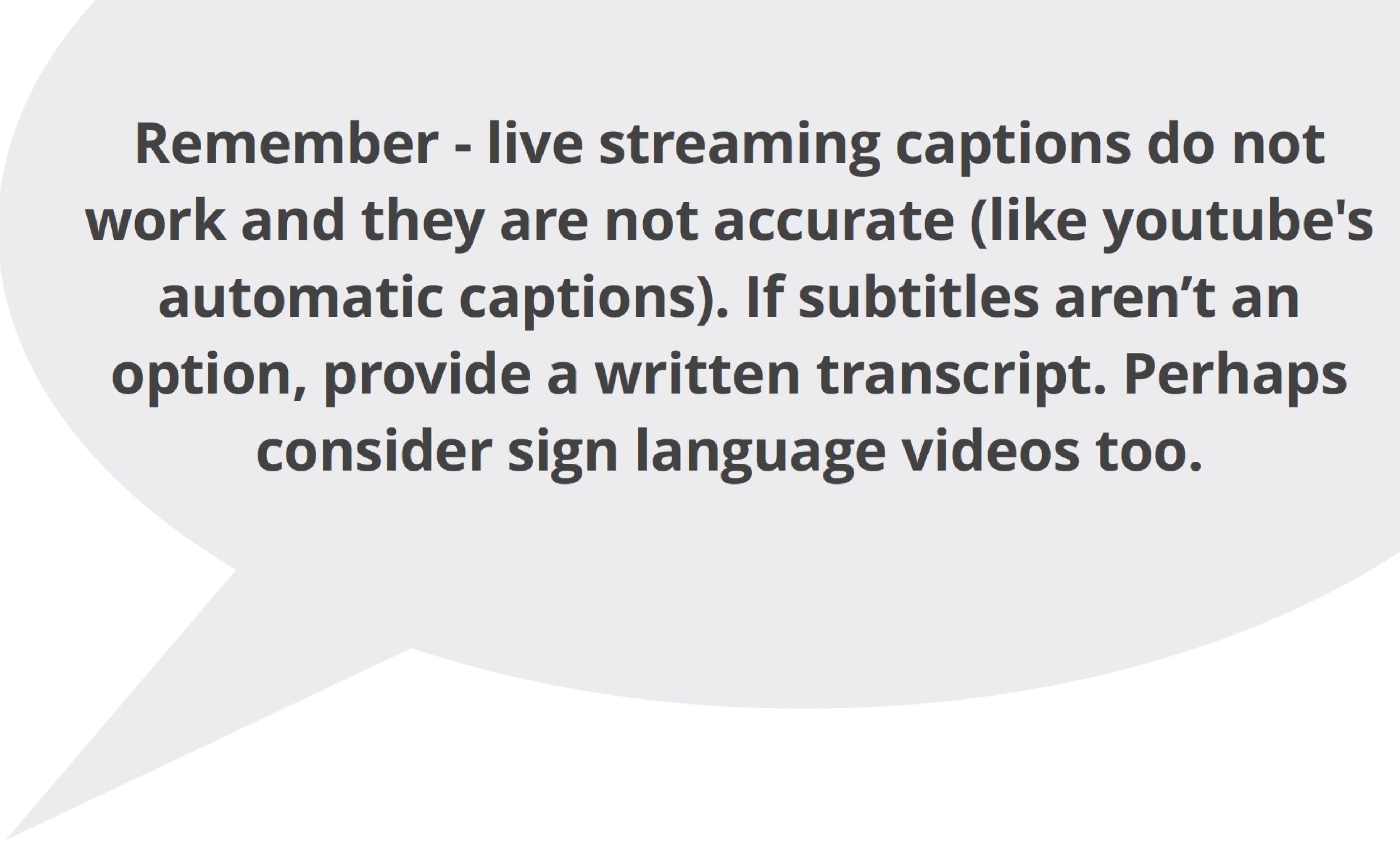
Michelle Hedley



One thing I'm really passionate about is captioning or subtitles! When there aren't subtitles on videos especially on websites, I can't follow them because I'm a lip reader and can't hear what they're talking about.

