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Information technology — Icon symbols and functions for multimedia link attributes

Technologies de l'information — Symboles et fonctions d'icônes pour les attributs de liens multimédias

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Introduction

Link attribute icon symbols enable users to decide on the suitability of following associated hyperlinks. Information provided by these icon symbols may also be made available via text.

This International Standard provides guidance on the graphics to be used by implementers of ISO 14915-2, *Software ergonomics for multimedia user interfaces — Part 2: Multimedia navigation and control*.

The icon symbol graphics included in this International Standard have been selected on the basis of their ability to convey the desired information to a wide audience of users.

Information technology — Icon symbols and functions for multimedia link attributes

1 Scope

This International Standard defines a consistent set of icon symbols and related attributes that are presented on a computer screen and with which users interact to decide whether or not to take the associated link. These symbols represent attributes of the link and/or the destination of the link.

This International Standard applies to icons that are shown on a computer screen in conjunction with a link also shown on that screen. It describes user interaction with and the appearance of link attribute icons on the screen. Other forms of icons are covered in ISO/IEC 11581, *Information technology — User system interfaces and symbols — Icon symbols and functions*.

2 Conformance

A system, application or set of one or more icons conforms to this International Standard if all link icons available to the user in the system or application conform to subclause 5.1 of this International Standard and to clause 5 and subclause 6.1 of ISO/IEC 11581-1:2000.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14915-2:2003, *Software ergonomics for multimedia user interfaces — Part 2: Multimedia navigation and control*

ISO/IEC 11581-1:2000, *Information technology — User system interfaces and symbols — Icon symbols and functions — Part 1: Icons — General*

ISO/IEC TR 19766, *Information technology — Guidelines for the design of icons and symbols accessible to all users, including the elderly and persons with disabilities*[1)]

4 Terms and definitions

4.1
application
collection of functions with which a user can perform a task

1) To be published.

4.2
link
connection among or within media which starts with a control and ends at a specified location

NOTE Links may be represented with text, graphics, or other forms of media.

[ISO 14915-2:2003, definition 3.9]

4.3
fixed link
permanent link that can be activated whenever the medium containing the link is presented

EXAMPLE 1 The user clicks on an underlined phrase in a Web page and is taken to another Web page.

EXAMPLE 2 The user clicks on a word and is provided with a description of what the word means.

EXAMPLE 3 The user clicks on an animated icon which starts a video presentation.

[ISO 14915-2:2003, definition 3.9.3]

4.4
temporal link
link between two anchors in the system that is only available for a certain period of time while the medium containing the link is presented

EXAMPLE 1 Links to descriptions of characters are made available only while the characters are visible in a video sequence.

EXAMPLE 2 A link to descriptive information is available only during the first 20 seconds of viewing a picture.

NOTE Temporal links can be due to conditional or time limited constraints.

[ISO 14915-2:2003, definition 3.9.4]

4.5
computed link
temporary link, created on demand between two anchors in the system, where the location linked to is dynamically determined based on the state and/or history of the system and where the link remains available only while needed

EXAMPLE The results of a search include several links to different parts of the application that will be replaced by the results of any subsequent search.

[ISO 14915-2:2003, definition 4.5]

4.6
user defined link
permanent or temporal link created by a user during the use of an application that is intended to supplement the links created with the application

EXAMPLE The user creates a bookmark to go directly to a given location within an application.

[ISO 14915-2:2003, definition 4.6]

4.7
link attribute
property or destination of a link

4.8
icon
graphic displayed on the screen of a visual display that represents a function or an attribute of a function of the computer system

4.9
interactive system
combination of hardware and software components that receive input from, and communicate output to, a human user in order to support his or her performance of a task

NOTE The term “system” is often used, rather than “interactive system”.

