MAKING PRODUCTS ACCESSIBLE IN THE DIGITAL ENVIRONMENT

A PRACTICAL GUIDE

APC
por los Derechos Civiles

PUEDA
Por Un Entorno Digital Accesible

por los Derechos Civiles

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The document *Making Products Accessible in the Digital Environment* - A Practical Guide is for public outreach and non-profit purposes.

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The design of this report complies with accessibility requirements. Hence, the tables, charts, and graphs are followed by a textual description in order to be read by automatic readers.

TABLE OF CONTENTS

1. THE DEVELOPMENT OF ACCESSIBLE COMMUNICATION PRODUCTS AND ITS IMPACT IN THE DIGITAL WORLD
– A practical guide –

Introductory Commentary

The first question we should ask is, "What is Digital Accessibility?"

The term refers to conditions of software design and programming bearing the widest range of potential users, scenarios and types of devices in mind, considering aspects related to their connectivity and personal abilities. The aim is to enhance autonomy and full social, civic and cultural participation for everyone.

However, it must be noted that even under conditions of accessible software design and programming, the various products we develop for communication must contemplate other aspects of accessibility as well.

PUEDA - Por Un Entorno Digital Accesible, (hereinafter PUEDA), is an all-encompassing awareness campaign that seeks, through different actions, to promote digital accessibility as a right for everyone. This work proposal springs from the publication of the results and conclusions of our study on *Access to Information Services and People with Disabilities.*[1] From the beginning, it was developed following accessibility principles, both in its overall design. as well as the graphic and audiovisual pieces that are included.

Through this guide, we share the lessons learned and conclusions of our course of action, in order to prompt other initiatives for creating accessible digital communications.

At present, there are still no clear universal accessibility guidelines for each area of communication. Hence, the development of an attractive digital product regarding the necessary accessibility requirements at all levels is an obvious challenge.

Therefore, it is highly likely that a first attempt to create digitally accessible products will require a preliminary period of study/ data collection on various topics.

To facilitate this initial stage, this Practical Guide aims to condense possible solutions and recommendations regarding the many aspects to be taken into account when building outreach material that fulfill the different accessibility needs capable of including all people.

We also advise that, if feasible, it is convenient for each product to be validated by users with training in accessibility for people with disabilities, older adults or persons with low digital literacy, or resort to validation by users with disabilities themselves. This achieves an extremely valuable contribution from an experiential perspective since it expedites the introduction of reasonable and well-grounded adjustments in each product.

The following is a brief guide to several aspects that should be considered when making different communication products, whether for planning campaigns, educational purposes, journalism, etc.

The texts, graphics and audiovisual pieces (objects, images, videos, etc.) used to illustrate the different conclusions of this study arise from the activities carried out during the design and making of the **PUEDA** campaign products.

2. NAMES, SLOGANS AND LOGOS FOR CAMPAIGNS

• **About accessible names**

In the marketing field, the process known as naming refers to the creation and selection of a name for a product, brand, project or campaign, either for commercial purposes or to prompt awareness of a particular issue. In other words, the intention of a name is **to advertise**.

As a general rule, a name should be "catchy", brief, easy to read and pronounce, and should somehow capture the identity of the product, since its chief goal is to reach as many people as possible. However, the accessibility of a name is often not assessed, although it is key to increasing its dissemination potential.

Thus, in an accessible naming process it is advisable to avoid:

1. Names involving word puns, a practice that is commonplace in the advertising world: although they are superb at synthesizing messages, they often pose great difficulty in understanding and therefore, are likely not to be accessible. This applies both to graphological or phonetic puns.

2. Names including idioms or jargon, which could also be confusing and undermine comprehension.

3. Names in the form of acronyms that do not exist as actual words. These are the most difficult to grasp in terms of cognitive accessibility.

In conclusion, a name which achieves the best accessibility conditions should be short and – even in the case it is an acronym – refer to a specific word, with a meaning that can be clearly referenced.

In ADC's campaign, the name **PUEDA - Por Un Entorno Digital Accesible** was chosen to reflect the aim of our action: to raise awareness of the importance of giving everyone access to digital environments, especially people with disabilities, and of the rights involved in this concern. The name **PUEDA** is an existing word and from its breakdown, reflects the idea for which it seeks to advocate.

- **About accessible slogans**

It should be remarked, however, that not all idioms or metaphors hinder accessibility. For example, those that do not imply a major cognitive effort, since their abstract nature has been incorporated into everyday language and is understood by a wide range of people.

In other words, there are idioms or metaphors with a crystallized allegorical character, so common in everyday speech that they are understood straightforwardly, with no need of a level 2 coding. This is true about locutions such as "open/narrow your mind", "have one's roots", "a point of view", "your right hand", "have a foot in the grave", among others.

The search for a name usually goes along with the task of generating accessible slogans (short and original phrases), since the latter usually derives from the former and reinforces its meaning. On creating either, the same criteria apply: they should be adequately brief, easy to understand and with a clear and precise – not abstract – meaning.

In this sense, although our choice of the tagline **"For an Accessible Digital Environment"** as our campaign slogan seemed a perfect match for **PUEDA** (the campaign name), there were other alternatives deemed as accessible.

For example, the expression "For a digital world without barriers", which appears in some of the campaign's products, includes the concept of "barrier", which is highly metaphorical in this context but is definitely accessible because of its regularity in everyday language, making it clearly understood by everyone.

- **About accessible hashtags**

Intimately associated with the campaign's name and slogan are its hashtags, expressions or keywords employed by users of social networks, preceded by a pound sign (#) and meant to classify the content published on such media.

A Hashtag can round off the ideas condensed in the name and slogan as well as the purpose of a product, adding concepts that enhance them. Following these criteria, we chose hashstags **#LaAccesibilidadWebEsUnDerecho** y **#AccesibilidadDigitalSinExcusas** for the **PUEDA** campaign.

- **About accessible logos**

Once the name and slogan of a campaign have been defined, it is time to move on to the logo, also known as the campaign figurative mark. This type of symbol, usually made up of images, shapes or text, helps to create an identity for a company, brand, institution or organization.

When developing a logo, we must consider the following accessibility principles:

- simplicity of shapes,
- high contrast,
- the development of a universal iconography.

The use of **sans serif** font type, the choice of a short, euphonic and memorable name, with the support of pictographic elements, guarantee a high degree of brand accessibility.

