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INFORMATION GRAPHICS: THE ISSUE TERMINOLOGY

Abstract. The article reviews the terminology for information graphics. Specified on the similarities and differences between concepts: information graphics, information visualization, information design.

Keywords: information graphics, information visualization, information design.

Statement of the problem. Contemporary information society is characterized by a constant increase in the quantity of information that occurs in all spheres of human activity.This phenomenon is called *an information explosion*. Active performance information causes a person to adapt to the situation, change the mode of perception. In this regard, updated visual way of presenting information that can provide a lot of data in an organized form suitable for review and learning, helps organize information and simplify its perception and, consequently, reduce the cognitive overload. This method is called - *Information schedule*. Simplest *informational table* - a table, pie charts, graphs, maps, logic.More complex infographics can combine text blocks, photos, maps, tables, charts, reconstruction of events - anything that can help create a graphic story.

It should specify that *information graphics* - is extremely relevant, relatively "young" unexplored design. As a separate branch of it came to be viewed only on the stage, and scientists have not yet developed enough theoretical material and as a result there is some confusion in terminology.

Currently in English literature and in the domestic and foreign Internet resources can meet a number of terms identical or similar to the concept of *information graphics*. The most commonly used are: *information graphics,* or abbreviated form - *infographics, data visualization*, or - *the information visualization* and *information design.*

Analysis of recent research and publications. Today scientific discourse about information graphics is insufficiently developed. The attention paid to the subject, scientists in Western countries, while in the former Soviet sphere of theoretical issues hardly considered. The expert considered infographic Edward Tufte, acting commentator and advisor on the skillful use it. Scientific papers devoted to the historical development of infographics, we find Michael Friendly (Michael Friendly) [2]. To practice and, to some extent, the theory infographic apply: Chaomey Chen (Chaomei Chen) [1], Colin Waugh (Colin Ware) [3], Fyu Stephen (Stephen Few) [5] Robert mowers (Robert Kosara) [6] , Rune Pettersson, Marcus Shreppel (Markus Schröppel) and others. However, despite their common heritage, it is necessary to admit a lack of theoretical material industry as a whole and its terminological apparatus, in particular.

The wording of Article goals. Consider terminology for information graphics. Indicate the similarities and differences between concepts: information graphics, information visualization, information design.

The main part. Combines all of the above terms the concept of *information*. As you know, *the information* derived from the Latin informatio, meaning exposition,

explanation. Broadly *information* - a reflection of the real world in a narrow - is any information that is subject to storage, transmission and transformation. Initially considered as*information* data transmitted by some people to others orally, in writing or in any other way. These included and the process of transmission or receipt of this information.

In general the literature states that information has always played in human life important. However, in the mid-twentieth century. as a result of social progress and the rapid development of science and technology has increased the role of information. In this regard, there is a need in the scientific approach to information identifying its most characteristic features, which led to fundamental changes in the interpretation of the concept. It was expanded to include not only the exchange of information between man and man, but between man and machine, and the machine gun, the exchange of signals in the animal and plant world.

In academic and official sources, the term is interpreted differently. For example, in information theory, this term refers to a message that contains the facts previously unknown to the consumer, supplementing his ideas about the test or the test object, process, phenomenon. In other words, the information was determined as the information that you need to remove the uncertainty that exists in the consumer to receive them, to expand its understanding of the object of your needs.

Actually, for the interpretation of the *information graph* should be considered part of the second term - *the schedule*. It is well known that the *graphics* (Greek graphike - from grapho - writing). This is a separate species of fine art, including photography and artwork printed image (engraving, lithography, monotype, etc.) based on the art of drawing, with their own means of visual and expressive possibilities. Graphics divided into easel, newspaper and books and magazines, application, sign and poster. Her expressive means there is a line, bar, spot color, which form a contrast with the background sheet.