[ISO 13407:1999, definition 2.1]

5 Requirements and recommendations

5.1 Requirements

5.1.1 Graphic and function

If an interactive system or application uses a link attribute icon that has the appearance of the icon graphic specified in clause 6 of this International Standard, within the specific variations given, and within the global variations specified in ISO/IEC 11581-1, it shall serve the functions specified in clause 6 of this International Standard.

NOTE A single link attribute icon may combine information on a number of attributes of a link.

5.1.2 Arrangement

A link attribute icon shall be grouped together with the link that it clarifies.

EXAMPLE The link attribute icon for link composed of a string of text is presented immediately before the start of the text.

5.1.3 Selection

a) Selection of a link attribute icon shall have the same result as selecting the link that the attribute icon clarifies.

b) Selection of a link attribute icon shall be made by indicating with the pointer and activating the associated input device (e.g. clicking a mouse button).

5.1.4 Visual feedback

a) There shall be visual feedback when a link has been invoked via a link attribute icon.

NOTE Typically, this involves presenting content from the destination of the link.

b) The user shall be informed if content from the destination of the link cannot be presented when a link has been invoked via a link attribute icon.

5.2 Recommendations

5.2.1 Control of presentation of link attributes

The systems should provide a function to allow the user to control the presentation/hiding of link attribute icons.

5.2.2 Function and graphic

If an interactive system or application uses a link attribute icon that serves the primary function specified in clause 6 of this International Standard, it is highly recommended that it have the appearance of the icon graphic specified in clause 6, within the specific variations given and within the global variations specified in clause 6.3 of ISO/IEC 11581-1:2000.

5.2.3 Presenting textual information about link target

When a link attribute icon or the link itself is pointed at but not activated, a pop-up should be used to display further information about the details of the target of the link (i.e. media type, application, etc.).

5.2.4 Metaphor

Information about the following metaphors used in this International Standard may be included in documentation that is provided to users of link attribute icons.

a) The basic nature of a link is represented by three segments (also known as “links”) of a chain.

b) The temporal aspect of some links is represented by an hourglass with sand in various positions representing the passage of time in the temporal life of the link.

c) The need to load additional content which may overlay the content currently available to the user is represented by a border around the link indicating that this new content is completely new.

d) The on-going nature of a link is represented by flashing (as is commonly used in a web browser), or if flashing is not appropriate, by a dashed border that shows that new content will continue to be loaded.

e) The computed nature of the destination of a link is represented by an equals sign.

f) The size of the content to be loaded is represented by a glass with various amounts of liquid in it.

g) The visited nature of a link is represented by shading within the segments of the main link attribute icon (which is similar to the use of changed colours for textual links).

5.2.5 Rendering

A consistent highlighting or presentation style should be considered which renders the graphic of the symbols sufficiently prominent in comparison with other information on the screen.

5.2.6 Colour

a) Link attribute icons may be coloured.

b) Because the background is significant, the colour of the background should be clearly distinguishable from other colours used in the icon.

5.2.7 Cell size

Icon cell sizes should be sufficient to allow all the presence or absence of icon components to be accurately perceived.

NOTE Icon cell sizes are not required to be square. The sizes shown in clause 6 are relative to the complexity of the design and implementation of the icons. The aspect ratio of the cell sizes are not part of this International Standard.

5.2.8 Text/typeface

a) The use of text to accompany link attribute icons should be avoided.

b) If text is used, plain typefaces should be used.

c) If text is used, it should be used in a manner that supports adaptation for cultural, linguistic and comprehensibility purposes.

5.2.9 Accessibility

Link attribute icons should comply with the recommendations of ISO/IEC TR 19766.

6 Icon specifications

6.1 General structure of link attribute icons

6.1.1 Use of a single link attribute icon

A single composite icon shall be used to represent a combination of link attributes.

NOTE The use of multiple icons would defeat the usability of icons in presenting attribute information to users.

6.1.2 Constructing link attribute icons

A link attribute icon shall be composed of the basic link attribute icon (from clause 6.1.4) plus appropriate additions (from clauses 6.2 to 6.4).

