### Are Easy Language websites greener?

### Mariona González-Sordé

Transmedia Catalonia. Universitat Autònoma de Barcelona.

Green Digital Accessibility conference. December 2, 2022.



### Carbon footprint of websites

Gartner Inc. calculated that the Information and Communications Technology (ICT) industry is responsible for 2% of global CO2 emissions.

"If the internet were a country, it would be the sixth most polluting country in the world, with annual emissions similar to those of Germany" (Greenwood, 2021:4).



# Sustainable web design (I)

Sustainable Web Manifesto (2019) defines sustainable web projects as being clean, efficient, open, honest, regenerative, and resilient.



# Sustainable web design (II)

Sustainable Web Manifesto (2019) defines sustainable web projects as being clean efficient, open, honest, regenerative, and resilient.

"Websites and applications we build are becoming less efficient".

"When we make our web pages unnecessarily heavy [...] we are not just wasting electricity; [but] an opportunity to create faster and more inclusive online experiences" (Greenwood, 2021:8).



## Easy Language on the web (I)

The principle that web content, the information as well as the interaction and the interface, needs to be **understandable** is on the basis of the Web Content Accessibility guidelines (W3C WAI, 2018).

Web content should be readable and easy-to-understand for the whole range of potential users (Van der Geest & Velleman, 2014).

Easy-to-Read web content has to have **language that is easy to read** (e.g. written in Easy Language) and the **content, structure and layout of the page need to support the user in finding, understanding and using the information** (Nietzio, Naber & Buhler, 2014).



# Easy Language on the web (II)

Easy-to-read guidelines tend to focus on text or content characteristics. That is why Van der Geest & Velleman (2014) proposed a different approach to assessing the ease-of-reading of web content.

- I. Text/content design characteristics (e.g. the vocabulary used or the navigability of the website)
- **II.** Individual characteristics of the reader (e.g. the reader's alphabetic literacy level, prior topic knowlegde, or digital skills)
- **III.** Specified task or situation variables (e.g. the complexity of the task, procedure aimed to execute).



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# The study: aims and methodology (I)

Do the text and content design characteristics of websites in Easy Language make them more efficient and sustainable?



# The study: aims and methodology (II)

Do the text and content design characteristics of websites in Easy Language make them more efficient and sustainable?

Computing the carbon footprint of 6 different websites that have versions <u>both in Easy Language</u> <u>and in standard language</u> using Website Carbon Calculator.

FEDAGACE, WWDA, FEVIDA, Extremadura Trabaja, Fundación AMÁS, GenU



# The study: aims and methodology (III)

To calculate the energy and emission of web pages, Website Carbon Calculator uses the these data points:

- Data transfer over the wire
- Energy intensity of web data
- Energy source used by the data centre
- Carbon intensity of electricity
- Website traffic



# The study: aims and methodology (IV)

To calculate the energy and emission of web pages, Website Carbon Calculator uses the these data points:

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- Energy source used by the data centre
- Carbon intensity of electricity
- Website traffic

When a website is loaded, the energy used is roughly proportional to the amount of data

transferred. (Website Carbon Calculator)



### Results: FEDAGACE

How much CO2 is produced every time someone visits this web page?

Version in Galician | Version in Easy Galician

Over a year, with 10,000 monthly page views, how much CO2 is produced ?



**1.26g** 



**1.30g** 

### Results: WWDA

How much CO2 is produced every time someone visits this web page?

Version in English | Version in Easy English

Over a year, with 10,000 monthly page views, how much CO2 is produced ?



**0.98g** 



0.30g

### **Results: FEVIDA**

How much CO2 is produced every time someone visits this web page?

Version in Spanish | Version in Easy Spanish

0.43g

Over a year, with 10,000 monthly page views, how much CO2 is produced ?





0.21g

### Results: Extremadura Trabaja

Version in SpanishVersion in Easy SpanishHow much CO2 is produced every time0.32gsomeone visits this web page?0.25g

Over a year, with 10,000 monthly page views, how much CO2 is produced ?





# Results: Fundación AMÁS

How much CO2 is produced every time someone visits this web page?

Version in Spanish | Version in Easy Spanish

**1.61g 0.15g** 

Over a year, with 10,000 monthly page views, how much CO2 is produced ?

**192.86kg 17.78kg** 



### Results: GenU

How much CO2 is produced every time someone visits this web page?

Over a year, with 10,000 monthly page views, how much CO2 is produced ?



59.55kg

Version in English | Version in Easy English



56.7kg

### How much CO2 is produced every time someone visits this web page?



INFÓRMATE | COLABORA | TRABALLA CONNOSCO | CONTACTA

**FEDERACIÓN** 

GALEGA DE DANO CEREBRAL

**FEGADACE** 

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A dinahosting

INFÓRMATE I COLABORA I TRABALLA CONNOSCO I CONTACTA



O DANO CEREBRAL A FEDERACIÓN QUE FACEMOS TRANSPARENCIA DEMANDAS DO COLECTIVO RECURSOS DE ATENCIÓN

### **0 DANO CEREBRAL ADOUIRIDO**

O dano cerebral adquirido é a discapacidade resultante dunha lesión no cerebro causada, na maioría dos casos, por un ictus ou un traumatismo cranioencefálico. Afecta a unhas 35.000 persoas en Galicia.

Co dano cerebral adquirido perde sentido falar de discapacidade física, psíquica ou sensorial: son moitas secuelas ao mesmo tempo, e preséntanse en diferentes graos e intensidades segundo a persoa.

