INTERNATIONAL STANDARD

ISO/IEC 11581-2

First edition
2000-04-01

Information technology — User system interfaces and symbols — Icon symbols and functions —

Part 2: Object icons

Technologies de l'information — Interfaces pour système utilisateur et symboles — Symboles et fonctions d'icônes —

Partie 2: Icônes d'objet

Reference number
ISO/IEC 11581-2:2000(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 734 10 79
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. 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.

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 11581 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 11581-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User Interfaces*.

ISO/IEC 11581 consists of the following parts, under the general title *Information technology — User system interfaces and symbols — Icon symbols and functions*:

— *Part 1: Icons — General*

— *Part 2: Object icons*

— *Part 3: Pointer icons*

— *Part 4: Control icons*

— *Part 5: Tool icons*

— *Part 6: Action icons*

Annex A of this part of ISO/IEC 11581 is for information only.

Introduction

Object icons are a subset of icons that represent the objects making up the domain of a system or application and that users manipulate in doing their jobs. They are distinguished from other icons by the fact that they mediate user interactions with software applications, and they may be moved and opened. Object icons are images that represent functions by using associations with similar physical objects.

Besides representing a function an object icons can sometimes represent a similar physical object. For example a printer icon image can represent a specific printer, rather than the generic concept of printing.

Figure 1 shows a model relating an icon on the screen, the way it is interpreted by the user, and the application concept that it represents.

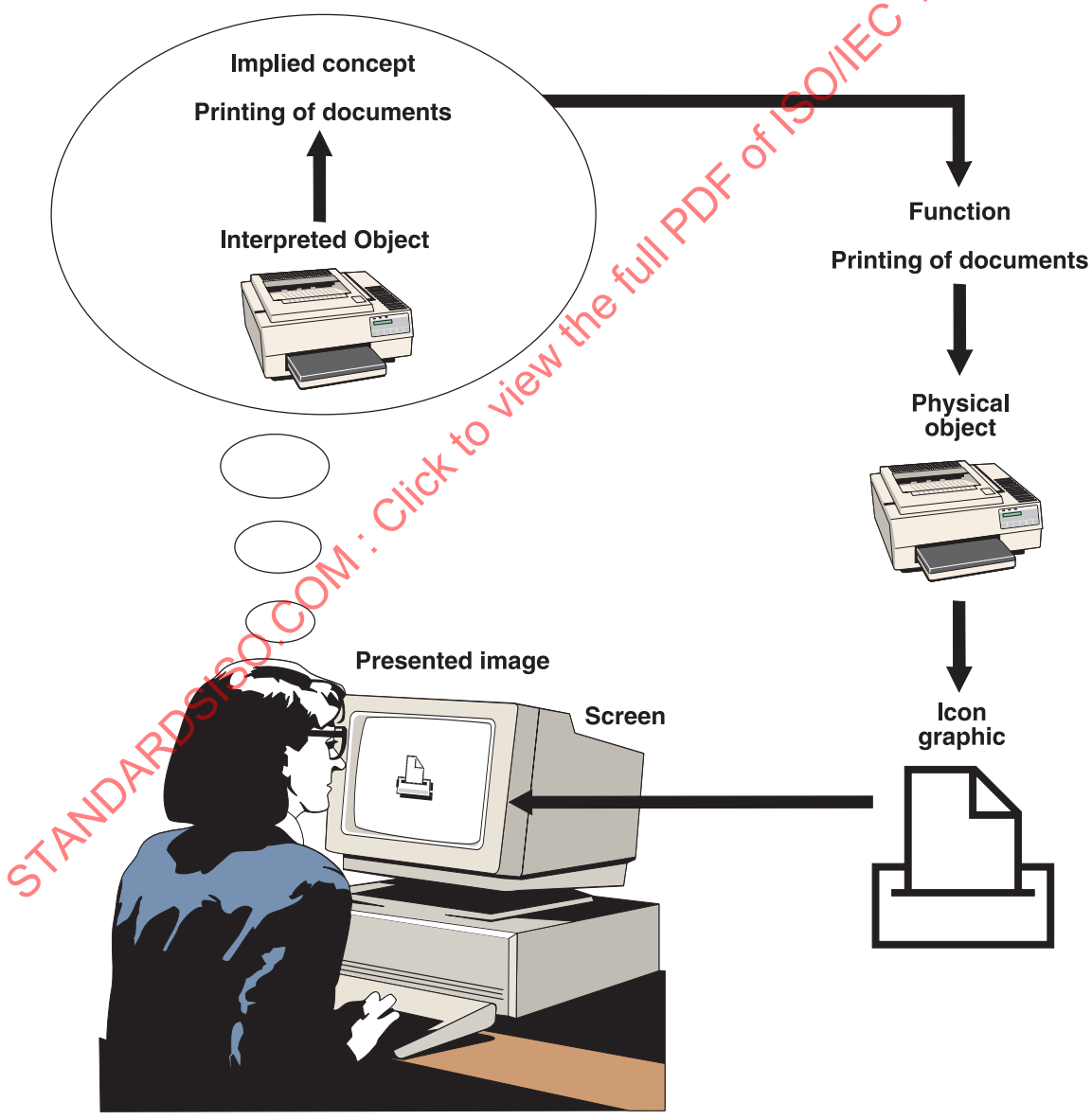


Figure 1 — User interpretation of object icons

Information technology — User system interfaces and symbols — Icon symbols and functions —