In terms of pictograms, it is advisable to avoid extremely abstract or complex figures, preferring those which are succinct and allow easy and rapid interpretation.

In the case of the **PUEDA** campaign, we used imagery showing the different aspects that make up accessibility in digital environments: contrast, sound, subtitling, the possibility of enlarging the text and the icon that represents sign language.

IMAGE DESCRIPTION: The 5 icons that relate to accessibility in digital environments: contrast, sound, closed captions, font size and sign language.

PUEDA's logo was designed for two different application contexts, a full form and a simplified version. The former includes a caption describing the acronym "PUEDA" (Por Un Entorno Digital Accesible) and is complemented in digital environments with alternative text, which allows its description in case a screen reader is used. The simplified version consists only of the letters PUEDA, with no subheadings in order to adapt to applications in very small sizes.

● **Versión completa**

IMAGE DESCRIPTION: PUEDA's campaign logo displaying, on the top left, a black box with the 5 icons related to aspects of digital accessibility (contrast, sound, closed captions, font size and sign language), and the words "PUEDA", "Por Un Entorno Digital Accesible" and "Versión completa" (Full version).

● **Versión simplificada**

IMAGE DESCRIPTION: PUEDA's campaign logo displaying, on the top left, a black box with the 5 icons related to aspects of digital accessibility (contrast, sound, closed captions, font size and sign language), and the words "PUEDA" and "Versión simplificada" (Simplified version).

Finally, it should be said that there is no way to make a design mark, being an image, sufficiently accessible for persons with visual impairment.[2] However, on applying the aforementioned guidelines, we do facilitate its recognition for people with low vision and at any rate. The corresponding alternative text must be incorporated in all digital environments, so that the information is available to those who require it.

3. INANIMATE IMAGES FOR POSTING ON SOCIAL MEDIA

Networks are a superb media, in permanent growth, for transmitting ideas, proposals and opinions. The use of images enhances this communicational capacity, reaching out to the public in an aesthetic and appealing way. In order to render them accessible, we must bear in mind how we intend to construct the message, what must be considered in terms of design and graphics and, finally, what features are to be introduced so that these images can be read by text readers.[3]

• **About message construction**

According to the Royal Spanish Academy, a message is "a written or spoken piece of information that is passed along from one to another person". This definition also applies to institutional communication, where "one", in this case, is an organization and "another person", the people targeted as receivers. The latter, however, does play a role, indirectly, in its construction, since organizations must define the words, tone and register to be employed, and the choice of whom we address will shape the enunciation.

Firstly, we will expand on the concepts of enunciation, receiver and register:

• **Enunciation:** one crucial point is defining which is the grammatical person to be used for delivering a message.

There are three possibilities: one, the first person singular (I), two, the first person plural (we), and three, an impersonal subject (e.g. use of anticipatory "it" and/or the passive, such as "It should be emphasized that...").

There is no difference in accessibility between grammatical persons; the choice has to do rather with the content of the message and its receiver. In the case of **PUEDA**, the first person plural ("We…") was chosen, intercalated with an impersonal subject on some occasions (e.g. "It is necessary that everyone can access the Web"), since the campaign seeks to make digital accessibility an issue for society as a whole, as well as to give voice to those individuals who are affected by non-accessible digital environments.

- **Receiver:** is the person to whom a message is intended, grammatically speaking. It is a communicational category, the interlocutor, and should not be confused with the target audience, i.e., those we aim to reach through our campaign. As with the enunciation, there is not one grammatical addressee more accessible than another, but the choice will depend on how the message is wished to be conveyed.

  In the case of **PUEDA**, the first person plural ("We can…") was predominantly used as direct interlocutor of the campaign, along with a second person singular ("Did you know that…?") on occasions.

- **Register:** by register, we refer to how distant or close we place ourselves from our target audience. **Formal** or **highly specialized registers** are usually intended for academic or scientific environments, whereas informal register draws nearer to oral and colloquial language, and **less specialized register** addresses common folk and does not introduce terms alien to everyday language.

  In this case, **there is an accessibility parameter**, not only because highly specialized languages are less accessible to people with cognitive disabilities, but also to anyone who is not an expert in a subject.

For actions of **PUEDA** aiming at the general public, an institutional but informal and unstructured style was chosen, while a highly specialized register was preferred for campaign activities intended for government officials, technicians, journalists, academics and other professionals.

- **Tone:** is closely related to register, but also to the character of the communication we want to pass through. At this respect, there are plenty of options but, broadly speaking, we can mention:

  - **Direct interpellation:** this seeks to create awareness by involving us as part of a problem. It is widely used in awareness campaigns.

  - **Empathetic interpellation:** this tone aims to put the interlocutor in another person's shoes. It calls for sensitivity and aspires to move people emotionally.

  - **Interpellation by authority:** this is linked to the more formal register, resorting to knowledge, track record, soundness, hard data.

  - **Interpellation by complicity:** this is widely used in the advertising world, but is sometimes effective in other types of campaigns. It resorts to humor and/or closeness to the public through shared experiences. Here it is imperative not to fall into stereotypes of any kind when addressing or representing

It should be noted that we can also combine aspects of each type. Also, as concerns accessibility parameters, the same comments made in the section on register apply.

For **PUEDA**, the empathetic interpellation of the public was selected, as it was considered more appropriate to the content of the campaign and more effective in the delivery of the message.

- **Inclusive language:**

The use of inclusive language was considered vital, in order to encompass all people in their diversity. For this reason, it was decided to avoid nouns with gender (in Spanish) and use expressions such as "todas las personas" instead of "todos" or, if this option was not convenient for a certain text, "todos y todas", which is more all-embracing.

- **About design and graphics**

The design and graphics of inanimate images help to illustrate and rank the information, which facilitates the comprehension of a message. Hence, it is key to comply with accessibility requirements in this instance, so as to guarantee access to information to all people.

Below we list some recommendations regarding color and contrast, as well as font types.

- **Color**

A wide range of colors allows to classify and set priorities to different types of information through a vivid display, whereas an optimal degree of tonal contrast favors correct visualization.

To ensure that the color palette selected is capable, not only of representing the institution by generating a self-identification system but also that it meets the technical contrast accessibility requirements, the suggestions contained in the WCAG 2.1 (*Web Content Accessibility Guidelines 2.1*) should be observed.[4]

Main color identity and contrast ratios

Color is a complement to the forms of meaning in a design, but could also serve as an institutional identifier in itself, allowing an organization to be singled out through its colors.

