

# READABILITY & WEB: LET'S BUILD GREAT INCLUSIVE PROJECTS

Abstractions · Pittsburgh, PA · August 22, 2019

























Hi! 🖐️

I'm Damien.





Hi! 🖐️

I'm **Damien**.

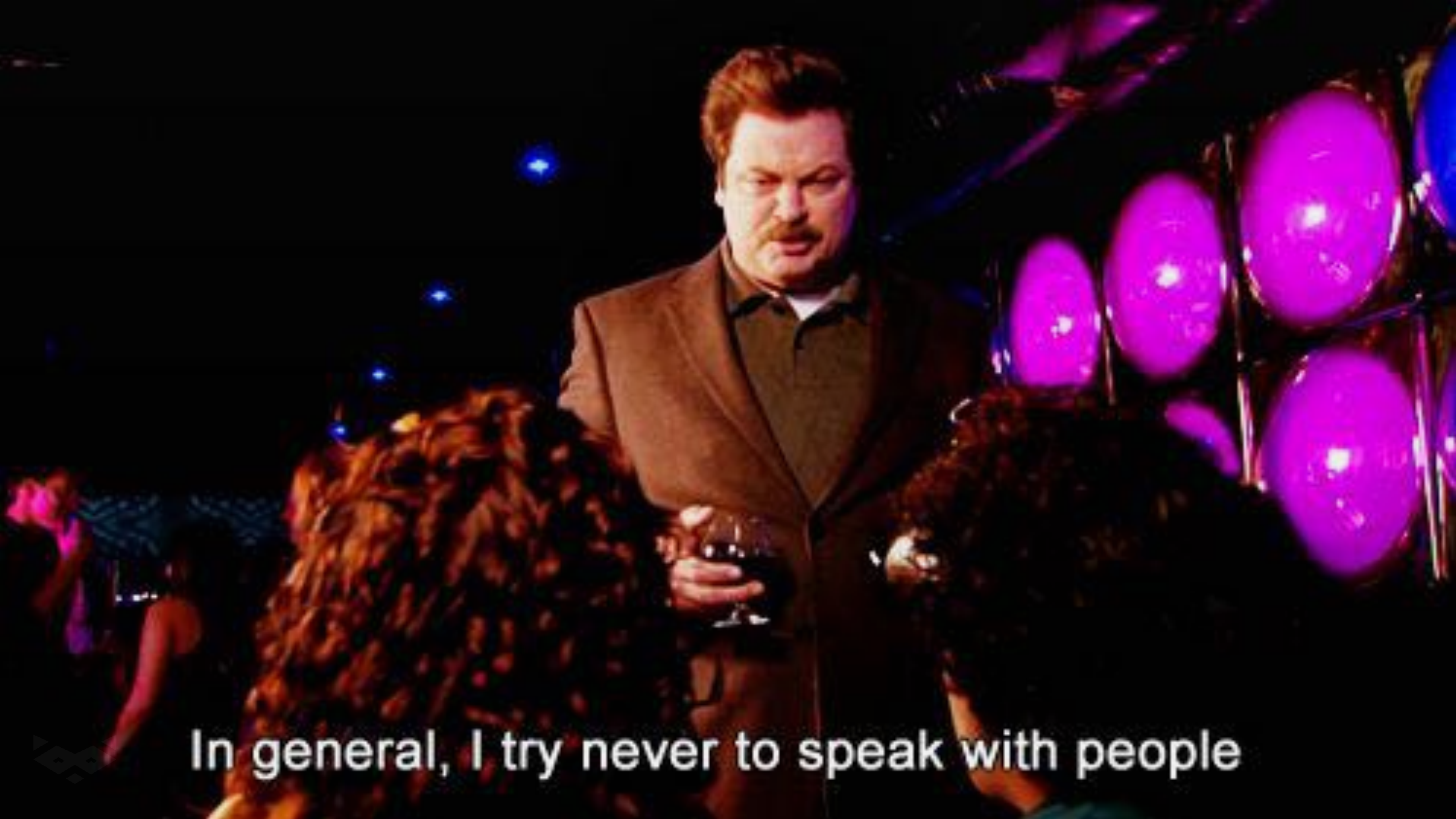
I am a queer **designer who codes**,  
specialised in **accessibility**.

I work for **Castor EDC** in Amsterdam, NL  
as a **Design systems & Accessibility Lead**.

I use **they/them** pronouns.







In general, I try never to speak with people



# Let's have a chat!

Just kidding!

I am more than happy to discuss how to make the Web a better place with you.

So feel free to come and discuss any topics such as accessibility, inclusive design, design systems, collaboration, team building, trains, raccoons or just your favourite coffee spot in town!





# Content warnings ⚠️

I am known to use a colourful language,  
so please pardon my French! 🙊

Some recordings of websites could trigger a bit  
of motion sickness. 🤢

Usually, my sense of time is really bad. ⌚

And also, raccoons? 🦨





Buckle up!

Let's talk about **readability**.





But first,  
why?







**I have a permit**

citytv



Reading is **a complex cognitive process.**





Literacy is an **acquired skill** requiring  
an **important learning curve.**





Literacy is **not always a life-long skill.**  
You can acquire reading difficulties.





The thing is... the Web is mainly **text-based**.  
And a text is **not accessible per se**.