Examined the importance of two components, *information* and *graphics*, can be interpreted the term *information graphics*, or shortened and also as a legitimate form of*infographics* graphical display. Infographics provide a clear and easy presentation of information in graphic design. It is used in solving problems and is most effective when it is necessary to show the device or algorithm of something, the ratio of objects in space and time, show a tendency to organize large amounts of homogeneous data, reflect technological or commercial process and so on. Information graphics are not less useful and to highlight the most important information, such as the exchange of business information for better assimilation of complex ideas, processes and systems.

Business technologists know that the widespread use of charts, graphs and diagrams are a reliable way to make an impression, pay attention to the key points and achieve understanding during the discussion of issues within the company and in communication with partners both in the commercial media, and in view of technical or statistics. S. Shlyahtina stresses that the process of discussion, people often can not easily perceive the text and figures. Sometimes it is hard to focus and maintain attention for a long time, it takes time for the realization of a fact, especially when

considering non-trivial problems. Demonstrated same time diagrams and circuit immediately attract attention, encourage and facilitate understanding. [4]

Next, consider the time *data visualization* and *information visualization*, which in the literature is used as a synonym for infographic.

Yes, Colin Waugh (Colin Ware), relying on the "Oxford English Dictionary" in 1972, accentuates that, until recently, the term meant building *visualization* in the mind of the visual image. Currently, the term means something more - a graphical representation of data and concepts. K. Waugh said: "Thus, the internal structure of the mind *visualization* has become an external artifact to support decision-making" [3, 2].

Fyu Stephen (Stephen Few) in the article «Data Visualization for Human Perception» indicates that *data visualization* - a graphical representation of abstract information that is intended to data analysis and communication. The author stresses that "the important stories live in our database, and data visualization is a powerful tool to identify and understand these stories, and then present them to others" [5]. Next Fyu S. thinks: "Information is abstract because it describes things that are not physical. Static information - abstract.Whether it concerns sales cases, sporting achievements or anything else that does not belong to the material world, we can show it visually, finding a way to display the form that it has. This translation of the abstract physical attributes that can be visualized (length, shape, color, position, etc.) (bracketed by - *IS)* can be successful if we are experts in visual perception and knowledge "[ibid.]

Today the information visualization takes place in a variety of subject areas, especially in information retrieval (internet, digital libraries), and plain human-computer interaction.The line between information visualization and related fields, such as scientific visualization and simulation, is becoming increasingly blurred. Yes, Professor Chen Chaomey (Chaomei Chen) noted that visualization of information - one of the latest trends in modern design interface. The interface becomes more transparent, more natural and more intuitive [1, 1].

It is necessary to specify previewed timing *information graphics* and *visualization information* for some time been as identical, synonymous concepts. However, in 2010, Robert mowers (Robert Kosara) Associate Professor, Faculty of Computer Science University of North Carolina (Charlotte, USA), studying information visualization and visual analytics, proposed to distinguish between them. On his blog in the article «The Difference BetweenInfographics and Visualization» R. mower takes the main differences between the concepts of "Visualization created a program that can be applied to different data sets. Infographic - is an individual handmade for a particular data set. Obviously, it is difficult to understand the differences "[6]. Next he defines attributes infographic, namely complexity, explanation, self-sufficiency. The scientist said that "infographics should be targeted and made by hand every time" [ibid.] He says: "There is no program that could be in great numbers to create art graphics, photos and text to explain any arbitrary set of data" [ibid.]

As you can see, data visualization, according to Robert mowers, is universal. He writes: "Parallel coordinates or pie charts do not care about what data they

display. This means that they can be used for any data. Including those for which they do not fit, but the program can not identify it yourself. The advantage of visualization is that you can easily apply existing methods to new data to get an idea of what they are. But the burden of choosing the right techniques and visualization parameters at your own risk. Human intervention allows you to specify what kind of data can and can not be visualized. General Procedure can not do it themselves "[ibid.]

At the end the author concludes that "visualization is general, infographics - specific. Visualization is free of context, infographics depends on the context. Visualization of (mostly) (brackets by - *IS)* is generated automatically, infographics - the result of manual work. None of them are objective and require manual adjustment and understanding on the part of the author "[ibid.]

