Criteria for Evaluating the Design of Advertising Content

Tatiana Musaeva [1], Helena Boyashova [1] and Denis Voloshinov [1]

[1] St.Petersburg State University of Telecommunication, Bol'shevikov st., 22/1, Saint-Petersburg, 193232, Russia

Abstract

The article is devoted to two related issues: updating the methods of teaching students of technical universities who acquire competencies in the field of designing information products using computer graphics and design methods in order to create high-quality digital products, and researching the quality of an advertising product to identify important criteria that need to be given maximum attention to students, future developers of advertising brand content. Computer graphics is an area of information technology, the purpose of which is the research, development, improvement of methods, techniques and tools related to the creation and processing of images; the creation of geometric objects, images, including for advertising products for various purposes. There are contradictions between the ability to use computer graphics applications to solve professional tasks and the quality of information products created, the interfaces of which contain graphic information. Quality means a set of basic criteria for the product being developed that best meets the needs of the end user. The article presents the results of the survey conducted on the example of advertising of a well-known brand. The article presents the results of a sociological survey conducted on the example of advertising a well-known brand. The respondents ' opinion was obtained by a questionnaire method to identify the problem of ambiguous understanding of the information provided by different categories of users. The research data evaluated using the proposed scale made it possible to determine the composition of important criteria for an information digital product that need to be focused on.

Keywords

Computer graphics, visual information quality, criteria for evaluating an advertising product, advertising product evaluation scale, computer graphics

1. Introduction

Currently, the issue of dynamic development and implementation of modern means and methods of digital information technologies at a new qualitative level is relevant in all spheres of life of any person, including in the professional field related to the development of information resources of various directions and content. An important aspect is the information itself, its properties, types and quality of presentation. The modern digital information world is realized through visual images, metaphors, symbols. All information resources used by the majority of the population with access to modern technologies and tools are built on their attributes. Any object of information in digital computer execution, including reading data from the monitor screen, is a graphic image: tables, graphs, drawings, graphic objects, alphanumeric characters. The final potential consumer of any information is important, which must be of high quality according to all essential criteria, including its visual representation from the point of view of design. Most modern objects of digital information are created by methods and means of computer graphics. There are contradictions between the competent use of computer graphics applications [7, 19] and the quality of created information products, the interfaces of which contain graphic information. Having good skills in the technology of creating graphic images, students have a

lack of understanding of important aspects that affect the end user of information, which as a result leads to the creation of information products that may be contradictory in meaning and content, which ultimately affects the quality. Quality means a set of essential criteria for the product being developed that best meet the needs of the end user. [8] The quality of the content
and functional part, as well as the visual design from the design point of view, is important. Information implemented through the Internet and television may not be sufficiently thought out both in terms of the design of the content of the content, and the visual presentation of the material. Sometimes such information causes a misunderstanding on the part of the consumer of the purpose of advertising.

2. Individual perception of information by the end user

In the educational process, when teaching students of technical universities disciplines focused on the acquisition of professional competencies in the field of computer graphics and design and focused on the creation of digital information products and tools in the direction of "Information Systems and Technologies", mathematical methods of constructing geometric models of objects are mainly used, and the laws of physics implemented in algorithms are used for their realistic visualization.Having good skills in the technologies of creating graphic images using these methods, students have a lack of understanding of the important aspects that affect the end user of information, which as a result leads to the creation of digital information products of medium or poor quality [8,11,13]. These include: simulators, games; web sites, commercials; automated workplaces of individual specialists; virtual or augmented reality objects; the Internet of Things; 3d models of objects; objects made using additive technologies; graphic images of intelligent assistants; robots, etc. This is due to the fact that most students with technical thinking often have negation, nihilism, minimalism in design issues, since they believe that only the functionality of the product being developed can be the subject of attention, and what concerns the aesthetic side is not so important. There is also a problem of different understanding (individual perception) of information, as a result of which there is a problem of its correct visualization in the created digital information products. For example, someone likes red, and someone likes black [23].

Students need to acquire knowledge and skills not only in computer technologies, but also they should have an idea about the artistic means of fine art [15].

Let's consider the list of essential criteria of formalist art [2] related to graphic images that have both an objective and subjective basis for perception of reality, which are important from the point of view of psychology and design:
- size,
- color,
- illusion,
- font,
- sequence,
- selectivity,
- integrity,
- memorability,
- constancy,
- imagery,
- form,
- contrast,
- balance,
- harmony, etc.