Part 2: Object icons

1 Scope

ISO/IEC 11581 applies to icons that are shown on a screen, that users can manipulate and interact with, and that represent data, or computer system functions. This part of ISO/IEC 11581 addresses only object icons. “Object icons” is a term used in ISO/IEC 11581 to describe icons that represent functions by association with an object and that can be moved and opened. Other types of icons are covered in other parts of the standard that are listed in the Foreword.

Annex A describes the information to be given when submitting new object icons for inclusion in this part of ISO/IEC 11581.

2 Conformance

A system, application, or set of one or more icon(s) conforms to this part of ISO/IEC 11581 if all icons available to the user in the system, application, or set conform to clause 5 and subclause 6.1 of ISO/IEC 11581-1:2000 and all object icons implemented by the system, application, or set conform to 6.1 of this part of ISO/IEC 11581.

3 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 11581. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/IEC 11581 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

4 Terms and definitions

For the purposes of this part of ISO/IEC 11581, the terms and definitions given in ISO/IEC 11581-1 apply.

5 Conceptual construction of object icons

Figure 2 illustrates the conceptual construction of object icons for this part of ISO/IEC 11581. The framework is particularly appropriate for developing object icons. It shows how the user interprets an implemented object icon and deduces its function with the aid of the metaphor. However, if the purpose of the icon is to represent a physical device (rather than a generic function), the abstract object is not necessarily relevant.

This clause provides descriptions and examples of the elements of the framework as applied to object icons.