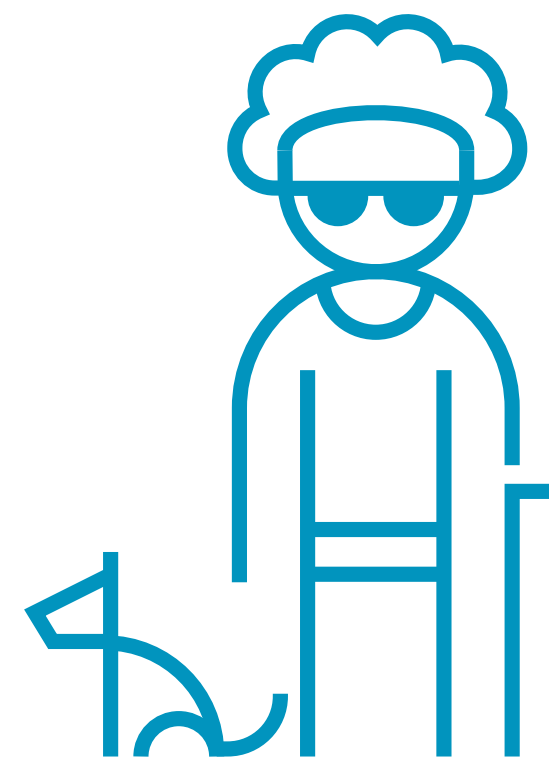


There is **two** groups  
of reading impairments





# Vision impairments



Blindness



Eye infection  
Hay's fever



Visual  
distraction

Microsoft icons





# Cognitive impairments



Dyslexia/Alexia  
Hyperlexia  
Autism  
ADHD



Fluency



Stressful context

Microsoft icons





# A quick focus on **dyslexia**





**± 10%** of the global population  
is having a degree of dyslexia.

World Health Organization, 2011

Dyslexia Research Trust, 2014

University of Gothenburg, Sahlgrenska Academy, 2014

United Kingdom NHS, 2017





Commonly associated with  
**ADHD, autism or dyscalculia.**





Not always since childhood: it can appear  
after **traumatic brain injuries** and **strokes**.





Also, dyslexia is **not only** about reading.





Studies show that **improving readability for dyslexic users improve the experience for all.**

Ten guidelines for improving accessibility for people with dyslexia.  
V. Zarach – CETIS University of Wales Bangor, 2012





# How do we read?





Reading is about **sounds**. 🎵

Reading is about **rhythm**. 🎶

Reading is about **music**. 🎼





Reading is mainly a **phonological process**.





The reading experience can be heavily  
impacted by the context & environment.



Reading is not linear,  
we are reading by *saccades*.





And between each saccades,  
we have something called *fixation*.



**During a fixation, everything  
except the focus is blurry.**





**And every few fixations,  
we need a small break.**



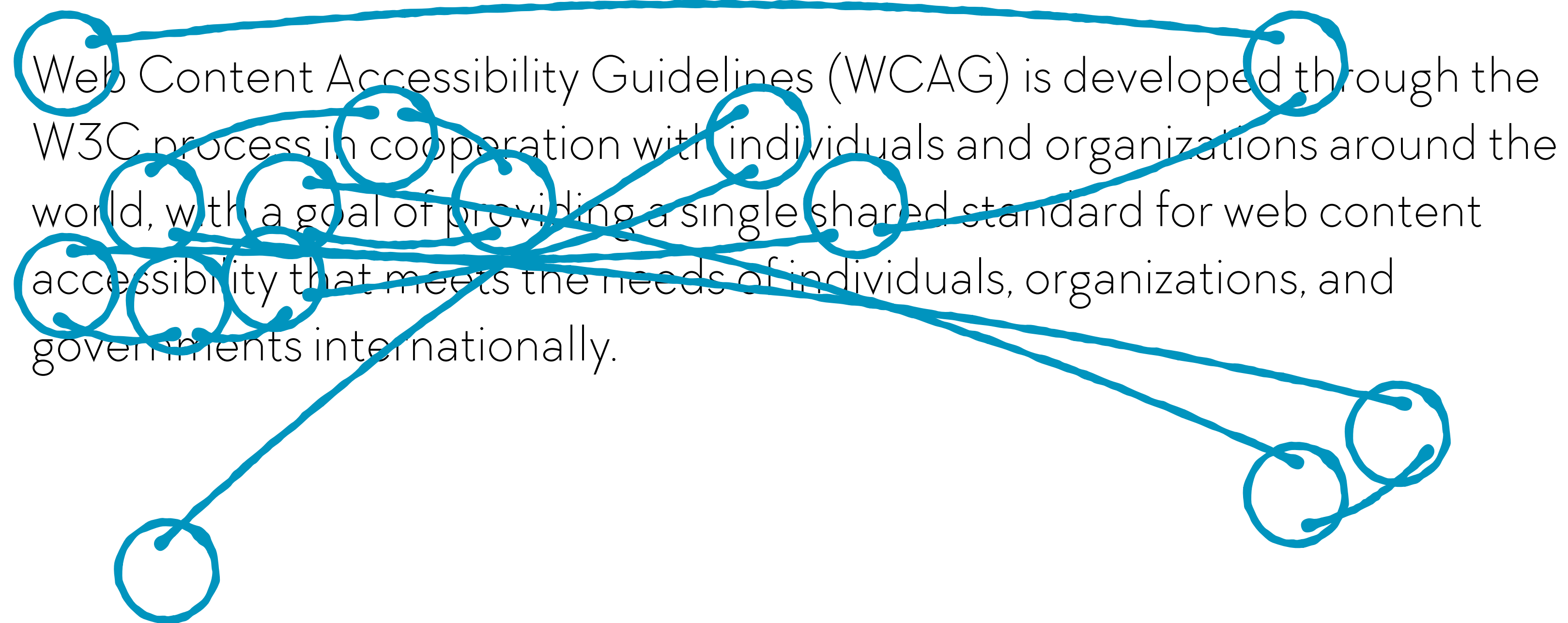
The **size of our saccades** and the **duration of fixations** depend on the type of reading.

