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Information technology — User interfaces — Requirements and recommendations on making written text easy to read and understand

Technologies de l'information — Interfaces utilisateur — Exigences et recommandations pour rendre un texte écrit facile à lire et à comprendre

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

A list of all parts in the ISO/IEC 23859 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

Written text can be printed or digital (or a combination of both) and can be found in different types of content and environments.

Written text can also be found in audiovisual formats.

Written text generally relies on visual perception, but there are also tactile writing systems such as Braille.

This document adopts a universal design perspective. Written text should be created and presented in ways that allow the widest range of people to access it. Universal design shall not exclude adaptation and assistive technologies for particular groups where needed.

This document takes into consideration:

— the various needs and preferences of diverse users,

— the different approaches to the concept of easy to read and understand, and

— a multimodal concept of text, which is a combination of two or more modalities, such as written text, visual elements and audio.

Information technology — User interfaces — Requirements and recommendations on making written text easy to read and understand

1 Scope

This document provides requirements and recommendations on all written text so that it is easy to read and understand in any user interface, regardless of its format.

This document addresses the process of creation, adaptation and evaluation of written text that is easy to read and understand.

This document does not consider devices or transmission mechanisms used to deliver written text. It does not provide language-specific guidance.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 General terms

3.1.1
easy-to-understand language
any language variety which enhances comprehensibility

Note 1 to entry: Easy-to-understand language includes *plain language* (3.1.2), *easy language* (3.1.3) and any intermediate variety. These varieties share many recommendations, but the extent of comprehensibility is different as they address different user needs.

3.1.2
plain language
language variety whose wording, structure and design are so clear that the intended readers can easily find what they need, understand what they find and use that information

Note 1 to entry: The International Plain Language Federation[2] defines plain language as a communication in which wording, structure and design are so clear that the intended readers can easily find what they need, understand what they find, and use that information. In this document, plain language is defined as a language variety for the reasons expressed in Note 1 to entry 3.1.1.

3.1.3
easy language
language variety in which a set of recommendations regarding wording, structure, design and *evaluation* (3.3.3) are applied to make information accessible to people with reading comprehension difficulties for any reason

Note 1 to entry: Easy language is often referred to as "easy-to-read", but in this document the term "easy language" is preferred as it can be applied not only to written content which is read but also to oral or *multimodal* (3.2.4) content.

3.1.4
universal design
design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for *adaptation* (3.3.2) or specialized design

Note 1 to entry: Universal design shall not exclude assistive devices for particular groups or persons with disabilities where this is needed.

Note 2 to entry: Terms such as universal design, accessible design, design for all, barrier-free design, inclusive design and transgenerational design are often used interchangeably with the same meaning.

[SOURCE: United Nations Convention on the Rights of Persons with Disabilities, Art. Two [17], modified[15] — Note 2 to entry has been added]

3.1.5
diverse users
individuals with differing abilities and characteristics or accessibility needs

[SOURCE: ISO/IEC 30071-1:2019, 3.2.2]

3.2 Format and modality related terms

3.2.1
audiovisual
combining sound and image

Note 1 to entry: Adapted from ISO 14641:2018, 3.8.

3.2.2
glossary
alphabetical list of words or expressions with their definitions

Note 1 to entry: The definition can also include an example.

Note 2 to entry: These words or expressions are selected because understanding them is fundamental to understanding the content.

3.2.3
gloss
brief explanatory note of a word or expression that is positioned close to the word or expression being defined

Note 1 to entry: These words or expressions are selected because understanding them is fundamental to comprehending the content.

Note 2 to entry: A gloss can include an example.

3.2.4
multimodal
combining more than one semiotic mode

Note 1 to entry: Semiotic modes include all forms of verbal content (e.g. written text or audio text) and nonverbal content (e.g. images and graphs) in a certain context of use.

3.2.5
paratextual elements
verbal and graphical elements, including images, that complement a written text in order to enhance comprehension

3.3 Process related terms

3.3.1
creation
process in which a written text is created originally in a way that is easy to read and understand

3.3.2
adaptation
process in which a source written text is changed into a text that is easy to read and understand

3.3.3
evaluation
process to determine whether content is easy to read and understand

Note 1 to entry: This process should be iterative and include not only a technical evaluation by experts but also, and most importantly, an evaluation with end users.