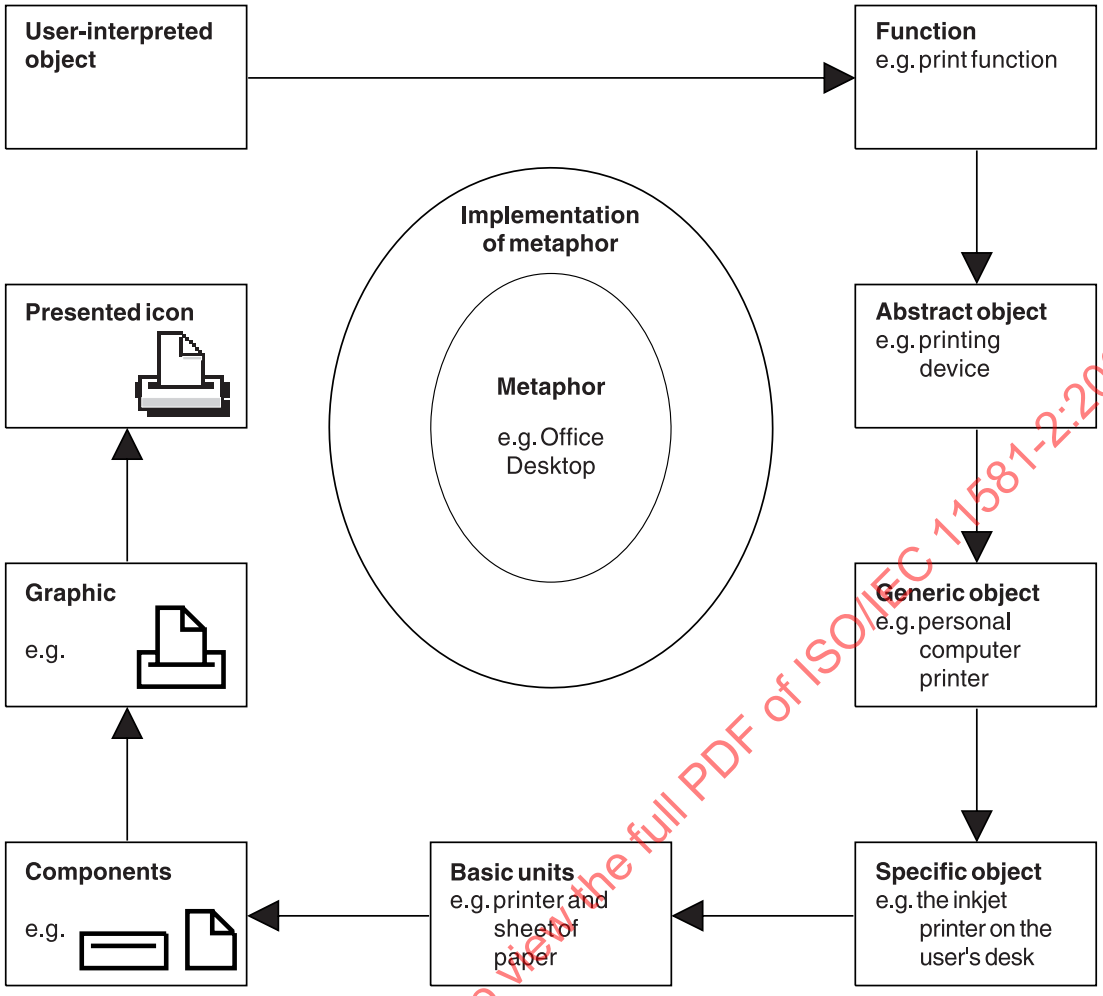


Figure 2 — Framework used to specify object icons

5.1 Metaphor

An object icon is itself a metaphor for an object in the metaphoric environment. Many of the icons used in this part of ISO/IEC 11581 reflect the office metaphor.

5.2 Function

When a function can be expressed by a metaphorical object, it can be represented in a graphical user interface by an object icon that depicts that object. Object icons represent the computer functionality and also have their own behavioural aspects.

5.3 Abstract object

Examples of abstract objects are:

— things that print and

— means of disposing of unwanted objects.

5.4 Generic object

The generic object is a subclass of the abstract object, for example:

— personal computer printer and

— objects used to contain garbage.

5.5 Specific object

The specific object is a specific realization of the generic object, corresponding to a certain physical object, for example:

— a specific electromechanical printer with paper emerging and

— a specific instance of an object used to contain garbage.

NOTE Only the left-hand example uses the graphic in this part of ISO/IEC 11581.

Figure 3 — Examples of icons based on different specific instances of objects used to contain garbage

5.6 Basic units

Basic units are essential elements of the specific object. Each conceptual basic unit should be a meaningful object by itself. For example:

— a printer and a sheet of paper and

— a trash can.

5.7 Components

Examples of components are:

— the printer body (rectangular, with the height less than the width, and a central horizontal slot not touching the sides) and

— a sheet of paper (rectangular, with the height greater than the width, any one corner of the sheet is folded, forming a triangular shape within the sheet of paper).

5.8 Graphic

The graphical representation of the object that is formed from the components. It is the graphical representation of the specific instance (see 5.5).

5.9 Presented icon

The graphic object icon as it is displayed on the screen.

6 Object icon requirements and recommendations

6.1 Requirements

6.1.1 Graphic and function

If a system or application uses an object icon that has the appearance of the object icon graphic specified in clause 7 of this part of ISO/IEC 11581 within the specific variations given, and within the global variations specified in ISO/IEC 11581-1, it shall serve the primary function specified in clause 7 of this part of ISO/IEC 11581.

6.1.2 Orientation

Unless otherwise specified all object icons represented in this part of the standard shall be used in the orientation shown in clause 7. The interpretation of the meaning of an object icon may depend on its orientation and care should be taken to avoid ambiguity. For example, a representation of an object (such as a folder) that is depicted upside down on the screen could be interpreted to have a different meaning (such as “empty”) than when depicted in its upright orientation.

6.1.3 Opacity

The areas enclosed within the outline of the graphic of an icon shall be opaque. The remaining area outside the outline and bounded by the overall cell area can be opaque or transparent.

6.1.4 Opening an object icon

Opening an object icon shall allow access to the associated functionality or information of an icon and/or provide a view of the object represented by the icon.

6.1.5 State change

The conventions used to indicate the changes in state assumed by the object icon shall be used consistently for all object icons within a set for which conformance is claimed.

Basic object icon Examples of different states

Figure 4 — Examples of state indication

6.1.6 Sensitive region

Object icons shall have a sensitive region, typically an invisible overlay to the graphical symbol. Its purpose is to provide an area, associated with each icon, to enable both user manipulation and interaction with other icons.

6.2 Recommendations

6.2.1 Function and graphic

If a system or application uses an object icon that serves the primary function specified in clause 7 of this part of ISO/IEC 11581, it is highly recommended that it have the appearance of the object icon graphic specified in clause 7, within the specific variations given and within the global variations specified in 6.3 of ISO/IEC 11581-1:2000.

6.2.2 Consistent behaviour

The way object icons behave on the screen should be consistent for all object icons in the system. For example, if an object icon is moved, the way the path of the move and original position of the icon are indicated should be indicated consistently for all object icons.

6.2.3 Metaphor

The metaphor represented by the object icon should be directly related to the functionality of the object icon.