NOTE The combination of all specified additions is illustrated in A.2.

6.1.3 Individual link attribute icons

Each link shall have its own corresponding link attribute icon, where appropriate.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.3.

6.1.4 Basic link attribute icon

Primary function. To enable the user to recognize the associated link.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.1.

Specific instance. A representation of three segments of a chain.

Components.

— Two open horizontal ovals (or rectangles) are situated near the bottom of the icon horizontally near one another.

— A horizontal line connects the two ovals (or rectangles) and goes slightly inside of each of the two ovals (or rectangles).

— See also 6.4.1 and 6.4.2 for the meaning of colours within.

Graphic.

NOTE All icons illustrated in this International Standard are surrounded by a grey border which is not part of this International Standard.

6.2 Temporal attribute of links

6.2.1 Fixed links

Primary function. To enable the user to determine that the link will remain available as long as the current content is being presented.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.2.5.

Specific instance. Links are expected to be “fixed links” if not otherwise noted. This does not require any additions to the link attribute icon to indicate a fixed link.

Components.

— The link attribute icon does not require any additions to indicate fixed links.

6.2.2 Temporal links

Primary function. To enable the user to determine that the link will remain available only for a limited period of time.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.2.6.

Specific instance. An hourglass may be added above the left-most link in the link attribute to indicate the temporal nature of the link.

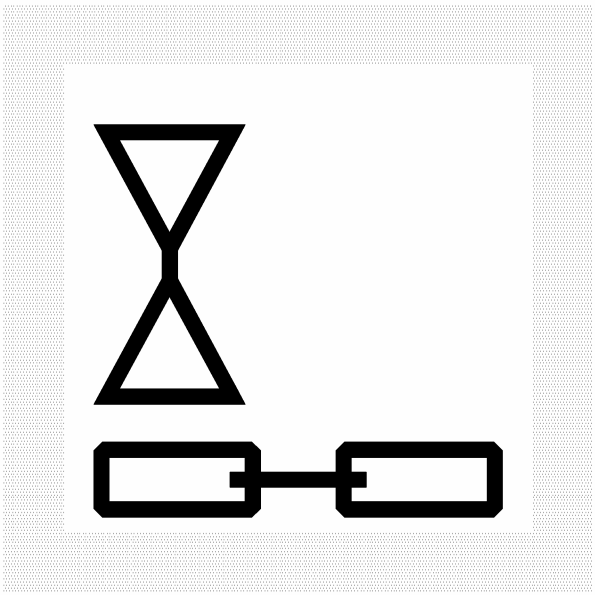
NOTE To improve meaningfulness, the hourglass may include some fill in the top and/or the bottom of the hourglass as specified in 6.2.3 to 6.2.5.

Components.

— An “X” with lines closing its top and bottom, located above left-most link in the link attribute icon.

— Fill within the two resulting triangles is optional.

Graphic.



6.2.3 Start of availability of a temporal link

Primary function. To enable the user to determine that the link is available and will remain available for a limited period of time.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.3.

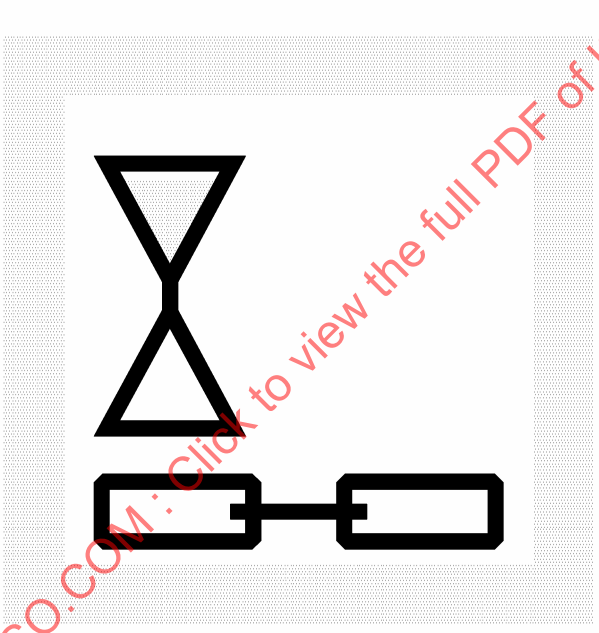
Specific instance. The top triangle of the hourglass in the left-most link in the link attribute is filled in with a pattern or colour to indicate that the temporal link is available (see also 6.2.3).