When browsing websites, we are mainly using an **exploratory reading pattern**.





Web Content Accessibility Guidelines (WCAG) is developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally.

A series of hand-drawn blue circles and lines are overlaid on the text. The circles are placed around several words: 'Web', 'Content', 'Accessibility', 'Guidelines', 'WCAG', 'is', 'developed', 'through', 'the', 'W3C', 'process', 'in', 'cooperation', 'with', 'individuals', 'and', 'organizations', 'around', 'the', 'world', 'with', 'a', 'goal', 'of', 'providing', 'a', 'single', 'shared', 'standard', 'for', 'web', 'content', 'accessibility', 'that', 'meets', 'the', 'needs', 'of', 'individuals', 'organizations', 'and', 'governments', 'internationally'. Lines connect some of these circles, forming a network that highlights the structure of the sentence.

On a screen, we are **not reading**  
**in a word-by-word manner.**





**Yuo cna porbalby raed tihs esaliy desptie teh  
msispeillgns.**



**You can probably read this easily despite the  
misspellings.**





This is possible thanks to  
letters' *identifying features*



**These identifying features allow us  
to read more easily.**





**Readability**

**READABILITY**



problem

porbelm

pbleorm











Bear with me, the lecture part of this talk is almost over. 🦨



# Readability

## 101.











Baggage hall



Exit



Gates

**BDEFGH**



Gates

**C 21-26**



Transfer

**T2-9**

Understandable even without knowledge of the language







Baggage hall



Exit



Gates

**BDEFGH**



Gates

**C 21-26**



Transfer

**T2-9**

Good visual information architecture



credits: Mijksenaar





Size clearly adapted to the context







Icons, hierarchy & wording consistency across the whole journey








The 4C of readability



↓ **Sortida**  
Way out  
**Salida**

**P**   

↓  **Informació Trànsits**  
Transits Information  
**Información Tránsitos**

↓  **Recollida d'equipatges**  
Baggage claim  
**Recogida equipajes**


**B**

↓  **M0-M1-M2-M3** ↓  **Portes**  
Gates  
**Puertas 01 to 39**

↓ **Sortida**  
Way out  
**Salida**

**P**   

↓  **Informació Trànsits**  
Transits Information  
**Información Tránsitos**

↓  **Recollida d'equipatges**  
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Transits Information  
**Información Tránsitos**

↓  **Recollida d'equipatges**  
Baggage claim  
**Recogida equipajes**

**B**



Continuity: repetition of the information until the endpoint








Conspicuity: being easily seen or noticeable, attract people's attention





  Baggage hall |  Exit



Consistency: keeping the same wording along the way





Clarity:

the message needs to be clearly understandable



Thanks Paul Mijksenaar 👍







We're done with the theory. You clearly deserve another cute raccoon. 🦨



# Readability & web content.





**First, Open Dyslexia  
is **not** a solution.**





There is **no one-fits-all** solution.





So **what?**





1.

# Micro-typography





🎨 Having a **good contrast** is essential, but careful

💛 Using yellowish/**beige background** can help

🔠 **Sans-serif** and monospaced for the win

📏 **White space** is your friend, use it wisely

💡 Use **colours & weights** to attract attention





2.

# Macro-typography & Layout





↔ Prefer **left alignment** for texts in LtR languages

📢 Use **headings** to make the information clearer

💻 Use **semantic** markup & design accordingly

🕒 Create consistency in the layout

🌐 Provide two ways to access content







About me

Projects

Workshops

Talks

Blog



Hi! Hej! Bonjour !

I am **Damien**, digital **designer**  
and **accessibility advocate**.





3.

Adopt an inclusive  
writing-style







Use an **active voice** rather than passive voice



Use **short & simple** sentences in direct style



Use **images & medias** to support your content

- A **list** is always clearer than a paragraph



Avoid **jargon-specific language** and abbreviations



4.

Create

**distraction-free** experiences







Mandataire Auto Neuve et Voiture d'Occasion avec Trouve Ton Auto

ANNONCES

GUIDE D'ACHAT

ANNUAIRE DES PROS

SERVICES

Quel type de véhicule vous recherchez ?

OCCASIONS

NEUFS



Taper votre recherche marque ou modèle

KM



ANNÉE



PRIX



RECHERCHER

3884

ANNONCES DISPONIBLES

Recherchez vite la votre !



You know... this kind of really useful distractions.