Contrast ratio is a property of a display system, defined as the ratio between the luminance of the brightest and darkest tone capable of being produced. A high contrast ratio favors perception and thus, accessibility.

In the case of **PUEDA**, in accordance with the technical contrast conditions recommended by the WCAG 2.1, we used a color palette that relates to the mother organization (ADC), while endowing the campaign with a separate identity as well.

It is based on a range of blue (a color universally related to accessibility and simultaneously linked with ADC's visual identity), coexisting with various shades of gray and white and, occasionally, a yellow chromatic accent in some of the communication pieces, network designs or audiovisuals.

It is noteworthy to comment that within the framework of the World Wide Web, there are three levels of accessibility, the highest being **levels AA** and **AAA**, for which **WCAG 2.1** in Conformance Requirements[5] **5 1.4.3** and **1.4.6** specifies the following:

Level AA - Conformance Requirement 1.4.3 - Contrast (minimum): text (and text in image) should have at least a contrast ratio of 4.5:1, with the exceptions of:

- large-scale text and large-scale text images, which must have a contrast ratio of at least 3:1;

- logos: text that is part of a logo or trademark has no minimum contrast requirement.

Level AAA - Conformance Requirement 1.4.6 - Contrast (enhanced): text (and text in image) must have at least a 7:1 contrast ratio, except for:

- llarge-scale text and large-scale text images must have a contrast ratio of at least 4.5:1;

- logos: text that is part of a logo or trademark has no minimum contrast requirement.

Colors and Contrast in the PUEDA Campaign

Two colors, which are central to ADC's institutional chromatic identity, selected for use in the campaign logo.
The blue color which identifies our organization has been applied only to the word "PUEDA" to ensure a contrast ratio of greater than 4.5, specifically 4.55.

PUEDA

Institutional blue:

RGB - R:0 G:120 B:210
Hexadecimal - #0078D2
Contrast Ratio: 4.55

Depending on the tool applied (i.e. any editing or design software), these colors can be formed by their hexadecimal value or their corresponding RGB blend.

Our institutional gray is used in the subheading "For An Accessible Digital Environment" and in the shapes containing symbols, to guarantee a contrast ratio greater than 7.1, specifically 14.17.

 Por Un Entorno Digital Accesible

Institucional Gray:

RGB - R:36 G:43 B:58
Hexadecimal - #242B3A
Contrast Ratio: 14.17

Depending on the tool, editing or design software, we can form these colors by their hexadecimal value or their corresponding RGB blend.

Within these recommendations, as far as text is concerned, we adopted the margin that goes from body 12 to body 18 and guaranteed a contrast ratio greater than 4.5:1, thus reaching AAA level in most cases and AA in a few exceptions. It is worth mentioning that most of the PUEDA graphics use font sizes larger than 18pt to guarantee legibility.

- **Typography**

Typography plays a vital role, which goes beyond avoiding its discordance with the other features, since a typeface in itself can convey ideas such as prestige, simplicity, or different emotions, in addition to functioning as a sign of identity. We should not forget that just as there is a corporate color, there is also a corporate typography. Whatever type is adopted is to be a key trait of the campaign's identity.

There are the so-called "font families", which include:

- Sans serif font-family: Arial, Calibri, Gothic Century, Helvetica, Tahoma and Verdana.

- Serif font families: Times New Roman and Georgia

- Slab serif font families: Arvo, Slab Museum and Rockwell

These typefaces are not accessible per se, but most users who have difficulty with typography options are already acquainted with seeing these fonts and have learned to work with or through them.

We emphasize that typographic choice is always a complex issue, mainly because there are no accessibility standards on a more detailed technical level. In general, there are instructions related to font size and, in a very broad manner, the recommendation is that sans serif fonts should be preferred.

For **PUEDA** , the Sans typeface was chosen, since it meets accessibility requirements such as proportion, x-height, contrast between strokes, character differentiation and simplicity, while providing a unique humanistic personality. The aforementioned typographic characteristics are referenced in detail in the attached document *RGD - AccessAbility - Handbook (2019).*

Typefaces of the Sans family, in particular, provide the necessary clarity and legibility while endowing a discourse with personality. Given the need for quick reading and short text length, we opted for a left alignment avoiding word split. Likewise, it was taken into account that the letter spacing (kerning) and line spacing ratios should allow a harmonious presentation and an agile reading. In each object, the statements are presented highlighting keywords or concepts with color or variation that reinforces them. These words or ideas are presented inside a box that detaches them from the background, providing a greater contrast of objects, thus increasing their visual comprehensibility.

The result of this action, which involved the construction, design and choice of the graphics of a message, are shown in the **seven images** below. They were published on social media for 7 days consecutively, starting on May 21, 2020, **Global Accessibility Awareness Day.**
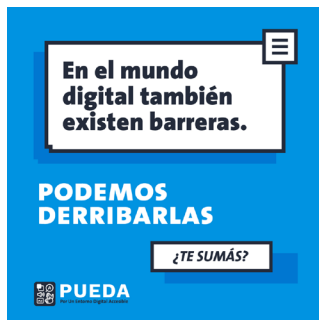
IMAGEN DESRIPTION: Includes the 7 images posted on social media. **First Image:** PUEDA-Por Un Entorno Digital Accesible campaign logo, Por Un Entorno Digital Accesible campaign slogan, LaAccesibilidadDigitalEsUnDerecho, ADC logo, 25 años Construyendo puentes (25 years Building Bridges). **Second Image**: In the digital world there are also barriers. We can break them down. Campaign logo PUEDA-For An Accessible Digital Environment. **Third Image**: With an accessible digital environment we can all do our business online. Campaign logo PUEDA-For An Accessible Digital Environment. **Fourth Image**: With an accessible digital environment we can enjoy art and culture from home. Campaign logo PUEDA-For An Accessible Digital Environment. **Fifth Image**: With an accessible digital environment, we can all have fun on social networks. Campaign logo PUEDA - Por Un Entorno Digital Accesible. **Sixth Image**: With an accessible digital environment we can choose how to inform ourselves. Campaign logo PUEDA-For An Accessible Digital Environment. **Seventh Image**: With an accessible digital environment, I can, you can and we can all live better. Campaign logo PUEDA For An Accessible Digital Environment.