Components.

— The top triangle of the hourglass is filled in some manner that is distinct from the background colour, when the link first becomes available.

— The bottom triangle is filled with the regular background colour.

Graphic.



6.2.4 Duration of availability of a temporal link

Primary function. To enable the user to determine that a currently available temporal link will soon become not available.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.3.

Specific instance. Both the top and the bottom of the hourglass are partially filled. The fill within the hourglass is changed to indicate approach of the end of the availability of the temporal link (see also 6.2.3).

Components.

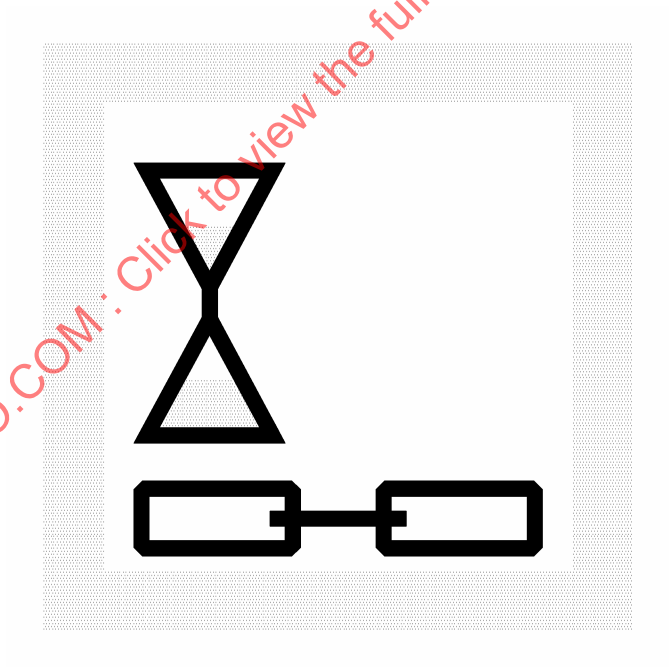
— The top and bottom triangles of the hourglass each have their bottoms partially filled in some manner that is distinct from the background colour, when the link first becomes available.

— The visual representation of the fill may also be changed in order to alert the user of the impending change.

EXAMPLE 1 The fill changes from a dot pattern to a solid colour when there is less than ten seconds remaining in the duration of the temporal link.

EXAMPLE 2 The fill colour changes from green to red when there is less than ten seconds remaining in the duration of the temporal link.

Graphic.



6.2.5 Non-availability of temporal links

Primary function. To enable the user to determine that the link is not available currently.

NOTE 1 For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.3.

NOTE 2 The use of a link attribute icon denoting the non-availability of a link is optional, since a non-available link need not be displayed as a link. However, there are situations where it is advantageous to provide advance notice of the appearance of a link and/or the notice that a link is no longer available.