6.2.4 Typeface

A simple typeface should be employed if letters, numbers, punctuation marks, and mathematical symbols are used as integrated elements of the object icon.

6.2.5 Visibility

During any action involving user-controlled continuous movement of the icon, both the original position and the instantaneous current position of the icon should be visible on the screen.

6.2.6 Layered object icons

Where several object icons are superimposed, the sensitive area of the uppermost should take precedence. Typically it is not possible to directly interact with the lower ones through visual gaps in the uppermost icon.

7 Icon specifications

The following icon specifications are consistent with the framework in clause 5. The illustrations represent the basic graphics for the object icon subject to global variations (see ISO/IEC 11581-1:2000, 6.3) and the specific variations given in this clause, listed for each icon where appropriate.

Object icons specified in this clause fall into three categories:

— core object icons that can accept other objects as input (7.1), and

— secondary object icons that cannot accept other objects as input (7.2). Secondary object icons fall into two categories:

  — accessory object icons (7.2.1), and

  — system environment object icons (7.2.2).

The graphics for all categories are shown bounded by a grey cell. The size of the cell and the location of the icon within it are shown for illustration only, and are implementation dependent. The grey zone may be either transparent or opaque, whilst the white, inner zone should always be opaque.

7.1 Core object icons

7.1.1 Document

Primary function: To contain information that can be presented to the user, and to provide the lowest unit of information storage for the user, unless the application requires that documents contain other documents.

NOTE The document is intended to be customized to reflect the specific type of document that is presented. Documents may contain text, graphics, spreadsheet information, video, other documents, and data. Opening a document icon typically allows the user to edit the document (e.g. text editing or spreadsheet editing).

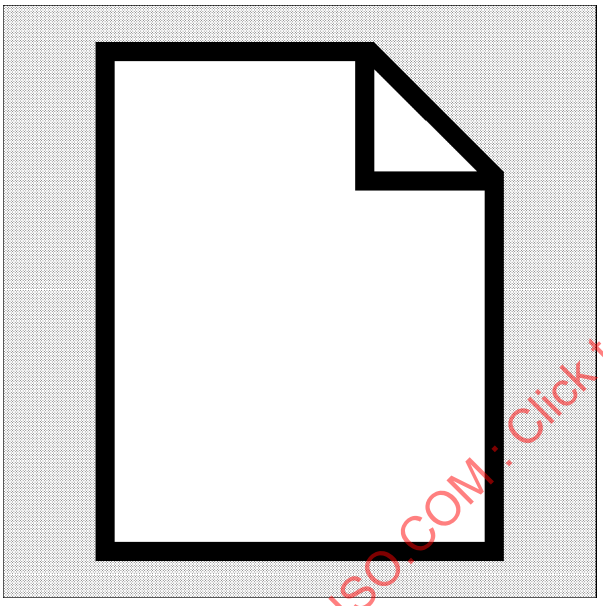
Specific instance: A sheet of paper as typically used in an office.

Components:

— Sheet of paper. Rectangular with the height greater than the width.

— Corner folded down. Triangular shape within the sheet of paper.

Graphic:



7.1.2 Folder

Primary function: To contain objects such as documents, other folders, and applications only, but not filing cabinets.

NOTE Opening the folder icon typically provides access to the contents of the folder. In both the open and closed states the folder permits other objects to be moved and copied into the folder.

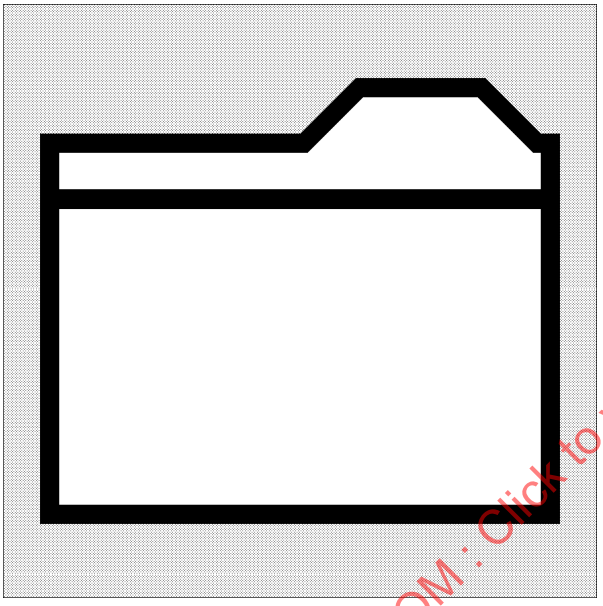
Specific instance: A manila folder.

Components:

— Back cover: Rectangle, with the height less than the width and a tab along the top edge.

— Front cover: Rectangle, with the height less than the width, and located in front of the back cover.

Graphic:



7.1.3 Filing cabinet

Primary function: To contain other objects such as documents, folders, and other filing cabinets and provide a level in the storage hierarchy higher than the folder.