• About posting inanimate images in social media with alternative

Inanimate images are images in which the content cannot be understood by screen readers. However, social networks such as Facebook, Instagram, and Twitter do have the ALT TEXT function, which is an alternative text reader to the image.

In general terms, it is a relatively easy process: upload the image, select the edit option, then "advanced settings" and finally, "add alternative text". The text included should be descriptive, brief and as concrete and representative of the image as possible. Attached below are some Instagram screenshots as an example:

1.

IMAGE DESCRIPTION: cell phone screen showing the first step to adding "ALT-Text" to an Instagram post, function which provides audio description of images uploaded on social networks.

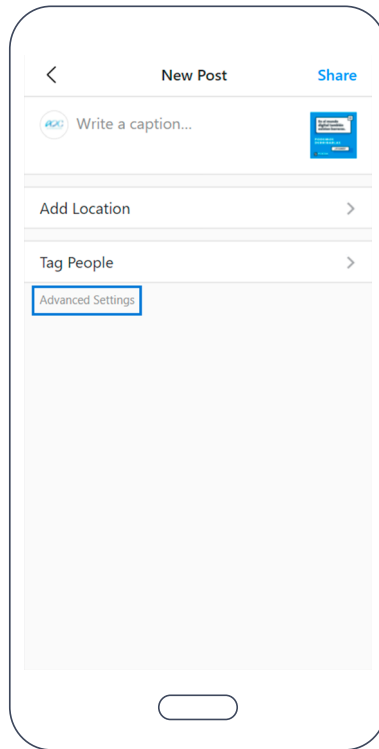**2.**

3.

4.

4. VIDEO PRODUCTION

Audiovisual content also requires the inclusion of accessibility aspects, both during development and when broadcasted. We provide a small introductory example: the more streaming options a video offers, the better chances of access it will offer. Namely, if a video delivers only sound information, it can only be accessed by listening, whereas if it contains images, it can also be watched. However, in the multimodal universe of today, the visual and sound information of the same material do not always coincide. Therefore, additional devices, tools and languages are developed, such as subtitling, audio description, sign language, etc. On the other hand, if to these tools are added a simple script and clear images, we will achieve that more people can get hold of and understand the information. Below, we share a detailed follow up on the subject.

- **About developing accessible scripts**

There are several audiovisual formats, although the various platforms that host, broadcast and play videos, such as YouTube or Instagram TV, demand short and straight-to-the point clips. When developing a script, determining the length of a video is crucial and poses a challenge. If it is short, say 30 seconds, the difficulty lies in how to deliver a clear message with a limited number of words. Extremely summarized statements, with a higher degree of abstraction, allow us to express sets of ideas, but may be troublesome to understand. On the other hand, avoiding such abstraction could imply the need for longer sentences (thus, video time) while running the risk of becoming repetitious.

Regarding the syntactic structure of the scripts, it should be noted that subordinate clauses (noun, adjective or adverbial) are usually less accessible, hence being convenient to opt for simple sentences, with a subject-predicate structure and no change in the given order, nor rhetorical alterations or poetic figures that undermine the plainness of the message being transmitted.

In the **PUEDA** campaign, the communicative function of simple language was prioritized over poetic forms, which are far less categorical.

Another point of particular importance to consider in videos is the time given for reading. For **PUEDA**, we sought to present the information with a reading time of between 2 and 7 seconds per caption, with short and straightforward sentences, conceptually reinforced by illustrations and graphics with an animation that balances the presentation times of on-screen text, voice-over and sign language interpretation.

- **About designing characters**

If the video is to use characters for conveying a message, their design should be made considering both, its purpose and the type of audience it intends to reach. In the case of **PUEDA**, the illustrations were designed to summarize the campaign objectives, presenting the characters in the most universal manner as achievable, enabling them to be comprehended by the widest range of target audiences. Nonetheless, there is one golden rule that should be regarded in all cases: avoid the use of stigmatizing or stereotyped images, portraying the idea that diversity is a central driver within the different pieces.

The contrast ratio between a character and its background is an essential factor. When a number of illustrations and graphics are shown on the same screen, it may be convenient to place these diverse elements in labels (usually circles) to establish a visual display that favors their correct observation. In any case, it is advisable to present images with simple traces, avoiding too much detail and with contrasting backgrounds that allow their features to be easily recognized.

In line with these standards, the four characters of our **PUEDA** campaign aim to represent a certain diversity. In the first two images, we portray a deaf person using sign language, while in the next, someone in need for more time to interact with the screen. In the images shown on the following page, we depict a character representing a young person who is visually impaired, and in the next, an older adult.
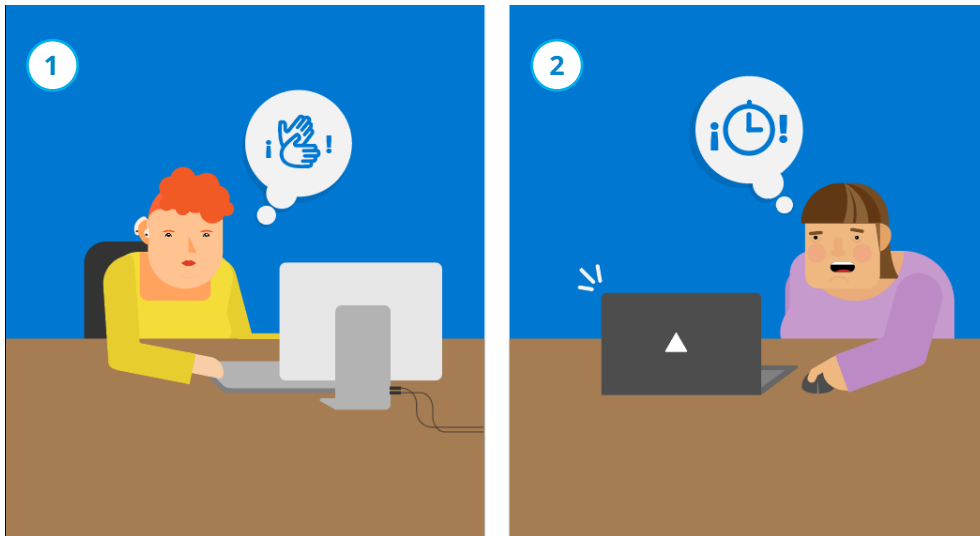

IMAGE DESCRIPTION 1: A person with hearing aid at a computer. There's a thought balloon over his/her head and inside it, the image of the sign language icon between exclamation marks.