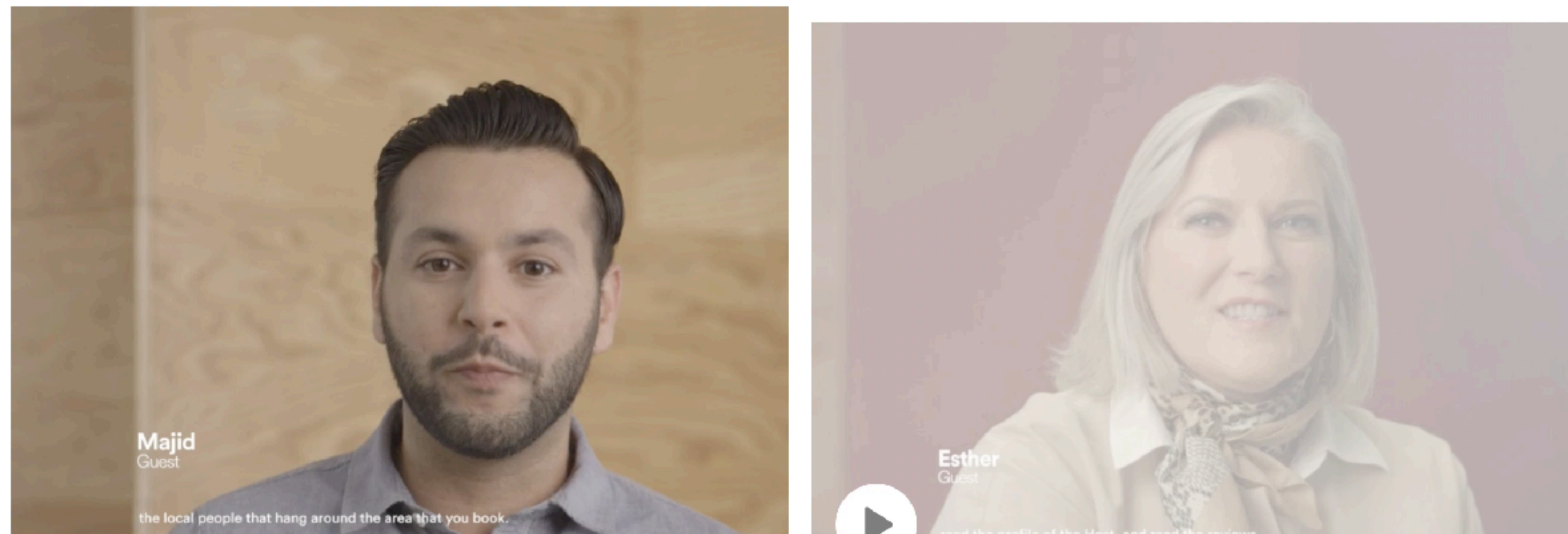


[Become a Host](#)[Trips](#)[Messages](#)[Help](#)

**Live there.** Book unique homes and experience a city like a local.

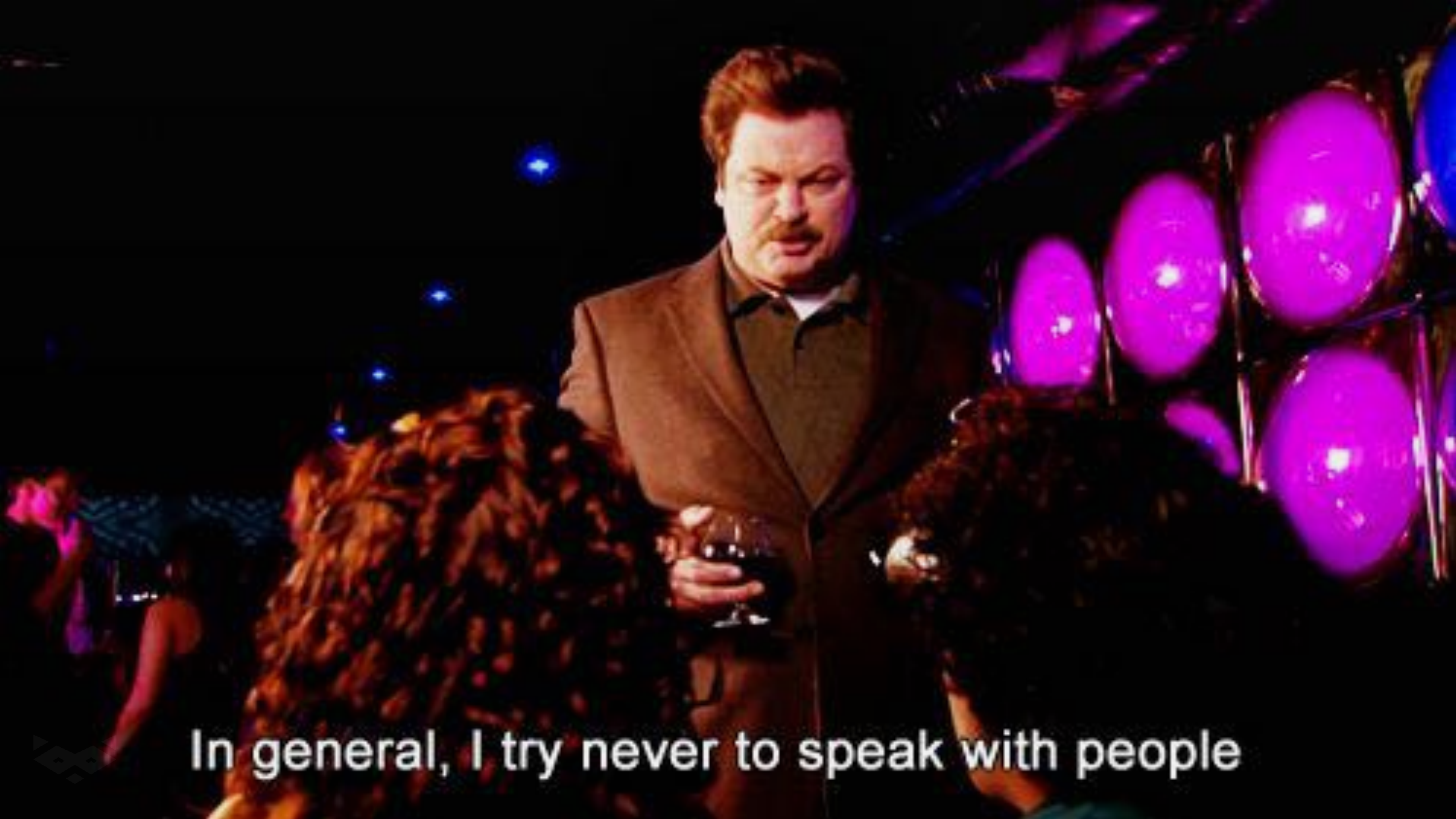
Where Berlin, Germany	When 12/05/2017 → 14/05/2017 ×	Guests 3 guests ▾	Search
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Getting started



Hey buddy! You looks friendly but... no thanks. 🙅





In general, I try never to speak with people





# Rather a challenge than routine.

If you want to jointly overcome all before us,  
we are on the best path to cooperation.