NOTE Opening the filing cabinet icon typically provides access to the contents of the filing cabinet. In both the open and closed states the filing cabinet permits other objects to be moved and copied into the filing cabinet.

Specific instance: Filing cabinet with two drawers.

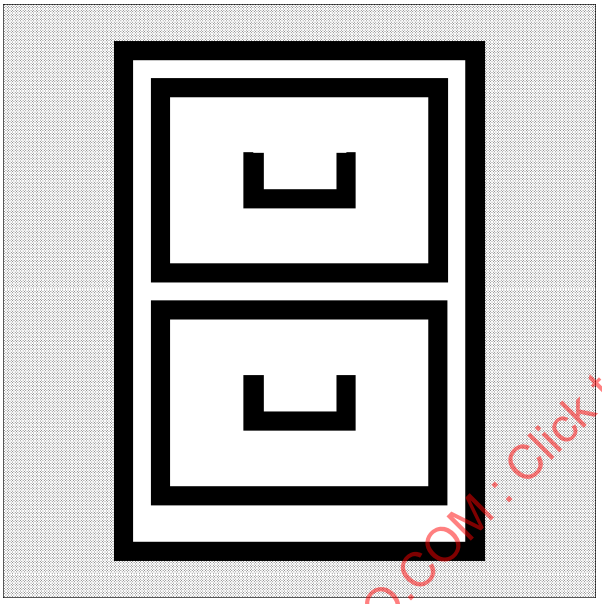
Components:

— Case: Rectangle, with height greater than width.

— Drawer: Rectangle, with height less than width, superimposed upon the case.

— Handle: One per drawer, placed centrally.

Graphic:



7.1.4 Mail

If In-trays and Out-trays are part of the application when the Mail icon is used, the Mail icon should be the parent container. Either a generic Mail icon or a pair of In- and Out-trays shall be used for a certain mail service. An interface in which In-tray and Out-tray icons appear when the user opens a Mail icon can be used. If a system provides several mail services, it may occur that a Mail and In-tray icons appear at the same time.

7.1.4.1 Envelope

Primary function: To provide access to mail functions.

Specific instance: An envelope as used for paper mail.

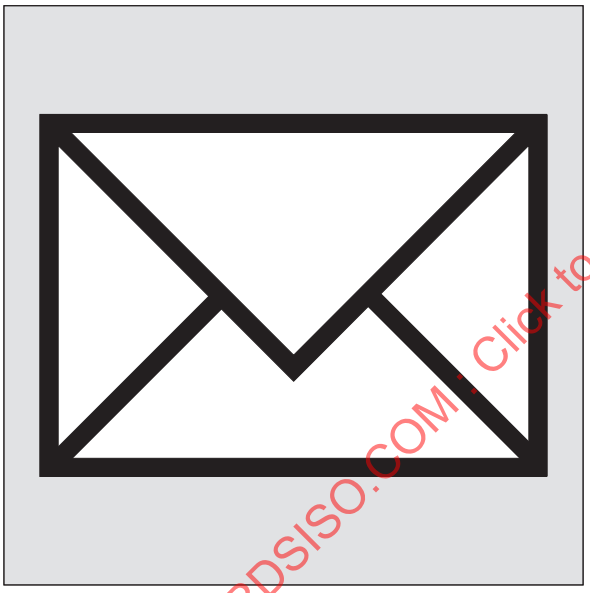
Components:

— Envelope rear: Rectangle with height less than width.

— Top flap: Triangle, folded down from top of envelope.

— Lower flap: Two diagonal lines from lower corners to centre beneath top flap.

Graphic:



7.1.4.2 In-tray

Primary function: To provide access to incoming mail function.

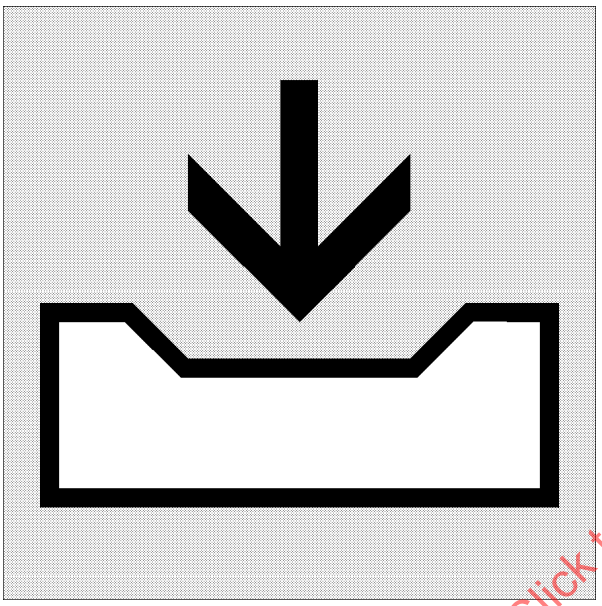
Specific instance: An office in-tray.