3.3.4
procurement
process which creates, manages and fulfils contracts relating to the provision of *easy-to-understand* (3.1.1) written texts

Note 1 to entry: Adapted from ISO 10845-1:2020, 3.24.

4 Framework

4.1 Motivation

Written text can be used for various purposes, such as to inform, instruct, educate or entertain readers. Written text can be found in many types of content in our society. However, written text is not always easy to read or understand.

Reading is generally defined as a complex activity associated with two main processes: decoding and language comprehension. Some users can decode written texts but cannot understand its meaning. Other users cannot decode the written text but can understand its meaning if provided by alternative means.

Decoding and understanding of written text depends on the users' ability to perceive the written text before decoding and language comprehension can take place. Good design makes perception easier, i.e. a clear layout with the purpose of making the text easier for the reader.

In daily life, reading sometimes can only seem related to the process of decoding. To highlight the importance of both decoding and language comprehension, the term "easy to read and understand" is used to refer to any language variety enhancing understanding.

All users, regardless of their differing abilities, should be able to access written text in all types of content and in any user interface, regardless of its format. Access can be provided by alternative means. Users will not be able to exercise their right to participate in society fully and effectively if they cannot access content.

4.2 Different approaches for providing easy content

Plain language and easy language are two language varieties which enhance comprehensibility.

Many recommendations are shared among plain language and easy language, but they also have their own specificities. This document includes shared recommendations and comments on what is only relevant for one of the varieties.

By considering different approaches, this document aims to make written text accessible to the widest possible user population.

4.3 User considerations

Users need easy content for different reasons.

User needs vary depending

— on the circumstances in which the interaction takes place, i.e. reading comprehension can be compromised in a stressful situation or when learning a foreign language,

— on the context in which the human-machine interaction takes place. i.e. reading comprehension can be challenging for a first-time user of an interface, or in a problem-solving situation related to an interface,

— on, e.g. different abilities, cognitive and linguistic difficulties, ageing or low literacy levels, and

— on the users' previous knowledge, interest for a topic, and the textual context.

4.4 Language considerations

Language structure and writing systems vary between languages and cultures. Therefore, the specific language features that make written text easy can change depending on the language and the writing system. Similarly, there can be cultural and format differences in the ways written text is presented to users.

This document does not provide language-specific guidance but addresses aspects shared between languages and cultures.

National standards and recommendations should consider language-specific features.

EXAMPLE 1 UNE 153101:2018 EX[14] provides language-specific recommendations for Spanish.

Easy-to-understand written texts can be found in different language situations. Written texts can be

— created in easy-to-understand language A,

— created in easy-to-understand language A and then translated into easy-to-understand language B,

— created in language A and then may be adapted into an easy-to-understand text in the same language A, and

— created in a language A and then translated into an easy-to-understand language B.

EXAMPLE 2 A written text can be created in easy-to-understand Slovenian.

EXAMPLE 3 A written text can be created in easy-to-understand Slovenian and then translated into easy-to-understand Hindi.

EXAMPLE 4 A written text can be created in Slovenian and then adapted into easy-to-understand Slovenian.

EXAMPLE 5 A written text can be created in Slovenian and then translated into easy-to-understand Hindi.

Easy-to-understand written texts can be a useful step for interpreting into sign language.

4.5 Formats

Written text can be found in printed formats.

EXAMPLE 1 A book, a newspaper and a leaflet contain written text.

Written text can be found in digital formats.

EXAMPLE 2 E-books and webpages include written text.

EXAMPLE 3 Interactive terminals and smartphones and PC menus include written text.

The same written text can be provided in both digital and printed formats.

EXAMPLE 4 A printed book can be also provided as an e-book.

Written text can also be found on audiovisual formats.

EXAMPLE 5 A video can include static written text on screen, e.g. a caption indicating a time jump ("Ten years later").

EXAMPLE 6 A video can include dynamic written text on screen, e.g. interlingual subtitles that provide a translation of the dialogues.

4.6 Functions

Written text can fulfil different functions, e.g. they can be instructive, argumentative, explanatory, descriptive or narrative.

EXAMPLE 1 A recipe is an example of an instructive text.

EXAMPLE 2 A journal article in which one expresses arguments in favour of and against one discussion point is an example of an argumentative text.

EXAMPLE 3 A school book can include explanatory texts about scientific processes.

EXAMPLE 4 A touristic brochure presenting the main city attractions is an example of a descriptive text.