WHAT IS OUR CLIENT LIKE



And please **stop making assumption about time needed by a user to read** a content.





The last,  
but not the least...







It's time to **remove unnecessary** content.



So, how to **experiment**  
with your projects?





You can use recording tools  
like **pointer and move heat-maps**.





Fairphone 2

[back to product page](#)

## Fairphone 2

Why is the Fairphone 2 temporarily out of stock on Fairphone.com?

At the moment, **some Fairphone 2 components are delayed** in arriving at the factory. To cope with this shortage, we are prioritising spare parts for existing customers and obligations to our reseller partners, over selling new phones directly.

When will the Fairphone 2 be back in stock on this website?

A small number of Fairphone 2s are back in stock this month, and we are offering them to customers who have been on the waitlist the longest. For everyone else, **more Fairphone 2s will be available sometime in the coming months.**

How can I buy a Fairphone 2 right now?

To find a **reseller partner** please select your country [here](#), and then check under the **signup box** [here](#) to find partners we suggest for your location. We can also help you find a local store in some countries.



You can learn what is catchy and how to optimise a page



**You should test your content using  
a **screen reader** and tools like the **Web Rotor**.**





About me

Projects

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Blog

Hi! Hej! Bonjour !  
I am **Damien**  
and **accessibility**

## Headings

1: Hi!Hej!Bonjour ! I am Damien, digital designerand...

2: How may I help you?

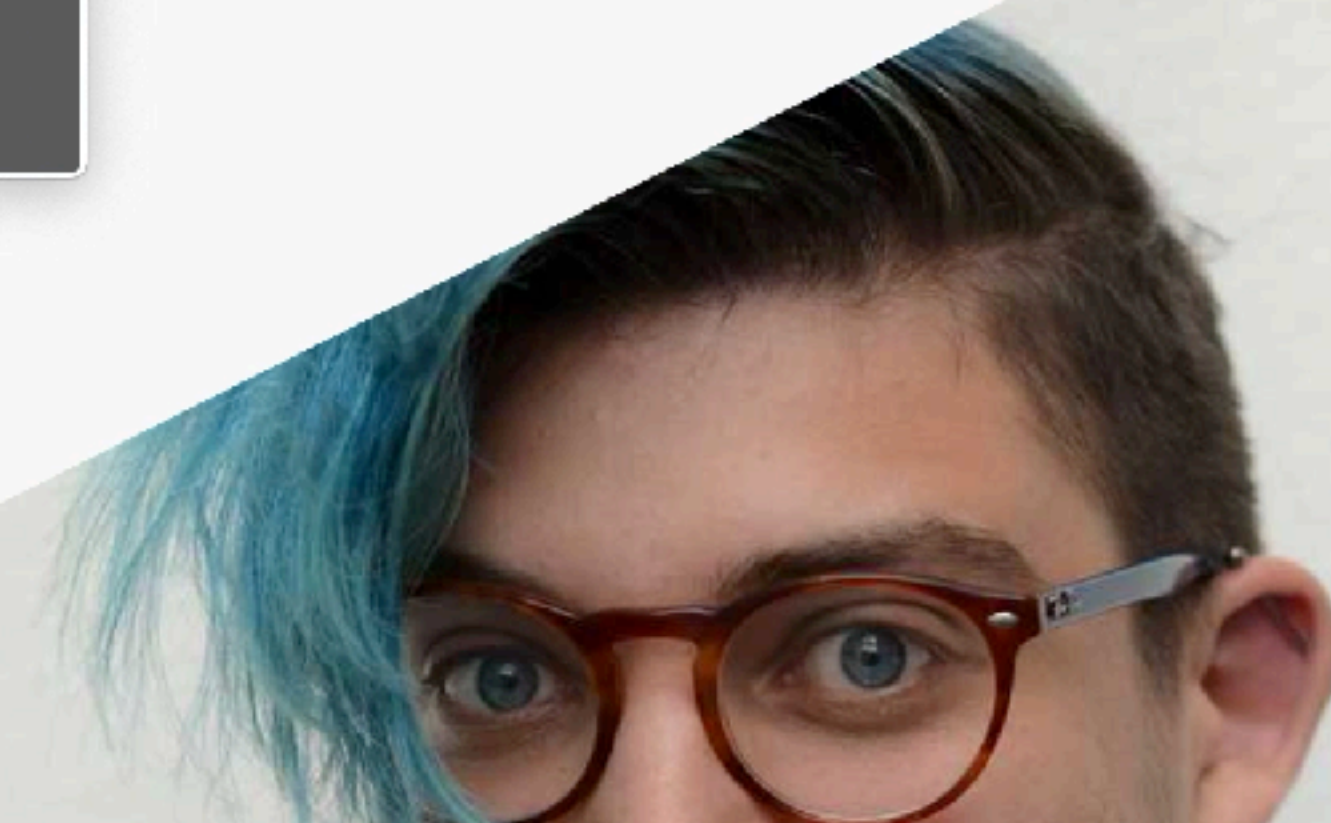
3: Building interfaces with inclusivity in mind

3: Bringing accessibility in your work & workflow

3: Raising awareness on accessibility & inclusivity

6: Let's discuss together?