Many of the listed criteria relate to the individual characteristics of the perception of objects of the surrounding world by an individual and are associated with his capabilities, limitations, acquired experience and knowledge [19, 21]. Therefore, when creating graphic images, it is important to have competencies not only in the technology of creating images, but also to have knowledge of the psychophysiological characteristics of a person, his cognitive abilities to perceive the information received, and its correct transmission.

3. Research of graphic objects and images of an advertising product

In order to understand the essence of the problem, namely, different perception of the same graphic object by different categories of users, potential consumers of advertising products, a well-known brand for selling meat products "Petelinka" was selected, an experiment was conducted to study an advertising product containing a large set of graphic objects and images. The analysis of existing regulatory legal documents in the field of advertising provision was also carried out.

The purpose of the study is to determine the criteria for evaluating graphic objects and the content of multimedia content [9, 12, 18] through personal individual perception by different categories of people, both for consumers and for training future developers of advertising products. The study involved 30 people from two formed groups. The categories of respondent are people of different ages, genders, interests, students from different universities (humanities and technical), teachers of creative and humanitarian professions, as well as teachers with technical and mathematical education.

Let's consider some essential definitions and the main aspects related to advertising products, and consider the requirements of regulatory and legislative requirements that are relevant today.

In accordance with the Federal Law "On Advertising" of 13.03.2006 N 38: advertising is information distributed in any way, in any form and using any means, addressed to an indefinite circle of persons and aimed at attracting attention to the object of advertising, forming or maintaining interest in it and promoting it on the market" [1].

In the considered legislative requirements, the emphasis is placed on organizational, economic and legal components, as well as on security issues. And these requirements are met by the majority of advertisers. But there are other important aspects related to the perception of information from the point of view of the psychophysiological capabilities and limitations of a particular person, which can be classified according to different criteria. In this part, advertisers also try to take into account the requirements of the consumer, but their solutions are not always successful, sometimes they are unsafe for a certain category of people, especially for children. Article 6 of the Federal Law discussed above is devoted to the protection of minors in advertising. The listed requirements take into account important issues and limitations, but not everything that may be important from the point of view of perception of the visual form and understanding of the content of advertising, which at first glance is interesting, colorful and safe.

Advertising can be presented and voiced in various forms: oral speech, printed publication, handwritten version of the publication, audio or video presentation. More effective is the method of transmitting advertising through television and the Internet, the method of transmitting information using the basics of project computer graphics in the form of images, audio, animation, color [10, 16]. This method enhances the effect of demonstrating a product or service, and, consequently, attracting a potential consumer and encouraging him to perform an action for a given advertising purpose. Advertising producers try to use a native, organic format for presenting an advertising message without rough influence and direct influence on the consumer. In order to be closer to the consumer, to be clearer, more accessible, to speak the same language with him, advertisers use the language of online communities, also creating short, fascinating stories, some funny, some fascinating with their visual range, but necessarily catching the viewer's feelings. It is easy to make such stories memorable and trusting by assigning anthropomorphic qualities to characters (here the developer's ability to generalize and identify the features of the shape of objects is important). Being close to the consumer, keeping up with him, being one's own is one thing, but it is also necessary to open new horizons to the consumer, use an image strategy in the offer of a new product, and here the aesthetic qualities of the organization of visual elements (a high style of presenting information), creating trends, fresh images and ideas are important. The work with the construction of geometric models of objects is based on new technologies for the representation of 3d models, on the personal experience and taste of the author of the development, but this raises the problem of giving the developed graphic object, in addition to functional and ergonomic qualities, also artistic features not only for the development of the visual culture of the consumer, but also for the competitiveness of the product.

Also, another concept is associated with advertising, such as a brand [5], which in turn contains functional, semantic, syntactic, and graphic components. All these aspects affect the emotional state, cause certain associations in each individual consumer, both positive and negative. A brand is

everything that is invested in the expectations and associations of the consumer of a product or service through all of the above components through advertising content. The brand image is formed by advertising, but there may be contradictions in the issue of understanding and perception of content between the developer and the target audience, which consists of consumers belonging to different categories of people. This problem is associated with deep consumer attitudes and preferences. The mechanism of deep semantic evaluation works as follows: if the brand is sufficiently safe and attractive, then it is easily recognized and correctly identified; if the brand is associated with something that caused strong negative emotions in the past, gives the impression of dangerous and/or unattractive, then the image of such a brand is displaced from consciousness, its recognition is difficult [14].