Components:

— Tray. Rectangular, with the height less than the width, and the top edge symmetrically lowered to create a cut-out.

— Arrow. Direction indicator, pointing down.

Graphic:



7.1.4.3 Out-tray

Primary function: To provide access to outgoing mail function.

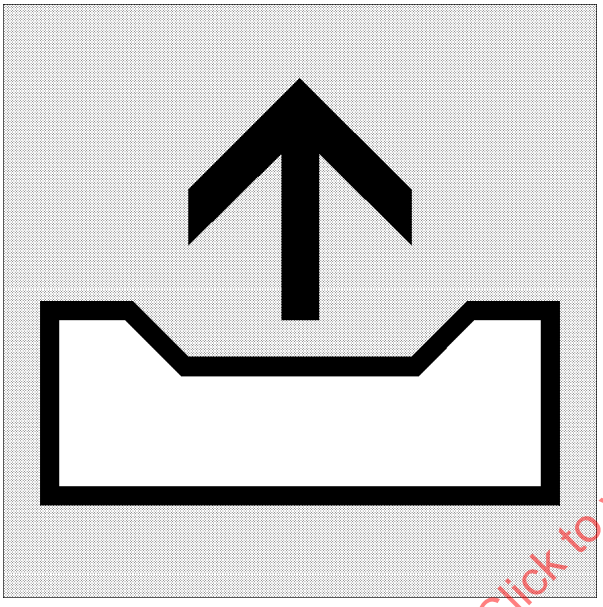
Specific instance: An office out-tray.

Components:

— Tray: Rectangular, with the height less than the width and the top edge symmetrically lowered to create a cut-out.

— Arrow: Direction indicator, pointing up.

Graphic:



7.1.5 Printer

Primary function: To provide access to print functions.

NOTE Opening a printer icon should provide access to the contents of the printer, such as the print queue or the status of the printer. A printout may be produced directly, or a dialogue may be be brought up that prompts the user for more information, such as the number of printouts.

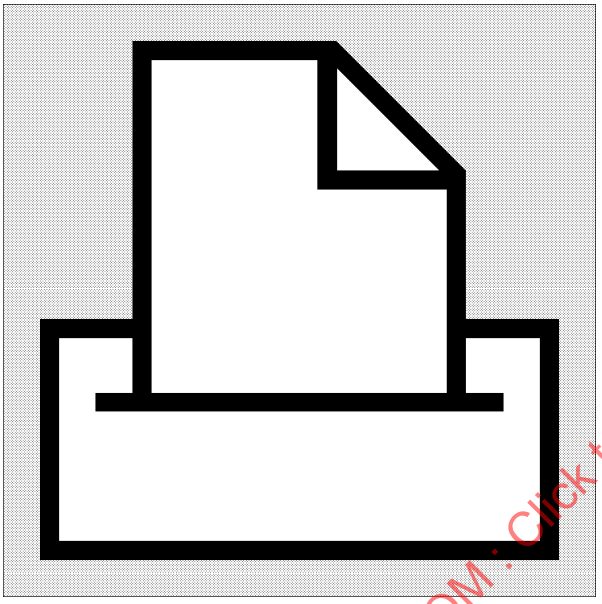
Specific instance: An electromechanical printer with a document emerging.

Components:

— Printer: Rectangle with the height less than the width and a central horizontal slot not touching the sides.

— Paper: A partial document (see Document, 7.1.1) shown emerging from the slot in an upwards direction.

Graphic:



7.1.6 Telephone

Primary function: To provide access to telecommunications-based facilities.

Specific instance: A traditional telephone.

Components:

— Body: A traditional telephone body with push buttons.

— Buttons: A 3×3 array of buttons below the handset.

— Handset: A traditional handset.

Graphic:

Specific variations: Either a rotary dial or push buttons may be used. Additional buttons may be included if the resolution permits and they may be outlined or solid.

7.1.7 Facsimile

Primary function: To provide access to facsimile telecommunications.

NOTE Opening a facsimile icon should provide access to the contents of the facsimile device, such as the facsimile queue or the status of the facsimile. A printout may be produced directly, or a dialogue may be be brought up that prompts the user for more information, such as the number of printouts.