EXAMPLE 5 A children's story is an example of a narrative text.

It is often the case that written text fulfils different functions at the same time.

EXAMPLE 6 A user interface can include content text, help text, action button text, instructions and hyperlinks. Some of these texts can be interactive.

Any type of written text can be made easy.

4.7 Multimodality

In printed formats, written text is often found together with other visual elements such as pictures, images, symbols and graphs.

In digital formats, written text can also be found together with visual elements such as pictures, symbols and graphs, as in printed formats. Additionally, audio and visual elements, such as slideshows, audio files, and videos are also found in digital formats.

Those elements can be used to draw attention or provide more information. They can also help users to navigate and to understand the written text better.

Sometimes, printed written text refers to elements in digital format, such as webpages with slideshows, graphs, audio files, videos or even more written text.

An adequate combination of different modalities caters to diverse user needs and preferences. Content, including written text and other elements, should be easy to perceive and understand. When used in the wrong way, it can make reading and understanding more challenging.

4.8 Technology

Different technologies can support easy text creation, adaptation, evaluation and use. Their implementation shall be evaluated for each particular context of use.

Examples of technologies are:

— automatic text simplification;

— automatic summarization;

— automatic image captioning;

— information design tools;

— machine translation;

— readability and legibility tools;

— text-to-speech;

— terminological and lexicographical tools.

5 Considerations and processes

5.1 General considerations

A written text can be created originally in a way that is easy to read and understand (5.2).

An existing written text can be adapted or translated to make it easy to read and understand (5.3).

A user-centric iterative design process should be used.

The evaluation process applies to both creation and adaptation processes (5.4).

5.2 Creation process

In the creation process, the following steps should be taken:

a) Defining the project brief and planning the project development, including:

   — the aim of the text,

   — content,

   — function,

   — targeted users,

   — format characteristics, and

   — language criteria.

   The project brief may indicate the length of the text, how it will be published, and whether or not it will include additional support materials for a better understanding.

b) Developing the basic structure and organization, taking into account the project brief: this may imply organizing the main and secondary topics, selecting adequate vocabulary, and choosing multimodal support elements.

c) Developing a draft text using the recommendations in Clauses 6 and 7. Where needed, the acquirer or the relevant subject experts and end users may be contacted for input.

d) Evaluating the text as indicated in 5.4.

e) Incorporating feedback obtained through the process of evaluation and producing the final text.

5.3 Adaptation process

In the adaptation process, the following steps should be taken:

a) Defining the project brief and planning the project development. The same criteria as in the process of creation apply.

b) Analysing the source text. The following aspects should be considered: text type, authorship, topic, length, complexity, design, content, vocabulary, and structure.

c) Identifying the targeted users and their needs.

d) Developing the basic structure and organization, taking into account the project brief and the source text analysis. This implies defining the adaptation strategies based on the targeted users. The adaptation can require considering the inclusion of multimodal elements, re-organizing the structure, and adding information to enhance comprehension, depending on each specific scenario.

e) Developing a draft text using the recommendations in Clauses 6 and 7. Where needed, the author of the source text, the acquirer or relevant subject experts should be contacted for clarification.

f) Evaluating the text as indicated in 5.4.

g) Incorporating the feedback obtained during the process of evaluation and producing the final text.

5.4 Evaluation process

5.4.1 General

The aim of the evaluation process is to check if the content is easy to read and understand, and if it also follows established evaluation criteria.

The evaluation process is an iterative process which involves experts and users from the start.

5.4.2 Technical evaluation

A technical evaluation may be carried out by experts. This can include different methods.

EXAMPLE 1 Checklists based on a set of defined criteria can be used for expert evaluation.

EXAMPLE 2 Automatic tools can be used to perform readability tests.

EXAMPLE 3 Usability heuristics developed by Nielsen[12], Gerhardt-Powels[13] or Weinschenk and Barker[16] can be used as a basis to perform an evaluation by one or more experts.

5.4.3 User evaluation

A user evaluation should be performed. This user evaluation is part of both the creation and adaptation processes.

Users should be representative of the intended target users of the content. Diverse users should be included, taking into account their needs and seeking an active involvement from them.

The user evaluation should take place before publication of the content.

In easy language recommendations and standards, evaluation before publication may be a requirement.