Let's look at the features of the presentation and influence of information on a person on a simple example of the presentation of an advertisement about the sale of a product, the purpose of which is to attract the attention of a buyer, that is, a potential user. It was necessary to present such a system of division into criteria that would correspond to the product design process itself (from the technical features of creation to the emotional level of impact on the consumer), so that it was easy for the subjects to assess the quality of graphic methods for constructing geometric models of objects of an advertising product. The criteria are formed in the lexical form that consumers use, they are also classified by characteristics and an evaluation scale is defined for each of them. Visual images were evaluated on a scale from 0 to 5 in terms of technical performance and emotional perception. Respondents were asked to evaluate individual elements of communication (features of the execution of the texture of the material, the stylization of characters by means of computer graphics) and the degree of influence of graphic images on the viewer's impression (color choice, positive perception of visual images). The questions – criteria for the questionnaire were developed. The advertising product was evaluated based on personal feelings, knowledge and experience.

Two types of surveys based on the created questionnaire were conducted at different times in different groups:

1. mixed, consisting of people of different ages, professions, interests;

2. students of a technical university, studying or not studying in the discipline "Computer graphics in design and design", aged from 17 to 22 years.

Let's consider the list of survey questions for group No. 1, potential consumers of the product.

Input data for registration: specify the field of professional activity. 7 representatives took part: a mathematician, an artist, a graduate of a humanitarian university, a student of a technical university, a teacher of a technical university of the humanities, a teacher of a technical university, a graduate student of a technical university of the humanities.

The assessment was made according to the developed essential criteria. A rating scale has been developed that is the same for both groups.

Rating scale:

- "0" – there is no rating object (for example, the absence of text means the absence of a font),
- "1" – very bad,
- "2" – bad,
- "3" – satisfactory,
- "4" – good,
- "5" – excellent.

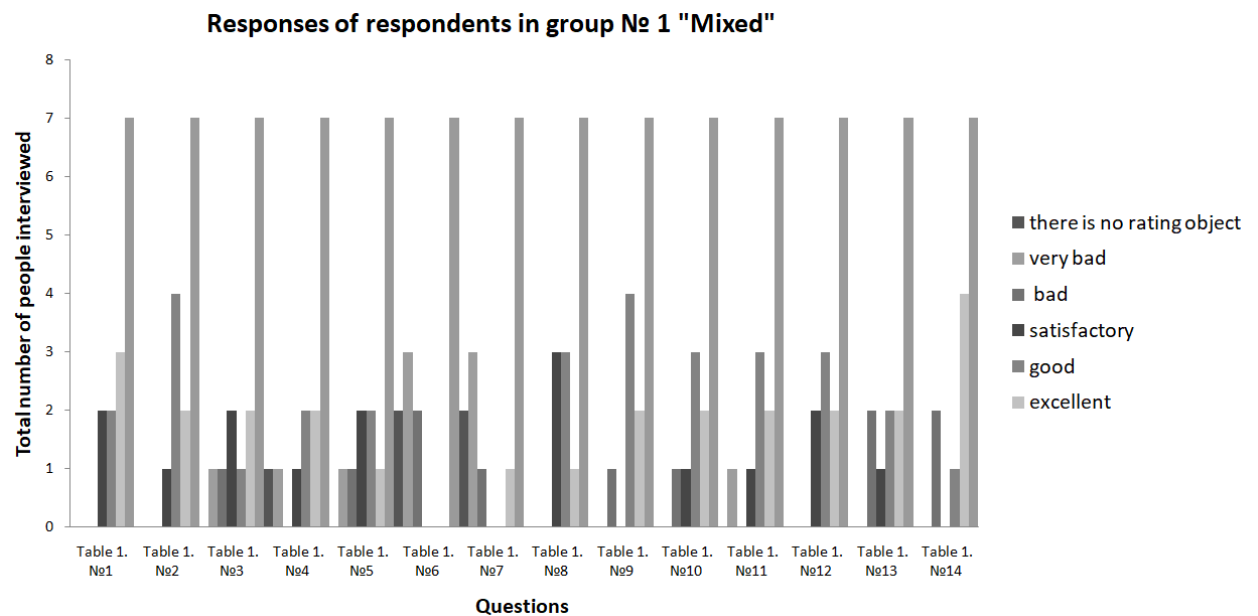The questions and survey results are shown in Figure 1.