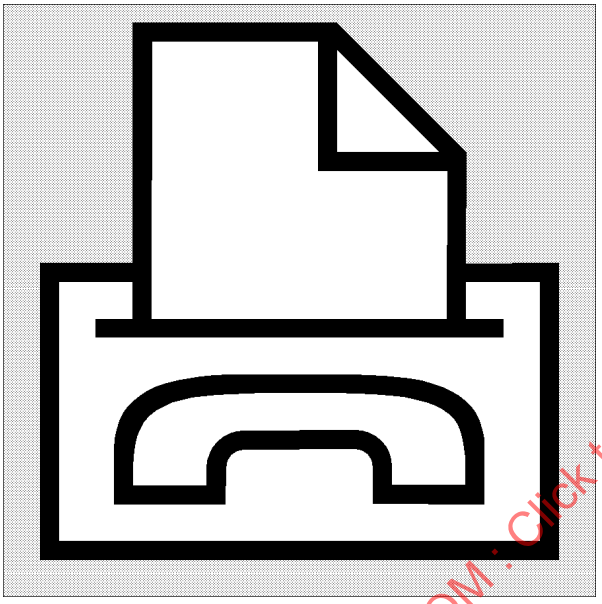
Specific instance: A facsimile machine in the process of transmitting or receiving data.

Components:

— Basic device: Printer (see 7.1.5).

— Telephone handset: Handset (see 7.1.6) superimposed upon the printer body.

Graphic:



Specific variations: Arrows may be used to show the direction of the transmission.

7.1.8 Diskette

Primary function: To contain objects such as documents, folders, and applications stored on removable media.

NOTE Opening a diskette icon shall provide access to the contents of the diskette.

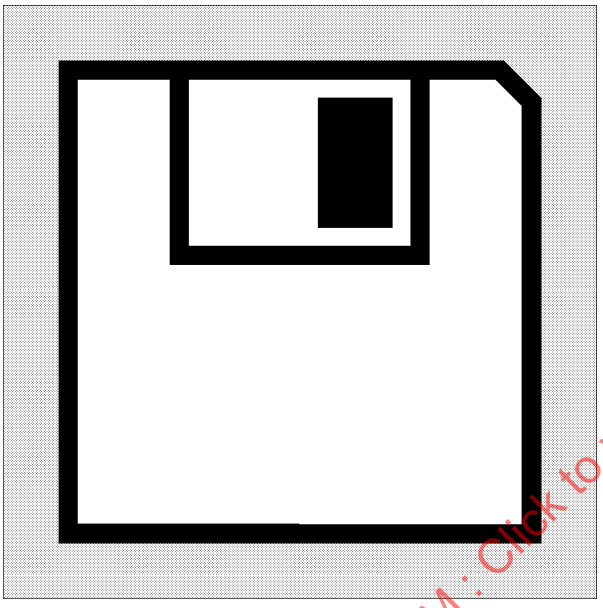
Specific instance: A 3.5” diskette in its protective case.

Components:

— Case: Square, with the top, right-hand corner bevelled.

— Sliding cover: Small rectangle, with height less than width, on top of case, centrally placed, with hole on right-hand side.

Graphic:



7.1.9 Waste paper can

Primary function: To provide access to a container for the disposal of objects that can be recovered before final erasure.

NOTE The waste paper can stores other objects placed until the waste paper can is emptied. Opening the waste paper can provides access to its contents. No objects should be deleted without asking the user for confirmation. Users may be given the option of turning off such confirmation. The waste paper can icon may provide state indication by having a modified appearance based upon whether it is empty or not.

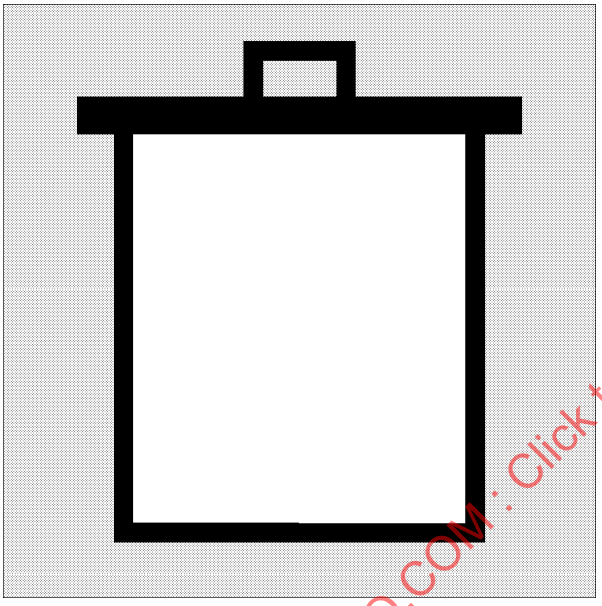
Specific instance: A waste paper can.

Components:

— Can: Rectangle, with the height greater than the width and overlapping top rim.

— Handle: Central on top of can.

Graphic:



7.2 Secondary object icons

7.2.1 Accessory object icons

7.2.1.1 Calendar

Primary function: To provide access to functions that record and schedule events.