For some content it is not feasible to carry out a user evaluation before releasing it, e.g. daily news on a website portal. In these cases, one can be confined to rely on expert evaluation, while user feedback can be gathered after publication on selected samples to improve existing practices and evaluate content.

Different methods may be employed in a process of evaluation. Examples of common methods are focus groups, interviews and user observations.

NOTE 1 Methods can be quantitative and qualitative. Methods can be based on the direct interaction of the user and the indirect observation of the user performing a task.

NOTE 2 User feedback can also be gathered through the interaction of target users and content producers in dedicated discussion sessions or workshops in which different methods can be used.

The process of user evaluation shall be coordinated by a facilitator or facilitators. In the process of user evaluation, the following steps should be taken:

a) Providing the facilitator with the draft text together with the source text, where relevant, and the project brief.

b) Planning the evaluation session or sessions. The following elements should be defined:

   1) the number of users involved,

   2) the timing,

   3) the resources available, and

   4) the activities to be performed.

      EXAMPLE 1 In the context of easy language, UNE 153101:2018 EX[14] recommends a minimum of three users and a maximum of eight. When more than eight users are involved in a session, subgroups should be formed. When different evaluation sessions are planned, the same users should be used.

      EXAMPLE 2 In the context of easy language, UNE 153101:2018 EX[14] recommends taking into account the following elements to set a timeline: deadline, content characteristics, users' availability, selection and abilities, length and number of evaluation sessions. It is recommended that evaluation sessions take place in a short time span.

c) Developing the evaluation session.

During the evaluation session the facilitator should:

— introduce himself/herself and the users;

— explain the aim and length of the session;

— explain that the aim is to evaluate the comprehensibility of the text and not to test users' abilities;

— provide information on easy content;

— provide information on the text characteristics;

— facilitate the development of the activities planned to evaluate the text in a convivial atmosphere.

During the evaluation session the users should:

— read the text;

— indicate comprehension challenges related to the content or the design, and make suggestions;

— identify if information is missing or if information is excessive and make suggestions for improvement;

EXAMPLE 3 The most common techniques are the following: asking users questions about the text; asking the users to explain the text using their own examples and words; promoting a discussion among users in order to identify the main challenges; writing user suggestions on a whiteboard and discussing them.

EXAMPLE 4 Some additional specific activities that can be used are: reading the text in a group in which each user reads a section; a test in which some words are removed from the text, and visualization techniques in which the users imagine themselves in the situation being described.

EXAMPLE 5 When discussing how to reorganize information, it may be useful to do some of the following tasks: asking users to identify the main ideas in a text, asking them to provide headings for each section, asking them to reply to central questions (Who? What? How? When? Where? Why?) or deleting in a second reading all the information which is not necessary to understand the text.

EXAMPLE 6 One technique which can enhance participation is role-playing. During the session, some users act as readers (they read the written text aloud), other users act as detectives, who aim to identify what cannot be understood in the text, and another group acts as journalists (they write down the input provided during the session).

— producing an evaluation report: the facilitator or facilitators gather feed-back from the users and create a report with suggested changes for the professionals involved;

— producing a new text draft which incorporates the suggested changes. When the suggested changes do not follow the project brief, an alternative text should be provided for the next evaluation round;

— developing another evaluation session: users should confirm the new text draft is easy to read and understand. If needed, further evaluation sessions should be planned;

— producing the final evaluation report, which is submitted to the professionals involved.

6 Requirements and recommendations on language in written text

6.1 General considerations

Motivation is an important factor in reading. Therefore, one should try to capture the readers interest for a topic and avoid unnecessarily long texts.

6.2 Vocabulary

Vocabulary should be suitable for the intended target reader.

Some words are more difficult to understand than others. Unusual words are more likely to be difficult to understand. Therefore, one should use simple, common and every-day vocabulary. In alphabetical languages, long words are more likely to be difficult to understand and should be avoided where possible.

Technical terms used in a specific context can also be difficult to understand for an average person. Abstract, technical and complex terms should be avoided when addressing an average user. If they cannot be avoided, they should be explained.

A glossary may be included when there are terms which are difficult to understand.

In easy language, glosses may be included when there are terms which are difficult to understand.

The same word should be used consistently throughout a written text to refer to the same object or referent.

Vague, ambiguous and abstract words and expressions should be avoided.

EXAMPLE 1 “Bring your stuff” is vague. “Bring your football shoes” is specific.