Ellie Parfitt

dayinthelifeofadeafie.wordpress.com/



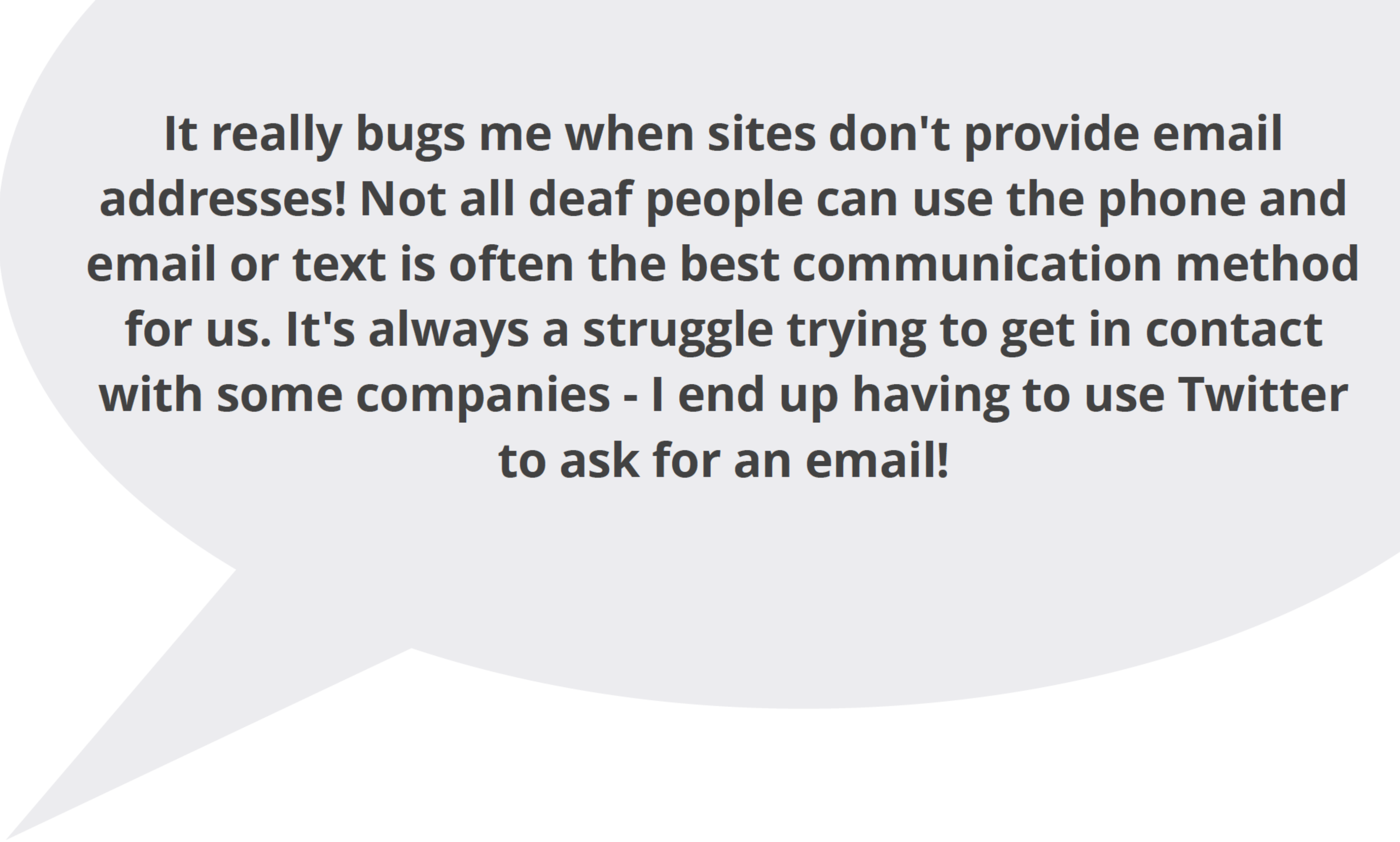
Remember - live streaming captions do not work and they are not accurate (like youtube's automatic captions). If subtitles aren't an option, provide a written transcript. Perhaps consider sign language videos too.