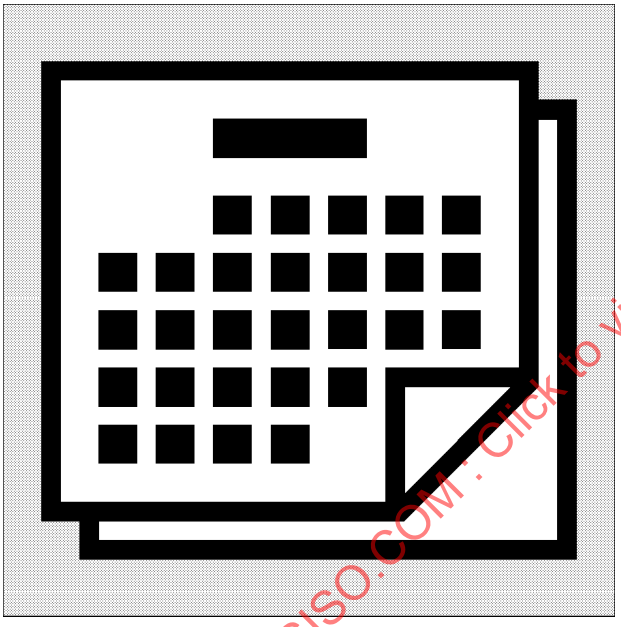
Specific instance: A paper calendar.

Components:

— Calendar body: Two superimposed and offset rectangles, both with the width greater than the height. Upper rectangle has lower right-hand shown folded forming a triangle within the sheet.

— Month details: Superimposed onto the top sheet a solid horizontal bar at the top to represent the month name and a series of small blocks to represent the days.

Graphic:



Specific variations: More day blocks if display resolution permits.

7.2.1.2 Calculator

Primary function: To provide access to calculator functions.

Specific instance: A hand-held calculator.

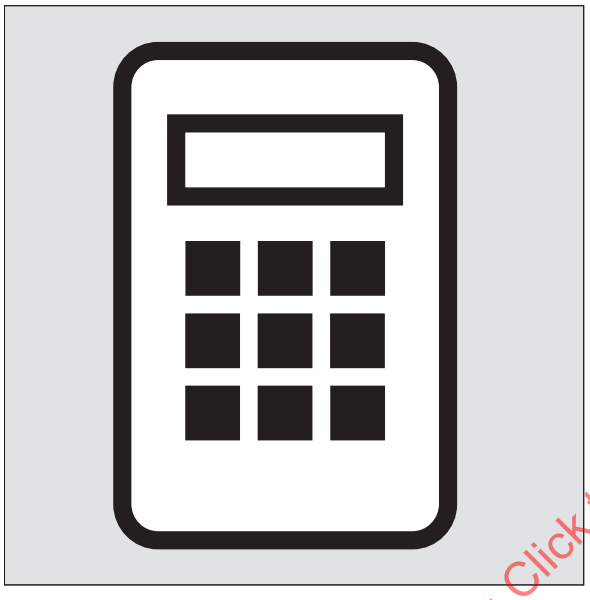
Components:

— Case: Rectangle with the height greater than the width.

— Display: Rectangle, with the height less than the width, positioned within the top of the case.

— Buttons: A 3×3 array of buttons below the display.

Graphic:



Specific variations: Additional buttons may be included if the resolution permits and they may be outlined or solid.

7.2.2 System environment object icons

7.2.2.1 Clock

Primary function: To provide access to time functions, e.g. opening the clock allows access to the functions that set the system clock.

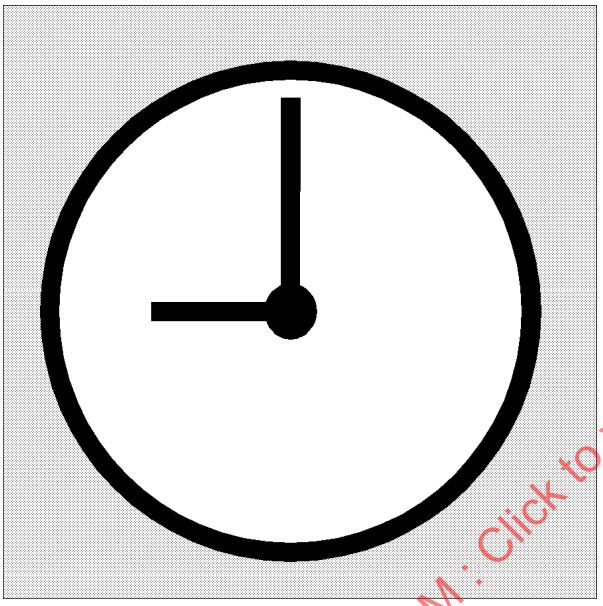
Specific instance: An analogue clock.

Components:

— Dial: A circle.

— Hands: Two straight lines joined at the centre of the circle.

Graphic:



Specific variations: The icon can be dynamic and show the current time.