> Fai unha doazón a través de BIZUM <

### **INFÓRMATE**



I CONGRESO NACIONAL ■ POLÍTICAS PÚBLICAS DE Discapacida

250 HM 200000 19 0 CTRMI-CV

28/11/2022 Rehabilitación e fins lúdicos na actividade de O CERMI avoga por promover políticas públicas de discapacidade boas e sólidas

CEREBR

18/11/2022 | Santiago

Nas sesións trabállanse actividades da vida diaria, mobilidade, relaxación, marcha ou coordinación.

'Terapia acuática' de DCA Ourense



**ESPAZO** LIBRE DE VIOLENCIAS MACHISTAS FEGADAC VIOLENC'

25/11/2022 25 de novembro de 2022: Día Internacional da Eliminación da Violencia contra a Muller

Manifesto do movemento CERMI: 'Non estás soa. Non máis violencia contra as mulleres con discapacidade!

O Proceso Asistencial Integrado do Dano Cerebral protagoniza a nosa Xornada anual O encontro, no que se entregará o 10º Premio FEGADACE-Miguel Blanco, terá lugar o 17 de decembro en Santiago.



scamir

17/11/2022 | Alicante

Tabarca para concienciar sobre a nosa discapacidade

0 DANO CEREBRAL A FEDERACIÓN QUE FACEMOS INFORMACIÓN CLARA DEMANDAS DO COLECTIVO RECURSOS DE ATENCIÓN

### O DANO CEREBRAL ADQUIRIDO

O dano cerebral adquirido é unha discapacidade provocada por unha ferida ou lesión no cerebro. A maioría das persoas que teñen esta discapacidade sufriron antes un ictus, un traumatismo cranioencefálico ou anoxia cerebral.

Un ictus é unha enfermidade que se produce cando o sangue deixa de chegar a unha parte do cerebro ou non chega ben. Ou cando rompe unha vea ou unha arteria do cerebro.

O traumatismo cranioencefálico pode aparecer cando unha persoa dáse un golpe moi forte na cabeza por un accidente ou caída.

Sófrese a anoxia cerebral cando a unha persoa lle falta osíxeno no cerebro.

Unha persoa con dano cerebral adquirido pode ter unha discapacidade física, psíquica, sensorial, ou varias ao mesmo tempo.

En Galicia hai 35.000 persoas con dano cerebral adquirido.

### > Fai unha doazón a través de BIZUM <

### **INFÓRMATE**



I CONGRESO NACIONAL i POLÍTICAS PÚBLICAS DE Discapacida



O CERMI avoga por promover políticas públicas de discapacidade boas e sólidas

Nas sesións trabállanse actividades da vida diaria, mobilidade, relaxación, marcha ou coordinación.

O I Congreso sobre Políticas Públicas de discapacidade finaliza emitindo a 'Declaración de Alicante'.

25/11/2022 | Santiago

inclusión do colectivo do dano cerebral adquirido.









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25/11/2022 | Santiago Discamino recibirá o 10º Premio FEGADACE -

Miguel Blanco na #XornadaDanoCerebral A Federación valorou o seu compromiso cos dereitos e a





### Aitor de Luis realizará este sábado o Reto Altabal nadando #PoloDanoCerebral









'Terapia acuática' de DCA Ourense

29/11/2022 | Ourense

ECDA70

28/11/2022 Rehabilitación e fins lúdicos na actividade de



Santiado

Discamino recibirá o 10º Premio FEGADACE -Miguel Blanco na #XornadaDanoCerebral

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TRANS GDA MEDIA CATALON

**Green Digital Accessibility** 

O I Congreso sobre Políticas Públicas de discapacidade

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### 🔳 📣 Listen 🕨

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page Turn on easy read 🗸

### On this page

- A Real Job, Suited to YOU 🗸
- Why Work With Us? ∨
- Eligibility ∨
- <u>Contact genU Today</u> ∨

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Everyone has different capacities and different capabilities - and at genU, we think that

### SUPPORTED EMPLOYMENT

E Isten		Disa	bility Support Services
Easy read is on	Turn off easy read 🗙	4.3	Support Coordination
		4	Employment Pathways
	Scroll Down ↓		Lifestyle and Participate
	We offer Supported Employment for people with disability in our genU Business Enterprises.	<u>í</u>	Individual Support
		<b>*</b>	Accommodation
		**	Youth Services
		<b>\$</b>	Allied Health



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Centros Especiales de

Fundación AMÁS es una organización que apc cumple, promueve y defiende

los derechos de las personas con discapacidad intelectual

y sus familias en la Comunidad de Madrid.

Promover es hacer que ocurra un hecho

como por ejemplo ayudar

que los derechos de las personas con discapacidad se cumplan.

En Fundación AMÁS trabajamos para que las personas con discapacidad desarrollen su proyecto de vida y ayudamos a su inclusión en la sociedad. Conseguirlo depende del trabajo en equipo y del compromiso de nuestros trabajadores.



TRANS MEDIA CATALONIA



### **#Voluntariamos?**

BUSCAMOS A PERSONAS COMO TÚ, CONTIGO VAMOS A MÁS Descubre las propuestas de voluntariado de Móstoles, Alcorcón, Leganés y Fuenlabrada.

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# Conclusions (I)

Websites that showed better results on their Easy Language versions <u>adapted their website in</u> <u>terms of interaction and layout, and not only the presentation and content of text</u>.

Websites that did not perform these adaptations and only adapted the textual part of the page, showed a less relevant improvement on their Easy Language versions. For FEDAGACE, the results were even slightly worse for the version in Easy Language.



# Conclusions (II)

Easy Language is **not only** about linguistic and textual elements, but how these are presented and conveyed. It is also about simplifying design and the way we can interact with content.

A well-adapted website in Easy Language **should be** more sustainable than their equivalent in standard version.

In addition to finding ways to make accessibility greener, we also should explore spaces where both domains naturally meet. <u>By adapting websites to Easy Language, these can become more accessible and greener at the same time</u>.



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### Thank you!