EXAMPLE 2 “Turn left, right now” can be interpreted as “turn left immediately” or “turn left and then right”.

Expressions which make the written text longer and do not add information should be avoided.

EXAMPLE 3 “World population conference” can refer to a “conference on the world population” and to a “world conference on population”.

NOTE Translating an expression into another language is one way to identify if it is an ambiguous expression.

Words from a foreign language should be avoided, unless they are well established in the source language or explained.

6.3 Numbers

To facilitate reading, telephone numbers may be broken up into units (chunking) using spaces according to local practices.

EXAMPLE 1 1234 567 8910

NOTE Chunking of large numbers can interfere with screen reading software.

To prevent unwanted line breaks in numbers, non-breaking spaces should be used.

For some readers, long numbers can be difficult to read and using figures can make them more difficult to understand.

In easy language, qualitative comparisons and more general terms should be used where suitable.

In easy language, long numbers, such as 1 000 000, are easier to read if it is written as "1 million".

For some readers, time and date expressed through numbers can be difficult to understand.

EXAMPLE 2 “11 at night” is preferred to “23:00”.

In easy language, it is recommended to complement the numbers with an image of an analogue watch with pointers.

When expressing currency amounts, symbols with ambiguous meanings should be avoided. If the context requires the use of ambiguous currency symbols, they should be explained.

EXAMPLE 3 The dollar sign ($) can refer to different currencies in the world such as the local dollar used for example in Australia, Bahamas, Canada, Hong Kong, Liberia, Namibia, New Zealand, Singapore and the United States. It can also refer to currencies other than the dollar, such as the Argentine peso.

6.4 Abbreviations

Abbreviations should be generally avoided unless they are well known to the intended reader.

If the context requires abbreviations, they should be spelled-out or explained or both.

6.5 Spelling

Spelling should follow general spelling rules.

6.6 Punctuation

Punctuation should follow grammatical rules or established style guides.

NOTE In easy language, it can be useful to break the line after the punctuation mark.

6.7 Compound words

Some languages have an abundance of compound words, which are words that are put together to create new meaning, while other languages write these words out as separate words.

EXAMPLE 1 "Production losses" is represented in the Swedish language by the compound word "produktionsbortfall" (where "produktion" means production and "bortfall" means losses).

In some languages it is recommended to avoid long compound words, in particular if the words are abstract or uncommon in a specific context of use. Use a simpler synonym or when possible break the word up.

EXAMPLE 2 In Swedish, "bortfall av produktion" (loss of production) is easier to understand than "produktionsbortfall".

EXAMPLE 3 In Spanish, it is easier to understand the compound word "sacapuntas" (sharpener), which is composed of "saca" (verb) and "puntas" (noun), rather than breaking it up.

This recommendation does not apply to every language.

6.8 Grammar

Grammar rules should be followed.

When possible, simple forms of verbs should be used.

Non-frequent forms of verbs should be avoided.

EXAMPLE 1 The phrasal verb "to dwell on" has a past participle which is not generally used in contemporary English. "He dwelt on it" would not normally be used.

NOTE The preference for a passive or an active voice depends on the language and the specific context of use. In languages where active and passive voices are used, the active voice is generally recommended.

Chains of nouns should be avoided.

EXAMPLE 2 "An analysis of increases in crime" is preferred to "Crime increase analysis".

6.9 Sentences

Unnecessarily long sentences should be avoided. It is recommended to include one idea per sentence. In plain language, varying the length of the sentences can engage the reader.

Complex sentences with many subordinate clauses should be avoided. It is recommended to write different sentences instead.

In easy language, if it is not possible to avoid a complex sentence, ideas should be separated in different lines.

6.10 Style

The text shall be logically and semantically consistent and shall use an engaging and direct approach.

The style should be appropriate to the content and the reader.

Avoid using childish language to address adult users.

6.11 Implied meaning

Information should be explicitly formulated. Implied meaning and omissions should be avoided if they make understanding difficult for the target reader.

EXAMPLE 1 In a sentence such as “John told Peter that he was angry”, it can be unclear to the reader to know who “he” is.

EXAMPLE 2 The Spanish sentence “Juan compró un libro y Pedro dos” (literally, “Juan bought one book and Peter two”) is easier to understand without the omissions: “Juan compró un libro y Pedro compró dos libros” (literally, “Juan bought one book and Peter bought two books”).