IMAGE DESCRIPTION 2: Mid-aged person at a computer with a worried expression. There's a thought balloon over his/her head and inside it, the image of the clock icon between exclamation marks.
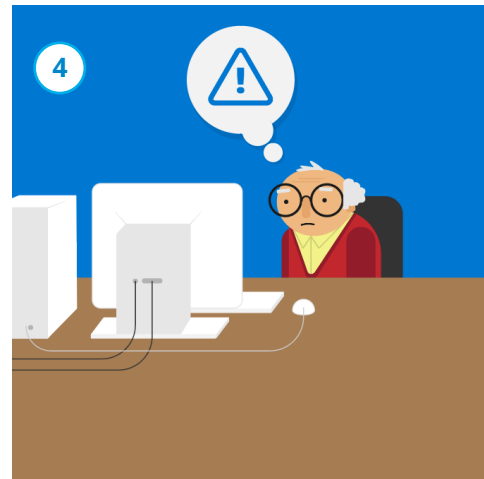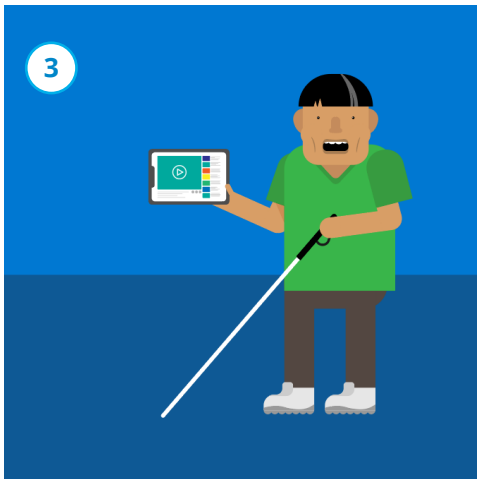
IMAGE DESCRIPTION 3: Young man standing, holding a white cane in one hand and a computer tablet in the other. Worried expression on his face.

IMAGE DESCRIPTION 4: Older adult wearing glasses at a computer, with a puzzled expression on his face.

- **About voice-over, other sound features and captioning**

Accessibility requires that everything said during a video, as well as the various sounds which contribute to the narrative (music, beats, laughter) be reflected in written form, either as an animated image or a more textual description at the bottom of the screen. Similarly, all written texts throughout the video must be heard via voice-over.

In other words, voice-over, sound and captioning must be clear and provide the same information all along. This does not mean, however, that the wording should be identical. Captions, for example, are not a literal transcription, but a written version of the speech, which, if necessary, can rephrase, omit words, add commas, periods and reorder a sentence in order to improve its readability.

In turn, it should be clarified that captioning for deaf people sometimes includes relevant sound information, for example, when a voice is heard but the speaker's face is not shown.

Special mention must be given to videos in which the spoken texts integrate into the animation since here it is possible to devise displays in which the animated texts on screen are sufficient and unequivocal, allowing to spare the subtitling at the bottom. The following video, header of the **PUEDA** campaign, is an example of this type of possibility. The spoken information is textually embedded in the image, making captions redundant while creatively assimilating them into the audiovisual as a whole.

Ver video

EN EL MUNDO
DIGITAL

BARRERAS

DESCRIPCIÓN DE IMAGEN: Image split in three. On the left, the words, "watch video". In the middle, a sign language interpreter and over her image, the Play sign. On the right. a traffic barrier or guard rail, with the words, "In the digital world" and "barriers".

Within the general guidelines of accessible audiovisual captioning, certain items to be contemplated are:

- Visual aspects
- Temporal aspects
- Character identification
- Sound effects
- Contextual information/voice-over
- Music and songs

Visual aspects of captions

- SIt is customary to center them at the bottom of the screen, but novel solutions can be tried, such as fitting them in text balloons.

- They should be of no more than two lines.

- Given different people speaking, one line should be used for each.

- The maximum number of characters per line should be 37.

- Minimum font size should be legible from a distance of 2.5 meters when displayed on a screen with 4:3 format and 38 cm diagonal.

- Maximum size: that which allows a 37-character subtitle to be displayed on the screen.

- The choice of typography should be based on grounds of maximum legibility.

- The contrast ratio between captions and their background must be a minimum of 4:5.

Temporal aspects of captioning

- The speed of text display of a caption should go along with the pace of the video and therefore, facilitate easy reading. Normally, a maximum number of 15 cps (characters per second) is recommended.

- Subtitle inputs and outputs should coincide, whenever possible, with lip movement, shot changes, voice-over and/ or sound information.

Character identification

When there are several characters, different techniques
are available for their recognition: color-coding, labels and
hyphens. Where labels are used, a character's first entrance on
screen should include its full name, followed by only initials in
subsequent appearances. When color-coding is preferred, the
difference between one and another tint should have a minimum
value of 255.

- The same identification techniques are used for voice
  narrators.

Sound effects and their captioning

Sound effects can be produced by any person or object appearing
on or off screen, and are captioned only when it is not evident
that the sound has been produced.

- They should appear between square brackets in uppercase
  letters.

- Overlapping with visual information should be avoided.

- In terms of wording, sounds that are produced by a
  human voice and are linked to actions – such as coughing
  or laughing – or emotions – groaning, sighing – follow
  conventional grammar principles: simple present for
  a quick short action, in which case the caption would
  be [LAUGHS], and present participle for one of longer
  duration, i.e., [LAUGHING]. Orthographic transcriptions
  of the sound could be used in the form of interjection,
  e.g. Hmmm for humming or Ha ha for laughing, as well
  as onomatopoeic words, e.g. Woof woof for [BARKING].
  Nouns are preferred when the source of the sound is not
  defined, e.g. [LAUGHTER, CRYING].

Contextual information and voice-over

These provide information about the context or the intention of a characters' words, to ensure equal participation of people with hearing disabilities.

- This information should be presented in capital letters and between brackets. Example: (IRONIC) What a nice guy you are!

- If feasible, voice-over should be captioned in italics. If this is not possible, tags may be used. Example: (NARRATOR) Once upon a time... If there are several voices, the name or initials of the speaker should be indicated, especially when it is not clearly shown in the image.

Music and songs

- The lyrics of a song should be captioned if they are relevant for the understanding of the plot.