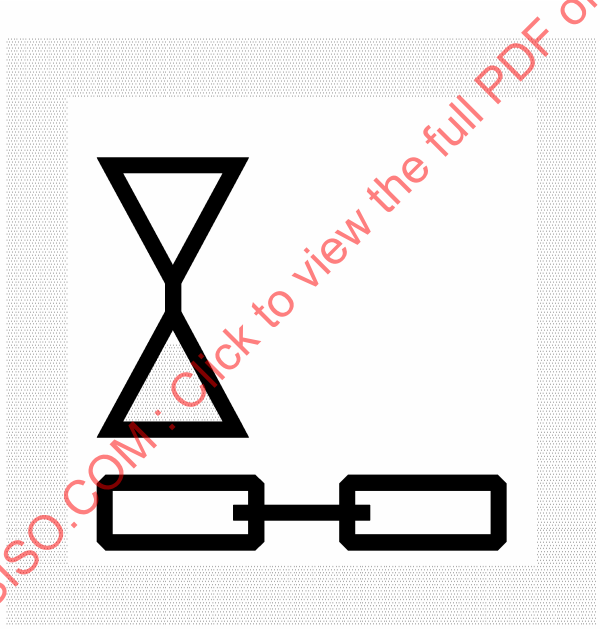
Specific instance. The bottom triangle of the hourglass in the left-most link in the link attribute is filled in with a pattern or colour to indicate that the temporal link is unavailable (see also 6.2.3, 6.2.4).

Components.

— The bottom triangle of the hourglass is filled in some manner that is distinct from the background colour, when the link becomes no longer available.

— The top triangle is filled with the regular background colour.

Graphic.



6.3 Attributes of destinations of links

6.3.1 On-page links

Primary function. To enable the user to determine that the link can be activated without requiring the loading of additional content.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.2.

Specific instance. Links are expected to be on-page if not otherwise noted.

Components.

— The link attribute icon does not require any additions to indicate on-page links (see also 6.3.2, 6.3.3, 6.3.4).

6.3.2 Off-page link

Primary function. To enable the user to determine that the activation of a link will require the loading of additional content which may overlay the content currently available to the user.

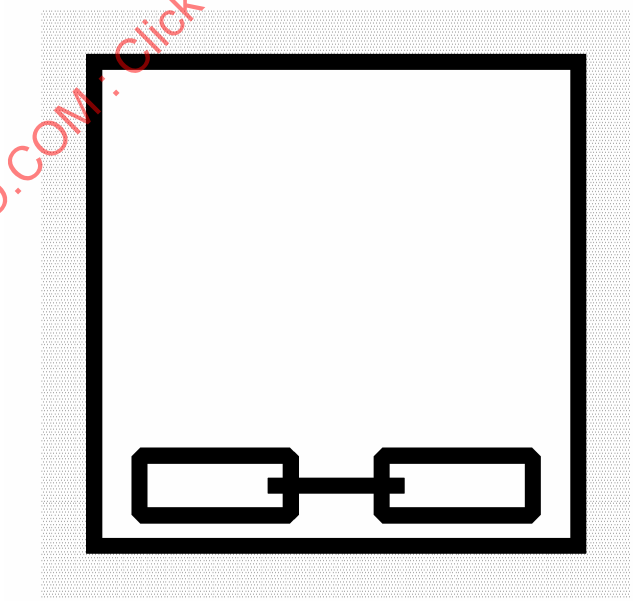
NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.2.

Specific instance. A border around the edges of the link attribute icon.

Components.

— A border of similar line thickness to the lines in the basic link attribute icon.

Graphic.



6.3.3 Ongoing link

Primary function. To enable the user to determine that activating the link will result in an ongoing connection to dynamically changing content at the external destination of the link.

EXAMPLE This would be used for links to streaming media.

NOTE For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.4.