Responses of respondents in group № 1 "Mixed"

Figure 1: Survey results for group №1 "Mixed"

The number of matches in percentage terms for different questions and estimates for group No. 1:

- 57.1 (4 people) – 3 ratings on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times, "3" – 0 times, "4" – 2 times, "5" – 1 time.
- 42.9 (3 people) – 8 ratings on the scale: "0" – 0 times, "1" – 2 times, "2" – 0 times, "3" – 1 time, "4" – 4 times, "5" – 1 time.
- 28.6 (2 people) – 21 scores on the scale: "0" – 2 times, "1" – 0 times, "2" – 3 times, "3" – 4 times," 4 " – 4 times,"5" – 8 times.
- 14.3(1 person) – 20 ratings on the scale: "0" – 1 time, "1" – 4 times, "2" – 5 times,"3" – 5 times,"4" – 2 times,"5" – 3 times.

The final results of the survey for the "Mixed" group are summarized in Table 1.

The maximum number of matches of the results of the responses of four respondents for 1 rating (for example, "5") of the scale under consideration for three different criteria is 57.1%. This percentage fell into the rating scale from "4" to "5". In other assessments, a large range of different opinions is obtained.

Let's consider the list of survey questions for group No. 2 "Students", potential consumers of the product and future developers of similar products.

The assessment was made according to the developed essential criteria. A rating scale has been developed.

The input data for registration is shown in Figure 2.
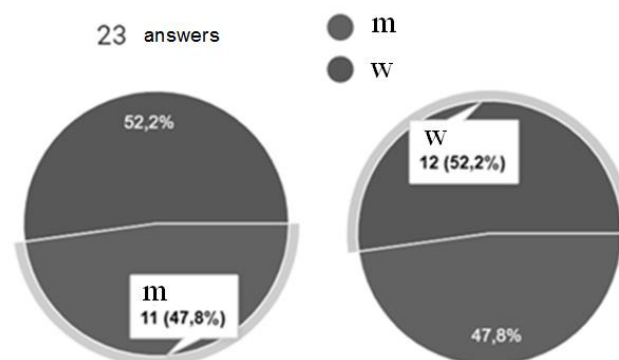
- specify your gender,
- specify the age.

Figure 2: The number of respondents of group № 2 participating in the survey.

Table 1

Responses of respondents in group № 1 "Mixed"

№	Questions	Rating scale						Survey participants
		0	**1**	**2**	**3**	**4**	**5**	
1	Recognition of a computer character (who is it? | what is it?)	0	0	0	2	2	3	7
2	The naturalness of the transfer of emotions by facial expressions, plastic movements, character behavior	0	0	0	1	4	2	7
3	Realistic execution of the surface texture (the degree of confidence in the quality of the surface image)	0	1	1	2	1	2	7
4	Color matching to the question of the edibility of the product	1	1	0	1	2	2	7
5	Recognizability and exclusivity of the characters (the image is a symbol of the product, the conciseness of the interpretation of the image)	0	1	1	2	2	1	7
6	Humanity of the content of the plot, content elements	2	3	2	0	0	0	7
7	The desire to purchase a product (the degree of enthusiasm for the idea of advertising)	2	3	1	0	0	1	7
8	Stylistic correspondence of the character and his environment, an organic combination of 2d and 3d objects	0	0	0	3	3	1	7
9	Back ground color	0	0	1	0	4	2	7
10	Font size	0	0	1	1	3	2	7
11	Font color	0	1	0	1	3	2	7
12	Font type	0	0	0	2	3	2	7
13	Color of graphic objects	0	0	2	1	2	2	7
14	Dimensions of graphic objects	0	0	2	0	1	4	7
	Total, reactions to questions	5	0	11	16	30	26	

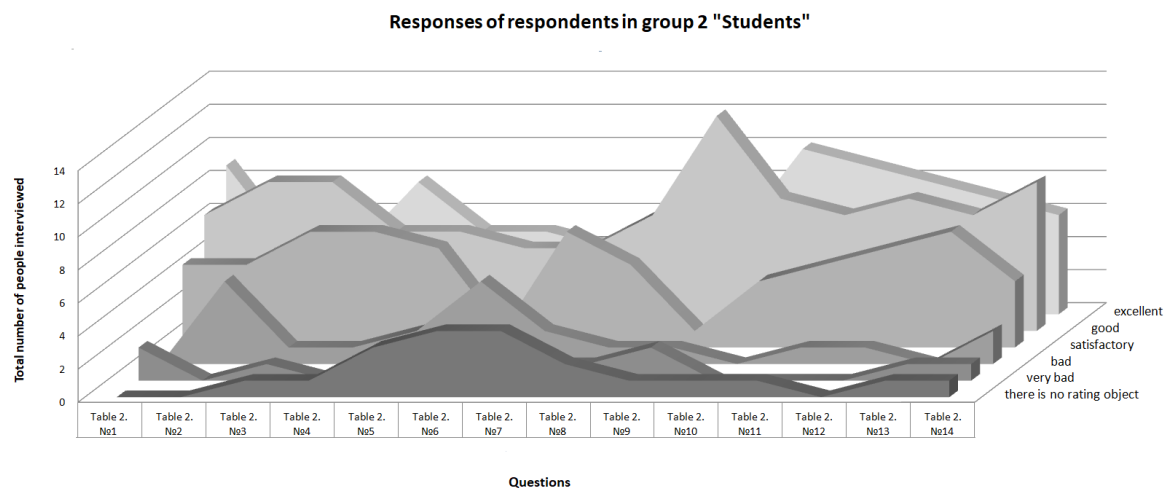Figure 3 shows the results of the actual survey for group No. 2.