- The captions should be in the same language in which the song is heard.

- When subtitling a song, the # sign should be used at the beginning of each song caption, except for the closing line, in which one sign should be placed at the beginning and another at the end.

- In a song with characters, the same identification techniques mentioned above should be applied.

Editorial criteria

When captioning, a spoken text should be split following these guidelines:

a) Take advantage of interpretive pauses and silences in the locution.
b) Take advantage of grammatical pauses or punctuation marks.

Incorrect	Correct
I want to believe you, Juan, but I believe Luis even more.	I want to believe you, Juan but I believe Luis even more.

c) Write connectives or conjunctions on the bottom line.

Incorrect	Correct
Assume responsibility and learn from mistakes	Assume responsibility and learn from mistakes

d) Do not separate nouns, verbs and prepositional phrases into two lines.

Incorrect	Correct
She went into the phone booth and called Juan.	She went into the phone booth and called Juan.

Captions can be open ("burned" into the video) or closed (added from a separate track: SRT[6] files, which are supported by most players). However, it should be stressed that within the digital world, some platforms have the option to ingest these files (such as YouTube), so that a user can enable, disable and/or change settings as they wish. In platforms without this option, they must be embedded into the video in order to have them.

The **PUEDA** campaign decided to explore new approaches to accessible captioning by introducing, for example, speech bubbles instead of captions, where the text of what is said by the video's main character is framed in one of these shapes. Some examples of this alternative type of captioning are shown in the video clips below.

About incorporating sign language interpretation

Here are some basic considerations on how to record sign language interpretation and how to handle it in the editing process so as to bring it together with the other features of the video in a balanced, aesthetic and appealing final product.

Technical Considerations

Technical considerations include: a) illumination, b) audio and c) monitor with image.

- **Ilumination**: it must contribute to the quality of the final image to be shown in the box, avoiding the formation of shadows. A sign interpreter moving their hands can project shadows on her body, affecting image quality as well as the comprehensibility of the translation.
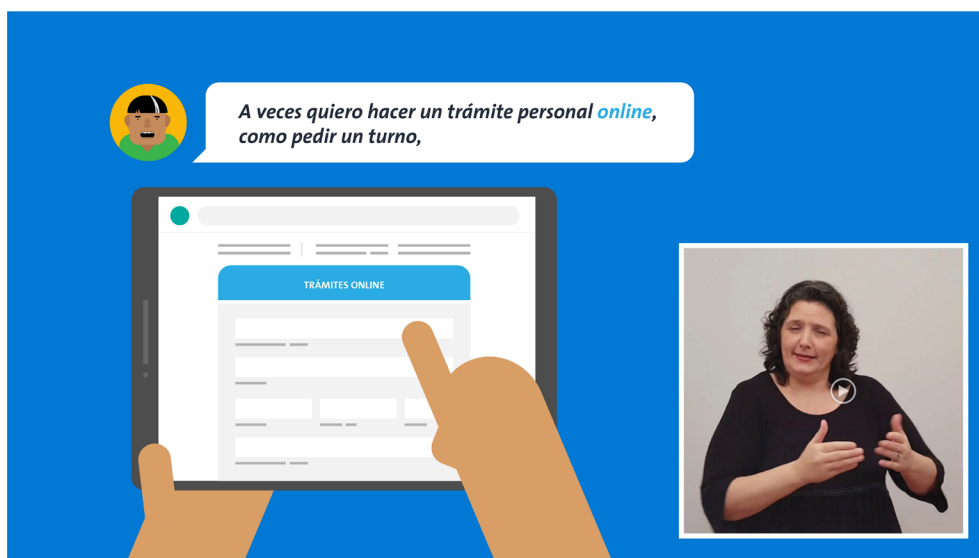

IMAGE DESCRIPTION: A user pointing to a form on a tablet screen. Above, an avatar with a speech bubble containing the words, "Sometimes I need to do procedures online, like asking for an appointment". The image includes a box with a sign language interpreter on the bottom right.
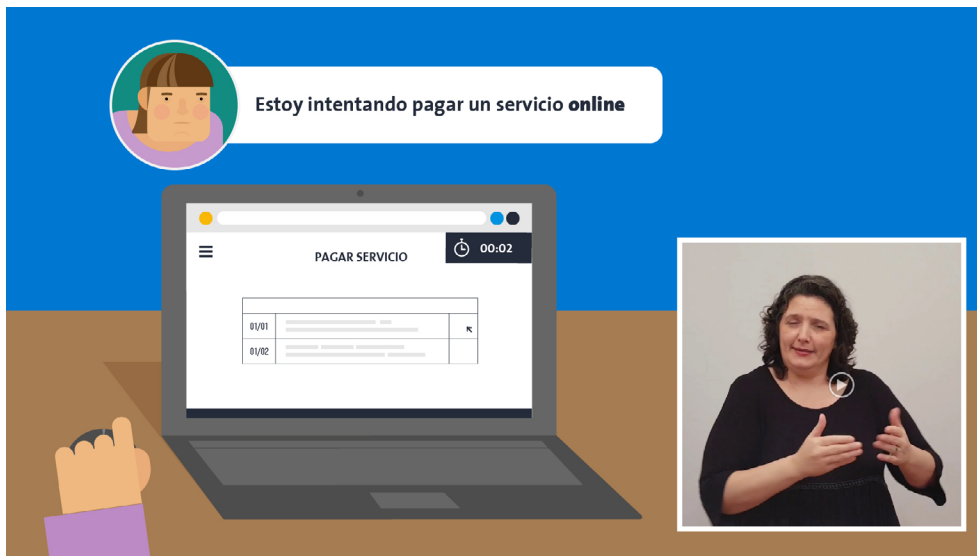
- **Audio**: it is essential that the interpreter hears the information to be dubbed clearly, sharply and devoid of background noise. For this purpose, we suggest a facility in which all noises that could interrupt the interpreting process are cancelled. Likewise, we recommend appointing a prompter with clear diction.

- **Monitor with image:** this is necessary, since the translator must be able to see what is happening on screen. Hence, the monitor must be placed near the filming equipment so that the person translating is not shown as looking away from the camera.