It is necessary to emphasize the existence of two fundamental differences in these terms. Historical works primarily with small amounts of data and is designed for untrained audience. Data visualization used to supply large amounts of unstructured data, often for analysts and experts. Professor Chen Chaomey visualization relates to the design, development and application of interactive computer graphics presentation of information [1].

From the above examples it is possible to make a preliminary finding that *infographics* and *data visualization* as terminological concepts have different goals, different users and different design principles.

Next consider the features of the term *information design*. Information design started as a subspecies, and as a synonym for graphic design. Today - a single multidisciplinary design. One of the first used the term designers London design studio «Pentagram» 1978 invention and popularization of the term attributed to The British Information Design Society, who in 1979 published a «Information Design Journal». The magazine used the term as a designation process design for the transmission of information, its content, language and form.

Erhlof Michael (Michael Erlhoff) and Tim Marshall (Tim Marshall) in «Design Dictionary. Perspectives on Design Terminology »indicate that proved difficult to arrive at a universally accepted definition of *information design*. This term involves the process of transfer complex unorganized or unstructured data into accessible, useful, understandable information. This definition is misleading in that the content is designed, is less important than the form of its submission [2, 218].

Although information design usually involves data visualization using graphics or interactive means would not be properly classified as a subcategory of graphic or communication design. Information Design - an independent discipline, which involves a range of actions that combines a variety of tools, research and design methods. Information used in the design of printed graphics, urban environment, in the postmodern interactive, computer-controlled mass media. Information designers in their practice turning to social and applied sciences, including cognitive psychology, ergonomics and environmental psychology, scientific illustration, communication design, interface design and graphic design, requiring professional knowledge in databases, web design, even in the material and industrial Design.

Regardless of the methods used in the process, the center of the design is always the final respondent. As people get their information quite differently, information

design must take into account not only the needs of users, but also their perceptual abilities (perception abilities) and motivation. Information designers know that one must also consider the situation in which users will be informed as environmental factors inevitably affect how the data will be interpreted and understood. Their purpose is to convey information as clearly and unambiguously, and create a design that will be tailored to the recipient.

Conclusions.

1. In most modern scientific sources as possible - *information graphics, information visualization* and *information design* - *a* concept that describes the information making it the most efficient and understandable to the respondents understood as identical. However, theyshouldbedistinguished.
2. *Information design* - the concept is the widest of the three, which includes both *an information graphics* and *information visualization*. *Informational Design* - separate interdisciplinary design. Its main purpose is to facilitate human interaction with the equipment by establishing clear icons instructions, help people navigate in three dimensions of the urban environment and the virtual space.
3. *Information graphics* - new graphic design or part of the new design - *information design*. *Infographics* - an original, created graphic designer to visualize not too much information. Today this term is often understood graphics for print and online media.
4. *Visualization of information* - a term associated with the design, development and application of computer graphics or interactive information presentation. Visualization works with a lot of information for researchers and analysts.
5. For all three concepts characterized by effectiveness in achieving communication goals. Between themselves, they differ in the principles of design and design potential respondents.

Prospects for further research. Subsequent scientific research is planned to dedicate the historical aspects of information graphics.

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Аннотация

Сакун И. С. Информационнаяграфика: к вопросутерминологии.

В статьерассмотренотерминологиюкасательноинформационнойграфики. Указано на сходства и различиямеждутерминами: информационнаяграфика, визуализацияинформации, информационный дизайн.

Ключевые слова: информационнаяграфика, визуализацияинформации, информационный дизайн.

Анотація

Сакун І. С. Інформаційна графіка: до питання термінології.

У статті розглянуто термінологію щодо інформаційної графіки. Вказано на подібності та відмінності між термінами: інформаційна графіка, візуалізація інформації, інформаційний дизайн.

Ключові слова: інформаційна графіка, візуалізація інформації, інформаційний дизайн.