× heading level 1 10 items Hi! Hej! Bonjour ! I am Damien , digital designer and accessibility advocate .





You can calculate your **readability score**.



## Your Results:

Your text: Our interfaces can make people sick This story ...[\(show all text\)](#)

**Flesch Reading Ease score: 40.2** (text scale)  
Flesch Reading Ease scored your text: [difficult to read.](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**Gunning Fog: 15.9** (text scale)  
Gunning Fog scored your text: [difficult to read.](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**Flesch-Kincaid Grade Level: 12.7**  
Grade level: [College.](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**The Coleman-Liau Index: 12**  
Grade level: [Twelfth Grade](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**The SMOG Index: 11.6**  
Grade level: [Twelfth Grade](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**Automated Readability Index: 12.8**  
Grade level: [18-19 yrs. old \(college level entry\)](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

**Linsear Write Formula : 14.2**  
Grade level: [College.](#)  
[\[f\]](#) | [\[a\]](#) | [\[r\]](#)

### Readability Consensus

Based on 8 readability formulas, we have scored your text:  
Grade Level: 13  
Reading Level: difficult to read.  
Reader's Age: 18-19 yrs. old (college level entry)



A series of algorithms help you understand the readability of your content.



Some **good**  
examples.

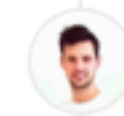
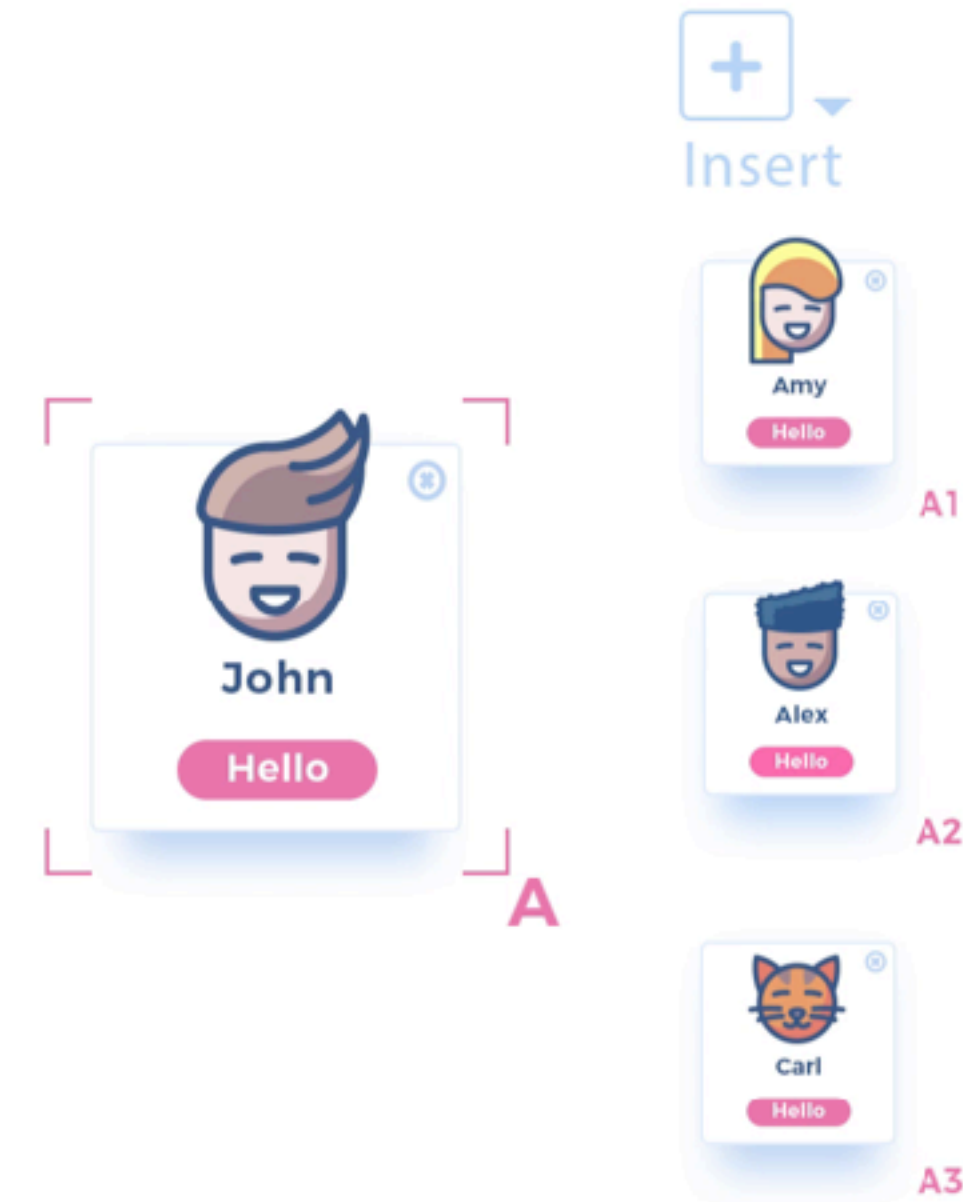


## DESIGN COMPONENTS

# Symbols are becoming a design standard

In April 2016, Sketch re-introduced Symbols to save designers more time.

- Sketch files saw 7.6x growth of Symbols usage
- Even Adobe Xd and Affinity Designer have introduced Symbols to keep up the pace

[Learn more](#)

Illustrated by [Benjamin Bely](#)

Definitely not perfect (why are you using such a painful green colour 😅),  
but interesting and **distraction-limited experience**.





OUR ENCHANTING

# Smashing Articles

All Smashing Magazine's articles, sorted chronologically. Over 11 years, we've published 2137 articles, written by 229 hard-working authors. Still counting.