Figure 3: Survey results for group № 2 "Students"

The number of matches in percentage terms for different questions and estimates:

- 56.5 (13 people) – 1 rating on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times,"3" – 0 times, "4" – 1 time,"5" – 0 times.
- 43.5 (10 people) – 1 rating on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times, "3" – 0 times, "4" – 0 times, "5" – 1 time.
- 39.1 (9 people) – 2 scores on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times,"3" – 0 times,"4" – 3 times,"5" – 2 times.
- 34.8 (8 people) – 4 ratings on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times,"3" – 0 times,"4" – 2 times,"5" – 2 times.
- 30.4 (7 people) – 10 ratings on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times, "3" – 4 times, "4" – 4 times, "5" – 2 times.
- 26.1(6 people) – 5 ratings on the scale: "0" – 0 times, "1" – 0 times, "2" – 0 times, "3" – 2 times, "4" – 2 times, "5" – 1 time.
- 21.7(5 people) – 11 ratings on the scale: "0" – 0 times, "1" – 0 times, "2" – 2 times,"3" – 4 times,"4" – 2 times,"5" – 3 times.
- 17.4 (4 people) –7 ratings in the scale: "0" – 2 times, "1" – 0 times, "2" – 0 times, "3" – 2 times, "4" – 0 times, "5" – 3 times.
- 13 (3 people) – 2 ratings on the scale: "0" –1 time, "1" – 1 time, "2" – 0 times,"3" – 0 times,"4" – 0 times,"5" – 0 times.
- 8,7 (2 people) –6 ratings on the scale: "0" – 1 time, "1" – 2 times, "2" – 3 times, "3" – 0 times,"4" – 0 times,"5" – 0 times.
- 4,3 (1 person) –23 scores on the scale: "0" – 7 times, "1" – 6 times, "2" – 6 times, "3" – 2 times, "4" – 1 time, "5" – 1 time.

The final results of the survey for the "Students" group are summarized in Table 2.

The maximum number of matches of the results of the answers of four people in group 2, according to one assessment of the scale under consideration for one question, is 56.5%. Otherwise, a large range of opinions and ratings is obtained.

Table 2
Responses of respondents in group 2 "Students"

№	Questions	Rating scale						Survey participants
		0	1	2	3	4	5	
1	Recognition of a computer character (who is it? | what is it?)	0	2	0	5	7	9	23
2	The naturalness of the transfer of emotions by facial expressions, plastic movements of the character	0	0	5	5	9	4	23
3	Realistic execution of the surface texture (the degree of confidence in the image quality of a complex surface)	1	1	1	7	9	4	23
4	The color of the advertised product and the color correspondence to the question of its edibility (does the advertised product look appetizing)	1	0	1	7	6	8	23
5	The exclusivity of the characters as a symbol of the product, (conciseness of the interpretation of the image)	3	1	2	6	6	5	23
6	Humanity of the content of the plot, content elements	4	3	5	1	5	5	23
7	The desire to purchase a product (the degree of enthusiasm for the idea of advertising)	4	1	2	7	5	4	23
8	Stylistic correspondence of the character and his environment, an organic combination of 2d and 3d objects	2	1	1	5	7	7	23
9	Background color of the scene space	1	2	1	1	13	5	23
10	Font size	1	0	0	4	8	10	23
11	Font color	1	0	1	5	7	9	23
12	Font type	0	0	1	6	8	8	23
13	Color of graphic objects	1	1	0	7	7	7	23
14	Dimensions of graphic objects	1	1	2	4	9	6	23
	Total, reactions to questions	20	13	22	70	106	91	

4. Conclusion

As a result of the conducted studies, the following conclusions were made:

On average, 56.8% of respondents surveyed on 4 questions gave the same points according to the developed assessment scale. The rest, 43.2 % of respondents, evaluated the advertising product differently in accordance with the proposed evaluation criteria. This conclusion once again confirms the hypothesis of the study that most people have their own idea of an information resource, based on experience and individual perception and emotional feelings. Therefore, when teaching students in the

direction of developing branded advertising products, it is necessary to focus on the criteria and results presented in Figure 1 and Figure 3, namely, on those questions that are evaluated by a smaller number of respondents, or selected by only 1 person.