EXAMPLE 3 In a sentence such as “Mary saw my face was red”, some readers may interpret that “my face” is the object of the first clause, not the subject of the second clause. Reading the sentence will be easier for some readers if “that” is not omitted and the sentence is “Mary saw that my face was red”.

Irony, metaphors, figures of speech should be avoided if they make understanding difficult for the target reader.

NOTE Specific idiomatic expressions can be difficult for foreign readers.

7 Requirements and recommendations on content presentation

7.1 General considerations

A universal design approach shall be taken when designing content in all types of formats, so that it is accessible to the widest range of users.

Alternative formats to written text, such as auditory, haptic, visual (dynamic or static) and other suitable means, shall be provided where possible.

EXAMPLE 1 A digital written text includes an audio version as an alternative format.

Individualisation shall be offered where possible: users shall be given the possibility to choose their preferred settings.

EXAMPLE 2 A user can choose a specific font size, type and colour out of the offered ones.

EXAMPLE 3 A user can read a written text while listening to its audio version.

7.2 Layout

7.2.1 Structure

Text structure shall be designed in a way that supports the users’ goals and expectations. Text structure helps the user identify important information easily and quickly. Starting the text and each paragraph with the most important information is normally a good strategy.

EXAMPLE 1 A utility bill should inform the user of the amount to be paid. The user’s goal in this context will be to find as easily and quickly as possible the amount they owe.

EXAMPLE 2 A decision letter should start with the decision, followed by the explanation.

All related information should be grouped in blocks or visual units, clearly differentiated using design elements or written text spacing.

EXAMPLE 3 Boxes around text or paragraphs (breaking up text in separate units) can be used to this end.

Content should be organized taking into account the common reading patterns the intended users apply.

EXAMPLE 4 F-pattern and Z-pattern are common reading patterns on the web.

7.2.2 Headings

Headings should describe the topic or the main content of the text that follows, helping the reader to orient themselves.

Headings and written text should be clearly differentiated.

7.2.3 Text justification

Written text shall be justified in such a way that the reader can easily navigate through it.

EXAMPLE 1 Left justification is recommended for Latin alphabet languages.

EXAMPLE 2 Full justification is recommended for character-based languages.

7.2.4 Lines and spacing

Unnecessarily long lines should be avoided.

EXAMPLE 1 In easy language, the line is cut after the punctuation, or after a phrase, allowing the next phrase to follow on the line underneath.

EXAMPLE 2 This example contains the same sentence in English and Arabic. EXAMPLES 2 a) and 2 c) include line breaks that make reading harder. EXAMPLES 2 b) and 2 d) are easier to read and understand.

a)

This document covers all

written text in

any user interface, regardless

of its format.

b)

This document covers

all written text

in any user interface,

regardless of its format.

c)

يغطي هذا المستند كل
نص مكتوب بغض النظر
عن شكله.

d)

يغطي هذا المستند
كل نص مكتوب
بغض النظر عن شكله

EXAMPLE 4 In plain language, lines under 65 characters are recommended in Latin alphabet languages.

Spacing between lines should be adapted to the font size and the format.

7.2.5 Columns and margins

When it can be avoided, written text should not be divided into different columns.

When columns cannot be avoided, care should be taken with regards to the gutter (vertical whitespace that separates the column) and column width.

NOTE 1 There is a risk that some readers can read straight across from one column to the next if the gutter does not provide adequate spacing to clearly differentiate between the columns.

NOTE 2 Some readers find it challenging to switch between lines frequently.

Margins should be wide enough to allow for comfortable reading and possible addition of glosses.

White space should be used to separate visual elements. White space is any space between the visual elements that helps the reader to easily discern visual elements from each other.

7.2.6 Page numbers and orientation

Page numbers shall be included systematically, be clearly visible and follow users' expectations.

In easy language, page numbers should use a larger size than written text font size.

In easy language, descriptions such as "continues on the next page" should be added where relevant to indicate continuing text.

Page orientation shall be consistent, where feasible.

7.2.7 Fonts

Font size and font type should allow for comfortable reading.

EXAMPLE 1 GB/T 9704 [1] recommends 16 points for official documents issued by governmental organisations.

EXAMPLE 2 In easy language, UNE 153101[14] recommends font sizes between 12 and 16 points. It refers to 14 points as the commonly used choice although this can depend on the font type used.