[Dhimil Gosalia](#) wrote

## Building A Pub/Sub Service In-House Using Node.js And Redis

JUNE 12, 2018 — As the size of data for each message in our system differs from a few bytes to up to 100MB, we needed a scalable solution that could support a multitude of scenarios. In this article, Dhimil Gosalia explains why you should consider building an in-house Pub/Sub service, too.

[Read More...](#) 11 min read [Leave a comment](#)

Smashing Mag is not afraid using **bold** and **big font-sizes**

an iterative, user-centered, approach to creating solutions. But what if we applied the user-centered design process to ourselves, our lives, and our careers?

 [6 comments](#)

[Read More...](#)



[Lyndon Cerejo](#) wrote

## The Ethics Of Persuasion

JUNE 5, 2018 — Nowadays, users are increasingly cautious of online and email scams, phishing attacks, and data breaches. This article provides food for thought for designers and developers to avoid crossing the ethical line to the dark side of persuasion.

 13 min read

 [9 comments](#)

[Read More...](#)



[Kunal Sarkar](#) wrote

## Making Avengers ID Card In HTML And CSS

JUNE 4, 2018 — In this tutorial, we will build a sci-fi ID card for Avengers. You will learn Flexbox, Nested Flexbox, CSS animations, and a ton of other CSS techniques while building this interesting project.

 17 min read

 [23 comments](#)

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# The Human Side of Technology

Welcome to Offscreen, a [print magazine](#) and a [weekly newsletter](#) with a thoughtful, human-centred take on technology and the web. Discover purpose-driven people, products, and ideas that shape the future. [More about us.](#)

Just released:  
[Offscreen Issue 19](#)

Magazine

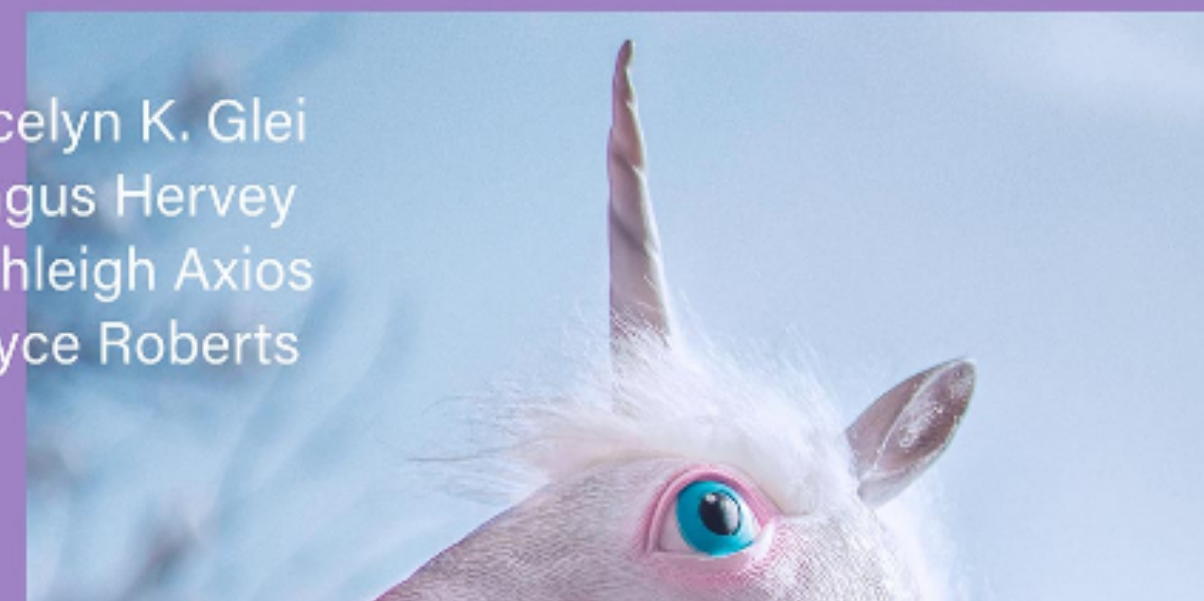
Fresh Thinking on Tech, in Print

Published three times per year in beautiful print, Offscreen Magazine is a thoughtful deep-dive into the entrepreneurial spirit and future

19

Offscreen

Jocelyn K. Gleib  
Angus Hervey  
Ashleigh Axios  
Bryce Roberts



**Readability** and **content grouping** with in clear way



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### Fresh Thinking on Tech, in Print

Published three times per year in beautiful print, Offscreen Magazine is a thoughtful deep-dive into the entrepreneurial spirit and future vision of people working with technology.

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Intimate conversations with entrepreneurs, designers, thinkers, activists, researchers, and more.

#### Introspective essays

Food for thought through reflective, personal stories on life and work in a connected world.

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# 19

# Offscreen

Jocelyn K. Gleib  
Angus Hervey  
Ashleigh Axios  
Bryce Roberts



THE HUMAN SIDE OF TECHNOLOGY



**Readability** and **content grouping** with in clear way

## Field Notes

Peek behind the curtain: we love sharing our process and thoughts on indie publishing through [our blog](#).

### Just released: Issue 19 →

In time for the lovely spring weather here in Germany, issue 19 launches today and will start shipping early next week. To be part of the first big batch leaving our warehouse, make sure you order ...

### Acknowledging Privilege →

This essay by Bryce Roberts first appeared in Offscreen Issue 14 (now sold out). Last Sunday night, my daughter was moaning and rocking back and forth in her chair, wrestling with a question staring back at ...