The created digital information products should be simple, understandable from the point of view of human-computer perception [3], win and retain consumers, providing the most essential [4].

Students should have a broad range of knowledge and skills in design [6, 17], web design and design [22].

5. References

[1] Federal Law "On Advertising" of 13.03.2006 N38. Federal'nyjzakon \"O reklame\" ot 13.03.2006 N 38-FZ. URL http://ivo.garant.ru/#/document/12145525/paragraph

[2] R. Arnheim, Iskusstvo I vizual'noe vospriyatie, Blagoveshchensk Humanitarian College Publ., Blagoveshchensk, 1999. (In Russian)

[3] A.S. Bakanov, Ergonomika pol'zovatel'skogo interfejsa. Ot proektirovaniya k modelirovaniyuc heloveko-komp'yuternogo vzaimodejstviya, Institute of Psychology of the Russian Academy of Sciences, Moscow, 2011. (In Russian)

[4] P. Berwise, Sh. Meehan, Prostoluchshe. Zavoevyvat' i uderzhivat' potrebitelej, predostavlyaya samoe sushchestvennoe, Stockholm School of Economics in St. Petersburg Publ., St. Petersburg, 2005. (In Russian)

[5] T.O. Gabrielyan, Brend v graficheskom dizajne: konceptualizaciya, vizualizaciya, identifikaciyaLLC "Antikva" Publ., Simferopol, 2018. (In Russian)

[6] G.S. Eliseenkov, Dizajn-proektirovanie: uchebnoe posobie dlya obuchayushchihsya po napravleniyu podgotovki 54.04.01 «dizajn», profil' «graficheskij dizajn», kvalifikaciya (stepen') vypusknika «magistr», KemGIK Publ., Kemerovo, 2016. (In Russian)

[7] T. V. Musaeva, E.P. Boyashova, Komp'yuternay agrafika v proektirovanii I dizajne :praktikum. Ch. 1: Vektornayagrafika: praktikum, State University of Telecommunications named after prof. M. A. Bonch-Bruevich Publ., St. Petersburg, 2020. (In Russian)

[8] G.R. Katasonova, Dizajn v reklame: laboratornyj praktikum [Design in advertising : laboratory workshop]]. St. Petersburg, State University of Telecommunications named after prof. M. A. Bonch-Bruevich Publ. (In Russian)

[9] G.P. Katunin, Osnovy mul'timedijnyh tekhnologij : uchebnoe posobie, Lan Publ., Saint Petersburg, 2018. (In Russian)

[10] T.V. Musaeva, Razrabotka dizajna veb-prilozhenij: uchebnik, Publishing Center "Academy" Publ., Moscow, 2020. (In Russian)

[11] N.G. Kostina, S. Yu. Baranets, Firmenny jstil' i dizajn: uchebnoe posobie dly astudentov vuzov Kemerovo, KemSU Publ., 2014. (In Russian)

[12] A.V. Krapivenko, Tekhnologii mul'timedia i vospriyatie oshchushchenij :uchebnoeposobie , BINOM. Laboratory of Knowledge Publ., Moscow, 2012. (In Russian)

[13] R. Cooper, M. Press, Vlast' dizajna. Klyuch k serdcu potrebitelya, Ed. Grevtsov Publisher Publ., 2008. (In Russian)

[14] V. N. Domnin, Semantic brand code. Brand management (2006), i. 4. 245-255. (In Russian)

[15] N.A. Lepskaya, Hudozhnik I komp'yuter, Kogito-center Publ., Moscow, 2013. (In Russian)

[16] D. Mironov, Komp'yuternaya grafika v dizajne, BHV-Petersburg Publ., 2008 (In Russian)

[17] M. Neygard, Release it! Proektirovanieidizajn PO dlyatekh, komu ne vsyoravno [Release it! Designing and designing software for those who care]. St. Petersburg, Peter Publ., St. