Abstract: This paper presents the importance of a signage system to inform and guide with a purpose: to make useful an activity. It is a special role of graphics to connect people to a system which has to be clear and legible. Along our researches in this field we have met various situations when graphic has solved the visible problem. Sometimes is not necessary to write about an activity, it is easy to develop a signage system to be understood by a lot of people. The main characteristic of such system is the design of a set of graphic representations which are much known all over the world. A few examples in this paper will demonstrate why is necessary to achieve a graphic language.

Keywords: signage system, pictogram, graphic representation, graphic language

INTRODUCTION

To achieve a graphic language to be understood by many people is a challenge. A signage system which may “talk by graphics” to the public is an important work for a designer.

To realize this from the beginning, it is necessary to design legible and easy identified graphic concept to help the public in the daily life. The graphic representation from a signage system is an element to secure and to protect.

2. DIRECTIONS TO ACTION OF A GRAPHIC LANGUAGE THROUGH PICTOGRAMS

From the beginning, a designer who wants to create a signage system by using pictograms has to answer to some questions, as follows:

• What is the design for pictograms and how many;
• What is the geometric shape of the panels for the signage system;
• What are the colors for pictograms and for signage panels;
• What is the meaning of each graphic representation to be clearly understood;
• What kind of tools are necessary to convey the graphic message;
• What is the meaning of this sentence: a good signage system is about good graphic representations.

Always, a designer works to create a set of pictograms, not only one. This set is important to pay attention in an airport, business centre, hospital, university, museum, zoo garden, sport arena etc.

Concerning in an integrated concept as a signage system, the designer uses in his work signs, symbols, pictograms, colors to support the delivery of correct information.

The signage system is an example about a specialized graphic language having some directions to action, as follows [1]:

• To inform (necessary information concerning the process);
• To lead the public along the entire way until the desired destination;
• To show the final destination into the process;
• To allow something;
• To warn something;
• To forbid something.

Pictograms are designed concerning the domain to activate. There are domains where the same pictograms are all right to be used, together, with specialized pictograms for the respective domain.

The specialized graphic language has to be created by the designer into a coherent and visual concept, drawn in an available code.

3. THE FEATURES OF A PICTOGRAM, AS AN ELEMENT INTO A SPECIALIZED GRAPHIC LANGUAGE

Some important features are necessary to be realized by the designer when he is involved in a creative work. So, a pictogram has specified traits to satisfy the requirements of a clear graphic message.

And these traits are [2]:

• To be easily identified;
• To be a clear visualization for it;
• To be available and legible;
• To insure information and secure shifting of the public along the trajectory;
• To be in a clear graphic representation;
• To allow a fast and efficient displacement if it is necessary.

All these traits have to characterize the set of pictograms.

4. CASE STUDY

4.1 The first case

In our research work to study the graphic representation called pictogram, we have analyzed the pictograms of Summer Olympic Games (SOG), from Tokyo (1964) to London (2012). In our documentation we have stopped to a single pictogram, for one sport discipline - boxing. These pictograms are presented in figure 1 and our research is about them.
The study of the graphic representations from Fig. 1 has pointed out some interesting aspects [3].

So, for the pictogram(a) from SOG (Tokyo 1964), the designer Masaru Katsumie has designed very well the human shape and is easy to understand the sport discipline.

In 1968 the two designers, Manuel Villazon and Mathias Goeritz, have created special pictograms by using only sport disciplines, without any human shape for athletes having Mexican influences.

The design of these pictograms is only a horse head, a bicycle, swords, boxing glove etc. (b).

1972 (Munich) and 1976 (Montreal) are Otl Aicher years, the designer who realized a complete graphic representation of the sportsman, by using geometric shape to realize a clear pictogram.

This is a pictogram which represents very well the body, the arms and the legs of the sportsman (c).

For SOG in Moskow (1980) Nikolai Belkov realized pictograms where the athletes are designed as a very good human shape (d).

Los Angeles (1984): Keith Bright & Associates have created a graphic representation for all sport disciplines, in distinct shapes, separated for constituent elements for sportsman, drawing “the competition tools” by a thick Line (e).

SOG in Barcelona (1992) gives the possibility to the designer Josep M.Trias to create very interesting pictograms in “brush pictorial technique” (thickness of an developed line). There are a few lines drawn but the symbols are interesting, legible and the sport disciplines are understood without problems. The graphic representation for sportsmen uses curve and straight lines, and thicken points. The human shape is reduced to three elements: body, arms and legs using “brush pictorial technique”. The sportsman head has an amorphous shape (paint spot). The sport disciplines are well represented and their meaning is clear (f).