### Issue 18 Editor's Note →

After Mills' encouraging email, I decided to publish the editor's note of the latest issue here. I believe it's one of the most important Offscreen issues yet. Make sure you purchase your copy before...

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## What Readers Say



**Readability** and **content grouping** with in clear way



# What Readers Say

If you work pushing pixels or conjuring code, Offscreen Magazine will make you feel human again.

**Calvin Teoh**



Great design and great content. Also love the way Offscreen handles advertising with a fair, tasteful non-obtrusive approach. Other magazines should take note.

**Jason Cotterell**



My summary of Offscreen: emanates tranquility, restful for eyes and mind, content drew me in — I felt welcome, like sharing over cup of tea.

**Ajara Pfannenschmidt**



Every time I read something from Kai reminds me of the deep well of respect I have for what he's done and will do with Offscreen.

**John Barton**



Excited! Received my first hard copy of Offscreen and not going to sleep until I read the last page.

**Polina Kina**



I can't get enough of Offscreen. I love every page of every single issue! Inspiring content and impeccable design!

**Rafael Medeiros**



The only thing disappointing about Offscreen is when you realise you've finished every article contained inside.

**Andy Lwnski**



It's rare these days to find a magazine that's so infectious I sneak away from everything just to read another article. Nice!

**Jamie Young**



Last month I read issue 13 of Offscreen. I forgot how much I enjoyed reading a magazine. Now I remember! Thank you! Really amazing work!

**Ana Sofia Pinho**



Reading Offscreen feels like applying a first aid kit for the soul. I'm keen to not rush it, to savour each page.

**Ben Seymour**



Subscribed for the next three issues. Every Offscreen so far has changed the way I've wanted to conduct life and business. Keep it up.

**Tim Riley**



It's the first mag I've read every word, cover to cover (including the ads) ever such inspiring people. Just awesome.

**Mark Stewart**



I whole heartily recommend Offscreen. Printed beautifully, lovely design and the content is even better.

**Benjamin Reid**



I never thought I'd subscribe to a print magazine again in my life. And yet somehow Offscreen gets it so right that I did. Well done!

**Jean Friesewinkel**



These days it takes me more time to read uninterrupted. But it was worth it for this gorgeous and insightful latest issue of Offscreen!

**Thibault Lemaitre**



If you haven't already, check out (and buy) Offscreen - probably the single most beautiful magazine I've ever seen. Inspiring stuff!

**Buzz Osborne**



Offscreen Magazine is a thoughtful dive into the lives of creatives, best enjoyed with a morning coffee.

**Erin Anacker**



Offscreen is such a quality publication. It always leaves me feeling smarter and enthused about the world we live in.

**Nicholas Krause**



Just received my copy of Offscreen. Even better than anticipated, great work. Haven't seen a mag of this quality for a long time. Look forward to reading through it all.

Cannot wait to get my hands on the next Offscreen. This is such a masterpiece every time. Thanks a lot Kai for that joy!

**Yannick Schutz**



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**Yannick Schutz**

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Published from Melbourne, printed in  
Berlin, read around the world -  
Offscreen is an independent magazine  
and newsletter with a thoughtful,  
human-centred take on technology  
and the web.



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# HURU BACKPACK



Built-in detachable fanny pack (waist bag), rain hood, and a lifetime warranty make HURU a smart and reliable companion for the city and travel.

## ADD TO ORDER:

- |                                     |                        |   |              |
|-------------------------------------|------------------------|---|--------------|
| <input checked="" type="checkbox"/> | HURU Backpack          | + | <b>\$249</b> |
| <input type="checkbox"/>            | Fanny pack (waist bag) | + | <b>\$49</b>  |
| <input type="checkbox"/>            | Chest Buckle           | + | <b>\$24</b>  |

## \$249

[ORDER NOW](#)

Even in **ecommerce**: a **nice & readable design** is a must-have for webshop



## F E A T U R E S



## HAND LUGGAGE SIZE

No more wasting time checking in your luggage and waiting for it after your flight.

HURU fits perfectly into airplane overhead compartments, so your belongings are always with you during your flight.

13,6' / 35 cm width;  
20,6' / 53 cm height;  
5,5 lbs / 2.5 kg weight.



Even in **ecommerce**: a **nice & readable design** is a must-have for webshop





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20,6' / 53 cm height;  
5,5 lbs / 2.5 kg weight.



Even in **ecommerce**: a **nice & readable design** is a must-have for webshop



# WATER RESISTANT MATERIALS

- ✕ HURU is made of CORDURA fabric — durable, versatile, reliable, water-repellent, trusted by the US Army.
- ▼ Custom-designed buckles, made from anodized aluminium and brass.
- Japanese YKK zippers, produced in Germany, known for high quality and water resistance.
- ▲ Stainless steel stoppers and hooks make HURU look neat and tidy.
- ✕ Durable nylon straps and leather components complete the materials list.



Even in **ecommerce**: a **nice & readable design** is a must-have for webshop





Even in **ecommerce**: a **nice & readable design** is a must-have for webshop



So... are you ready for  
this **new challenge**?





**Merci beaucoup ! 🇫🇷**      **Bedankt! 🇳🇱**

**Thank you! 🇬🇧**      **Tack så mycket! 🇸🇪**

**Vielen Dank! 🇩🇪**      **Tusen takk! 🇳🇴**



@iamhiwelo



Also, feel free to **join me tomorrow at noon** to discuss  
**better designer/engineer collaboration through accessibility.**



@iamhiwelo



# Damien Senger

Queer designer who codes, specialised in accessibility.

[raccoon.studio](https://raccoon.studio) • [noti.st/hiwelo](https://noti.st/hiwelo)



@iamhiwelo