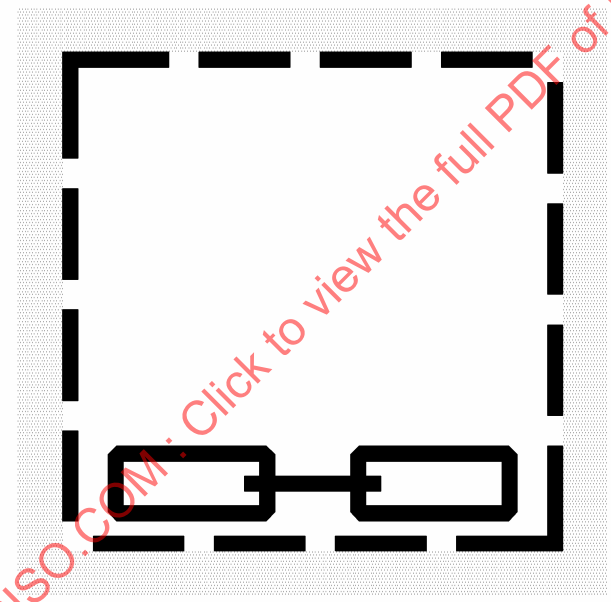
Specific instance. A flashing border around the edges of the link attribute icon.

Alternate instance (for use where flashing is not appropriate). A dashed border around the edges of the link attribute icon.

Components.

— A dashed border of similar line thickness to the lines in the basic link attribute icon.

Graphic.



6.3.4 Computed link

Primary function. To enable the user to determine that the destination of a link has been computed based on currently available values.

NOTE 1 The computed links and/or their specific destinations may not be available, for various reasons (often related to changes in information), at a point in time later in the use of the application.

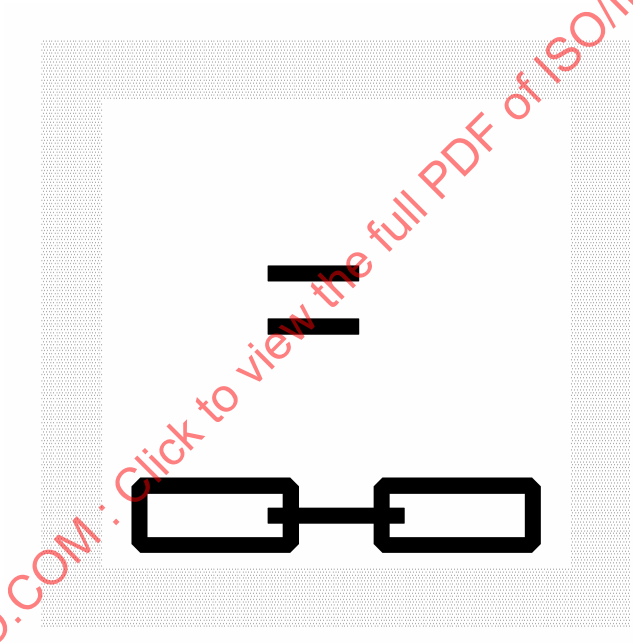
NOTE 2 For a more detailed functional description refer to ISO 14915-2:2003, clause 8.2.9.

Specific instance. An equals sign is added above the central link in the link attribute to indicate the computed nature of the link.

Components.

— An equals sign “=” above the central link in the link attribute icon.

Graphic.



6.3.5 Link load information

Primary function. To enable the user to determine the time required to load the content if the link is activated.

NOTE 1 The time required to follow a link is generally based on a number of factors. The size of the content that needs to be loaded is the easiest factor to use that provides meaningful information to most users.

NOTE 2 For a more detailed functional description refer to ISO 14915-2:2003, clause 8.4.5.

Specific instance. A rectangular container is added above the right-most link in the link attribute to indicate the expected size of new content that would be loaded if the link were followed, where this size has been predetermined by the browser.

Components.

— If size information is not available, then this rectangle will not be displayed.

— A rectangular “U” (representing a container which is to be filled), located above left-most link in the link attribute icon.

— If the size of the content to be loaded is less than 50 kB, the container is empty.

— If the size of the content to be loaded is between 50 kB and 500 kB, the bottom half of the container will be filled.

— If the size of the content to be loaded is greater than 500 kB, the entire container will be filled.

Graphic.

(Indicating that the content to be loaded is between 50 kB and 500 kB)