Iconic Representation

The use of pictorial images to improve the recognition and recall of signs and controls.

Iconic representation is the use of pictorial images to make actions, objects, and concepts in a display easier to find, recognize, learn, and remember. Iconic representations are used in signage, computer displays, and control panels. They can be used for identification (company logo), serve as a space-efficient alternative to text (road signs), or to draw attention to an item within an informational display (error icons appearing next to items in a list). There are four types of iconic representation: *similar*, *example*, *symbolic*, and *arbitrary*.[1]

Similar icons use images that are visually analogous to an action, object, or concept. They are most effective at representing simple actions, objects, or concepts, and less effective when the complexity increases. For example, a sign indicating a sharp curve ahead can be represented by a similar icon (e.g., curved line). A sign to reduce speed, however, is an action not easily represented by similar icons.

Example icons use images of things that exemplify or are commonly associated with an action, object, or concept. They are particularly effective at representing complex actions, objects, or concepts. For example, a sign indicating the location of an airport uses an image of an airplane, rather than an image representing an airport.

Symbolic icons use images that represent an action, object, or concept at a higher level of abstraction. They are effective when actions, objects, or concepts involve well-established and easily recognizable objects. For example, a door lock control on a car door uses an image of a padlock to indicate its function, even though the padlock looks nothing like the actual control.

Arbitrary icons use images that bear little or no relationship to the action, object, or concept—i.e., the relationship has to be learned. Generally, arbitrary icons should only be used when developing cross-cultural or industry standards that will be used for long periods of time. This gives people sufficient exposure to an icon to make it an effective communication device. For example, the icon for radiation must be learned, as nothing intrinsic to the image indicates radiation. Those who work with radiation, however, recognize the symbol all over the world.

Iconic representation reduces performance load, conserves display and control area, and makes signs and controls more understandable across cultures. Consider similar icons when representations are simple and concrete. Use example icons when representations are complex. Consider symbolic icons when representations involve well-established and recognizable symbols. Consider arbitrary icons when representations are to be used as standards. Generally, icons should be labeled and share a common visual motif (style and color) for optimal performance.

See also Chunking, Performance Load, and Picture Superiority Effect.

[1] The seminal work in iconic representation is *Symbol Sourcebook* by Henry Dreyfuss, Van Nostrand Reinhold, 1984. The four kinds of iconic representation are derived from "Icons at the Interface: Their Usefulness" by Yvonne Rogers, *Interacting With Computers*, vol. 1, p. 105–118.

Similar
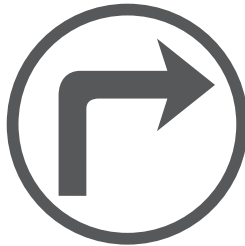
Right Turn   Falling Rocks   Sharp   Stop
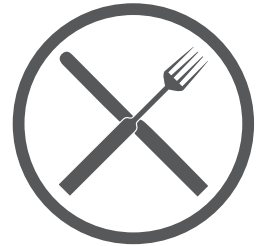
Example

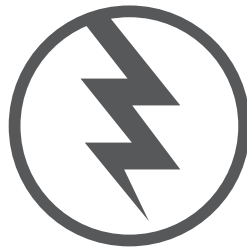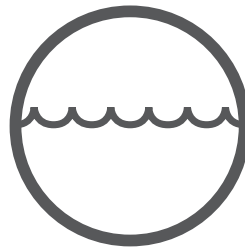Airport   Cut   Basketball   Restaurant

Symbolic

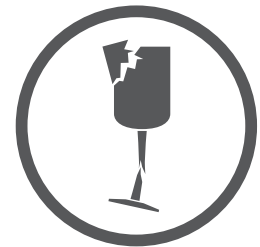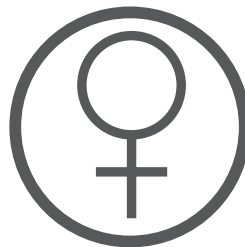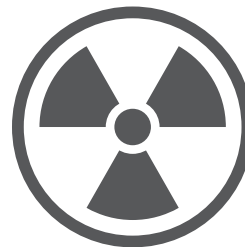Electricity   Water   Unlock   Fragile

Arbitrary

Collate   Female   Radioactive   Resistor