Image of the interpreter. Technical design

- **Proportion:** for optimal viewing of onscreen sign interpretation, it is recommended to observe the proportions[7] listed below:

DESCRIPCIÓN DEL CUADRO: The larger figure is a rectangle with its shorter and longer sides, "x" and "y" respectively. Inside, another rectangle, 70% smaller, positioned in the upper left corner, leaving room below and to the right. The shorter side of this figure is 0.7x, while the longer side is 0.7y. Inside, the title: "Audiovisual Product". On the bottom right corner of the larger rectangle, a square of side measures 0.5x, or base 0.25y. Inside this square, the title: "Sign Language Space".

It is also possible to record using Chroma Key, which allows to gain space by cropping the figure of the person interpreting.

- **Position:** the frame should appear above or next to the base or videograph. Ensure that there is not a graphic or text covering the dubber.

  Avoid overlapping two sign language boxes when broadcasting previously aired material with the translation already included..

Finally, to ensure that the sign language box is aesthetically harmonious with the video, the best option is to shoot a rough cut prior to its final recording. This will allow for a more accurate assessment of the timing and the pace.

5. WRITING REPORTS AND OTHER TEXTS

When writing reports or other documents, it is necessary to take the typography into account, as well as layout, the language used and the necessary adjustments to be made so that they can be read by screen readers.

- **Typography**

We have already mentioned, in previous entries on typography, that Sans Serif fonts are easier to read because of the simplicity of their stroke. However, this is not the only feature that should be weighed up.

Another important aspect in terms of legibility is that the chosen typeface family should present a clear differentiation between its characters, minimizing the chances of confusion between similar signs.

In this sense, we must regard what is called "x-height", which affects the legibility of the characters, mainly in small body texts. "x-height" is the height of a typeface's lowercase letters, excluding the ascenders or the descenders, strokes in certain signs of a font that extend above the mean line or below the baseline. A balanced ratio between the height of x and the "ascenders" and "descenders" plays an important role in distinguishing one from another. For example, the ascender[8] of h allows us to distinguish it from n. The letters g, p, or y are examples of characters with descending stems.[9] Ascending and descending strokes increase word legibility. Typeface families with short ascenders and descenders hinder the recognition of their signs.

Also akin to "x-height" is the height of lowercase compared to uppercase letters, insomuch as a balanced relationship between the two provides greater legibility.

So will the proportion between form and counterform in each letter, and thus, each word and paragraph created. As to the font variants (those which relate to the weight of the typography) normal or medium is recommended for the body of the text, whereas **bold** should be left only for highlighting a specific concept or phrase. Similar standard applies to the use of *italics*, as they are notably less recognizable than regular variants, thus should be applied only when strictly necessary. It is also inconvenient to use alternatives that are too narrow or expanded but rather those that maintain an agreement between height and width for each character.

Correspondingly, the use of calligraphic or fantasy fonts should be ruled out completely, since type of lettering enhances the aesthetic or decorative function of the characters, often at the expense of their legibility.

As for font size, an optimal standard of at least 12 to 14 points is widely accepted, but this should not be considered in isolation, since it is not only the size of a typeface that affects legibility, but also the spacing between letters (inter letter spacing) and between the text's lines (line spacing). These aspects should be as aesthetically balanced as possible, since either too wide or too narrow a line spacing will pose a problem to its reading. One codition in this regard is that both, ascending and descending text lines have enough space to be distinguished from one another and do not overlap.

- **Diagramming**

Another feature that contributes to the making of an accessible text is the width of its columns. It is recommended that each column does not comprise more than 12 words and less than 6. Splitting words and justified text are discouraged, in favor of a left to right alignment, which allows greater fluency at both, regular reading and interpretation by a screen reader.

In the case of images, it is advisable that they do not split the text within a document, but rather be allocated at one side, so as not to interfere with the reading. Similarly, each image should have its respective caption below, no smaller than one or two points below the size used in the body text.

- **Clear language**

The use of what is known as clear language guarantees a better understanding of the information we wish to communicate, adding to its accessibility.

On conceiving a text, it is advisable to bear the nature of its target audience in mind, and develop the content in accordance, or alternatively, adapt it to the intended use.

The choice of simple terms, avoiding jargon (or explaining it when it cannot be avoided), the use of short and simple sentences, the ordering of information (e.g. by using bullet points) and the provision of ample spaces for images and texts are some of the features that help easy reading.

- **Screen readers**

Writing accessible content cannot be approached without considering screen readers, an essential aid for people with visual impairment or low vision, although it could be useful to any other person requiring it.

Screen readers are software that allow the use of the operating system and different applications through a voice synthesizer that 'reads and explains' what is displayed on screen. This can be delivered to the user by text-to-speech synthesizers, audio icons, or Braille output. The choice of screen reader is determined by several factors, such as platform, features and cost.[10]

Both, Word and PDF files, support screen readers for text, but not images (photos), graphs or tables. Thus, to ensure that a user of this type of program does not come across barriers when navigating through a document, it is top priority to endow images, graphics or appending tables with image description explaining its content.

The present Practical Guide, as well as the report of the study *Access to Information Services and People with Disabilities,* are examples of accessible text documents, since they observe the standards outlined here in terms of typography, layout, use of language and image descriptions.

The digital world offers services, information, entertainment, academic and training opportunities to those of us who log onto the Internet through computers, iPads or cell phones.

For this reason, it is a priority to guarantee that all people can access websites, applications and digital content. When discussing access, we refer to both: connectivity and the condition that these digital environments are conceived, designed and developed acknowledging the diversity within their potential users. In other words, taking digital accessibility principles into account.

Societies of today, immersed in the use of new technologies, require them to be accessible in order to safeguard and guarantee the right to full autonomy, as well as citizen and social inclusion for all.

This Guide aims to make a contribution in this sense, by sharing our experience in the journey of developing the content used in our campaign **PUEDA - For an Accessible Digital Environment.**

Links to some of the information collected during our research

- Spanish Standard Norm, UNE - Subtitled for deaf and people with disabilities

- TAV Argentina - Report: "Retos en la accesibilidad a los medios audiovisuales: la subtitulación para sordos y la audiodescripción para ciegos" (Challenges in audiovisual media accessibility: Subtitling for the deaf and audio description for the blind), by Nuria Sanmartín Ricart.

- TAV Argentina - Reports on accessibility

- Accessibility of audiovisual materials, Electronic documents accessibility guide.