EXAMPLE 3 Minimum required character size *(h)* can also be calculated using the viewing angle φ and distance d by the following formulae:

$$h = 2\ (d\ tan\ (\varphi/2))$$

$$h \approx d\ tan\ \varphi \approx d\ \varphi$$

Italics, underlining, shadows, contour and relief should be avoided.

In plain language, italics and underlining can be used in shorter texts for emphasis.

In easy language, bold fonts should only be used to highlight words which are explained in glosses, glossary or paratextual elements.

In plain language, bold fonts can be used to emphasize keywords.

In languages which use uppercase and lowercase letters, full words, sentences or paragraphs should not be capitalised as it makes the text harder to read. In plain language, uppercase letters can sometimes be used to emphasize certain words.

7.2.8 Contrast

High contrast between back and foreground shall be used. Negative contrasts should be avoided.

EXAMPLE Black letters are generally much better perceived on a white background than white letters on black background.

NOTE 1 Some people find white backgrounds too bright and prefer light cream or a light soft pastel shade.

NOTE 2 Some people find negative contrast such as black background and white text useful.

The background shall be plain, with no patterns. Written text should not be placed over background images. Watermarks shall not be used.

If background images cannot be avoided, they should not interfere with written text recognition, i.e. they should be of low contrast not competing with the foreground text for visual attention.

7.2.9 Paper quality

In printed content, non-glossy, non-reflective paper should be used to avoid glare or distracting reflections during reading.

7.2.10 Colours

Colours may be used to enhance meaning. Cultural differences should be taken into account.

Colours cannot be accessible to all users. Therefore, the meaning of the colour should also be conveyed by alternative means.

EXAMPLE In some cultures, a green smiley, an orange smiley and a red smiley used for rating, can convey different degrees of satisfaction. If the colour is combined with a facial expression, it will be easier to understand.

Colours should be used carefully. Using many different colours in a content can be distracting.

The use of colours in headings or subheadings should be consistent throughout the text.

High contrast ratios should be used.

7.2.11 Other elements

In digital content, moving and flashing content should be avoided if they are not relevant to the content presented.

NOTE Moving and flashing images are distracting as they capture the users' attention before anything else.

7.3 Non-verbal paratextual elements

7.3.1 General

Non-verbal paratextual elements such as images and other graphical elements can enhance comprehension.

7.3.2 Images

Images may be used to enhance comprehension.

Images should be positioned close to the written text they represent or refer to and should not interfere with reading.

Good quality images should be used.

Images should be clear and visible. What they convey should be in coherence with the meaning of the text. Abstract concepts should be conveyed in a concrete manner.

In easy language, the same image should be used to represent the same concept throughout the entire text.

When an image description is provided, it should be written in an easy manner and it should be positioned in a way that does not interfere with reading.

Alternative text shall be used for images in digital content.

EXAMPLE ISO/IEC 20071-11[5] provides recommendations on alternative text for images.

7.3.3 Other graphical elements

When other graphical elements are used, they should be carefully chosen, taking into account their goal and target users. They should contain a heading and a description.

In plain language, tables may be used. In easy language, they are generally not recommended.

Maps can be difficult to interpret for some readers. Clear itineraries and easy-to-identify photographs of buildings and landmarks make maps easier to understand.

Alternative text shall be used for graphical elements in digital content.

EXAMPLE ISO/IEC 20071-11[5] provides recommendations on alternative text for graphical elements.

7.4 Verbal paratextual elements

7.4.1 General

Verbal paratextual elements can enhance comprehension such as:

a) a table of contents;

b) a gloss;

c) a glossary;

d) a summary;

e) pre- and post-reading activities.

7.4.2 Table of contents

The table of contents should be included at the beginning of long texts. The page number should be easy to associate with the section it relates to.

7.4.3 Gloss

A gloss may be used when complex words or expressions are used and their meaning cannot be understood through the text. The gloss shall then include an explanation of the meaning and, where relevant, an example.

EXAMPLE Complex words or expressions can be, e.g. metaphors, sayings, terminology, jargon.

In plain language, glosses are not generally used, but it is preferred to explain complex words or expressions in the text, in a footnote or in a glossary.

The gloss shall be included the first time the word or expression is used. It should be positioned close to the word or expression being defined, generally on the margin and always on the same page. The word or expression being glossed should be in bold or coloured, both in the written text and in the gloss.