Ellie Parfitt

dayinthelifeofadeafie.wordpress.com/

The other thing that I would want from websites, and this is dependent on the service being provided, is a chat online facility in place of or as well as a phone help line. This has proved invaluable to me from companies where I can resolve issues independently without relying on a third party to make a phone call.

Michelle Hedley



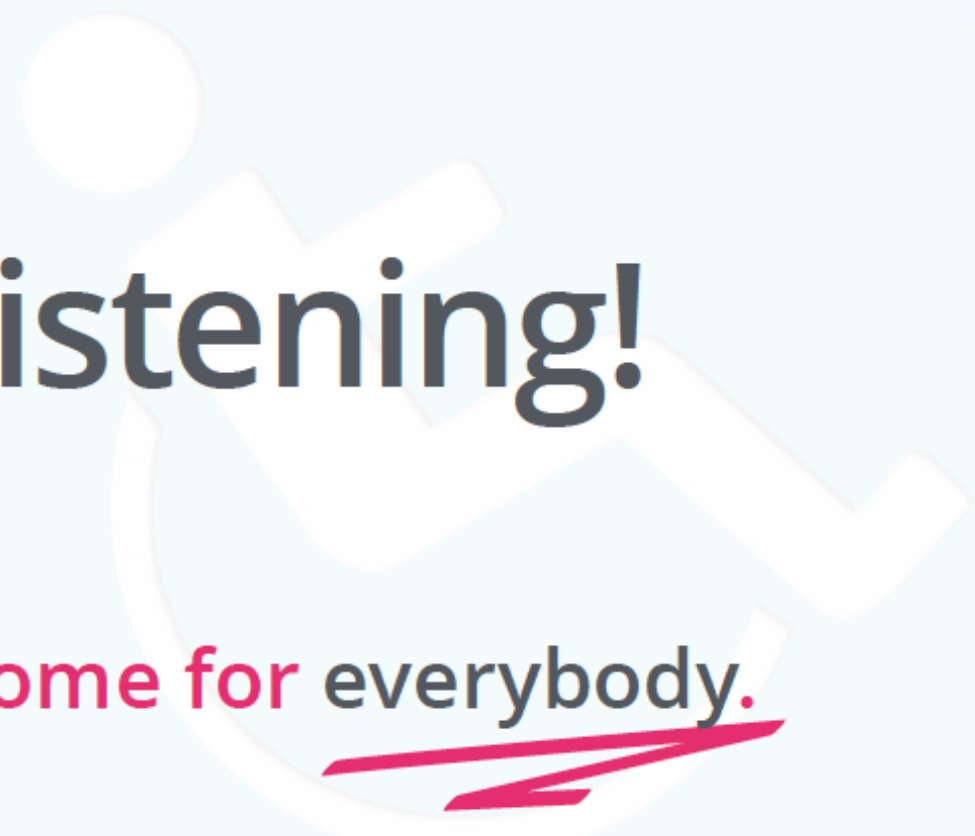
It really bugs me when sites don't provide email addresses! Not all deaf people can use the phone and email or text is often the best communication method for us. It's always a struggle trying to get in contact with some companies - I end up having to use Twitter to ask for an email!

Ellie Parfitt

dayinthelifeofadeafie.wordpress.com/

It's About Craftsmanship.

It's About Craftsmanship.



Thanks for listening!

Let's go make the web awesome for everybody.

Please say hi! I don't bite.
Tweet me at @misshelenasue