Malcolm Grear Designers have created for Atlanta SOG (1996) very suggestive graphic representations. So, the sportsmen are presented as true athletes, in a natural human shape for their body. The sport disciplines are very good designed (g).

For SOG in Sydney, Australia (2000) Paul Saunders Design use the symbol of Australia- the boomerang- to design the pictograms. The boomerang is the main element to draw the arms and the legs of the sportsmen. It is about a new concept, very abstract and original. The body is concludes only from the graphic representations of the head, arms and legs (h).

In 2004, in Athens, Theodora Mantzaris realizes graphic representations for sport disciplines “seemed” to go out directly from the ceramic vessels of the Antiquity. Here we admire very good representations of the athletes, a right drawing proportion. The geometric shapes which contain these pictograms seemed pieces of broken vessel ceramic (i).

Beijing 2008: everybody see an original graphic design. The representations are like the universe of signs and symbols from China alphabet and culture. For the sportsman representation are used curve and developed lines, a continuous graphics, almost entire (j).

For SOG pictograms in London (2012) Wolff Olins Company has created an attractive design, a good graphics for two human shapes. It is very easy to identify the sport discipline (k).

4.2 The second case

We made another exercise to show the importance of using pictograms in a graphic communication in two scenarios with modeling, texturing and lighting in cad applications [4].

First for this purpose we have designed a virtual airport where the pictograms represent the constituent elements of it, and second, only using numbers instead pictograms for the same elements. In this study we have defined interesting conclusions [5].

In the first situation (Fig. 2), wherever someone could be in an airport unknowing the language of the country or any international travel language, the presence of pictograms is enough for a person to travel, to be informed or to reach the final destination. We repeat, only to see and to understand the pictograms. Only in this...
How to achieve a graphic language in a signage system

In the second situation (Fig. 3) we designed the same airport plan but using only numbers instead pictograms, and writing in Romanian language the definitions of these numbers. Is a clear evidence that for a traveler who did not know this language will be difficult to understand and to action. It is an example to show the importance of graphic representation using well known pictograms and the difference between these two situations [5].

Only in this paper we have wrote the meaning of these numbers: 1. stairs; 2. seminar room; 3. classroom (amphitheater); 4. toilets male / female; 5. teachers meeting point; 6. room computer graphics; 7. technical drawing room; 8. center duplicating documents.

From these examples we see that a simple presence of pictograms make an easier identification and understanding of this scheme.

We consider that a traffic signage system, using traffic signs, is a global graphic language, because the validity of these is all over the world. This is the first accepted graphic language which is very important for all the participants in traffic wherever somebody is.

To have a common graphic language for any problem or for any kind of domain is difficult, and that is why for a domain it is created special signage graphics. Of course, there are a lot of pictograms which may be used in many others domains without problem concerning the
How to achieve a graphic language in a signage system

graphic representation and the meaning of them. So, there are the pictograms for a restaurant or a coffee shop/bar which are understood by everyone, the pictogram for men / women toilets or a graphic representation for lift, or stairs, escalator or parking.

These kinds of pictograms have simple graphic drawing using a very familiar representation [6].

The Figures 6, 7, 8 and 9 talk about this thing.

8. CONCLUSION

In this paper we have tried to sustain the importance and the advantages of graphic representations using pictograms.

Also, we presented the desire to have the same graphic language all over the world, to connect people and countries, only by graphics.

To convey a good communication without words it is necessary to have good representation because a graphic and visual language is above the languages.

The role of the designer is very important in this special challenge.

Another field very interesting using pictograms is the digital space.

This will be our next destination to study the digital world of 21 century and to prepare papers on this subject. We hope the future will be a happy combination between words and graphics because people want to connect each other.

This paper has tried to prove the importance of graphics in our world and how interesting are pictograms in communication without words.

REFERENCES


Author(s):
Associate prof. Victor ADIR, University Politehnica of Bucharest, Department of Engineering Graphics and Industrial Design, E-mail: victoradir@yahoo.com, tel.0746252428.
Associate prof. George ADIR, University Politehnica of Bucharest, Department of Mechanism and Robots, E-mail: adirancuta@yahoo.com, tel. 0744212824.
Prof. Tiberiu DOBRESCU, Director of Department, University Politehnica of Bucharest, Department of Machine and Manufacturing Systems E-mail: tiberiudobrescu@ yahoo.com, tel.0736351207.