- RGD - ACCESSIBILITY - A Practical Handbook on Accessible Graphic Design (Second Edition, 2019)

- Acceso no restringido (Unrestricted Accessibility) - A Practical Handbook on Accessible Graphic Design

- Cultura-sorda.org, INADI - Digital Contents

- Clear language

Audiovisual content with accessibility tools

- *Awareness*-raising Spot - Don't become the barrier - Itineris and La Usina > Voice over – Audio description

- *Spot* - 9th Meeting on Disability and Human Rights - Megafón UNLa > Argentinian Sign Language - Subtitled

- *Spot* - Institutional 2019 - Public Defender's Office > Voice-over - Argentinian Sign Language – Subtitled

- *Awareness*-raising Spot - Against labeling - Fundación Adecco > Voice-over - Subtitled

- *Awareness*-raising Spot - When you stop seeing the wheelchair you start to see its capabilities - CILSA

43

- *Awareness*-raising Spot - Disability does not limit us, your attitude does - Cultura Inclusiva > Subtitled

- *Spot* - Institutional - Fundación ONCE > Voice over - Spanish Sign Language - Subtitled

- *Informational Video* - Web Accessibility Perspectives: Customizable text - W3C > Subtitled

- *Informative* program in small format - Famous and Accessible - Access Media > Voice-over – Argentinian Sign Language - Subtitled – Audio description

- *Institutional* - META (Movimiento Estamos Tod@s en Acción) > Voice over - Uruguayan Sign Language – Subtitled

- *Informative Video* – Abortion with Misoprostol in Argentinian Sign Language – Villa Urquiza Assmebly Pre and Post abortion Counselling > Argentinian Sign Language - Subtitled

- *Record of the Day* - 1st Youth Forum for Inclusive Education - Instituto Interamericano sobre Discapacidad y Desarrollo Inclusivo > Subtitled – Audio description

- *Informative News-Style program – In sign language - TVE > Voice over – Spanish Sign Language - Subtitled*

- Argentinian Presidential Election Debate 2019 > Argentinian Sign language

Web pages with accessibility tools

- Sexual and (Non-) Reproductive Rights Platform - REDI > High contrast and large typography.

- Board of Communicational Accessibilty to Audiovisual Media > Contrast and Font-size control – Alt Text description.

- Architectural and Urban Barriers Research Center. Accesible Media Committee – School of Architecture, UBA > Contrast and Font-size control – Alt Text description. Site map.

- Latin American Disability and Human Rights Inter University Network> Contrast and Font-size control – Screen reader whit Play, Pause and Volume Control shortcuts.

- *Damn Crippled*, E-book > Contrast and Font-size control.

Facebook pages with accessibility features

- Informative Video –Villa Urquiza Assmebly Pre and Post Abortion Counselling > Image description. Video instructions with Voice over, Argentinian Sign Language and Subtitled.

- Sordes Feministas Argentina Movement (MOSFA) > Videos with Argentinian Sign Language and Subtitled or Transcription in LSA (Argentinian Sign Language).

General Bibliography

- *Por una preparación de calidad en accesibilidad audiovisual (For Quality Production in Video Accessibility)*, DÍAZ CINTAS, J. (2007)

- *La accesibilidad a los medios audiovisuales: la narración en lengua de señas y el subtitulado para personas sordas (Accessibility to Audiovisual Media: Sign Language Narratives and Captioning for Deaf Persons)*, D'Angelo, C.; Massone, M. INCAA. (2011)

- *Buenas prácticas para la interpretación en Lengua de Señas Argentina en medios de comunicación audiovisual (Good practice for Argentinian Sign Language Interpretation in Audiovisual Media),* ALBOR, A.; ASTRADA, L.; EZAGUI, A. INADI. (2015)

- *Guía para Producciones Audiovisuales Accesibles (Guide for Accessible Audiovisual Productions),* RECAM. (2016)

- *Recomendaciones para el tratamiento respetuoso de la discapacidad en losmedios audiovisuales (Standards for a Respectful Treatment of People with Disabilities in Audiovisual Media),* Public Defender's Office and ADAJUS. (2017)

- *Principios de Accesibilidad Audiovisual en el Cine (Audiovisual Accessibility Principles in Movies), Royal Board on Disability and Ministry of Health, Social Services and Equality, [Spain] (2018)*

- *Manual Práctico de Comunicación Inclusiva (A Practical Handbook to Inclusive Communication),* COPIDIS. (2019)

- *Guía de lenguaje adecuado en temas de discapacidad (Guide to Adequate Language in relation to Disability),* ANDIS.

- Introducción a la Accesibilidad Web (Introduction to Web Accessibility), WWW / W3C / World Wide Web Consortium

Notes

1 The research *El acceso a los Servicios de la Información y las Personas con Discapacidad* was conducted by ADC, together with the Observatorio de la Discapacidad de la Universidad Nacional de Quilmes between 2018 and 2019.

2 Regarding visual impairment and handling of images, see below in PREPARING REPORTS AND OTHER TEXTS, provisions related to screen readers.

3 It should be noted that objects and images for social media cannot include sign language, since the visual-gestural modality necessarily implies the incorporation of videos.

4 The W3C -World Wide Web Consortium- is an international and independent body created in 1999, seeking to promote universal access to the Web. In 1999 the W3C published the WCAG 1.0 (*Web Content Accessibility Guidelines*), which establishes 14 provisions (general principles of accessible design) which determine the degree of accessibility in a Web page, distinguishing three levels, from lowest to highest accessibility: "A", "AA" and "AAA", the latter indicating the highest accessibility degree. In 2008, the WCAG 2.0 version was published (an improvement to WCAG 1.0). In 2018, the final recommendation of the Web Content Accessibility Guidelines, WCAG 2.1, was published.

5 Conformance Criteria are the requirements that must be met in web content to enable information to be presented satisfactorily to the user.

6 The SRT format has become the standard for working with captions, as it is supported by most video players. It is the simplest subtitle format available.

7 This and other recommendations can be taken from RECAM's *Guide for Accessible Audiovisual Productions* (p.28). A link to the guide is available in the bibliography of this work.

8 In typography, an ascender is an upward stroke that rises above the mean line of a typeface. In order words, that portion of the character which is higher than the font x-height.

9 In typography, a descending shaft is the portion of a letter that extends below the baseline of a word type, i.e., the line on which most letters sit.

10 The most popular screen readers are: NVDA, JAWS, Dolphin, VoiceOver (Mac) and TalkBack (Android).

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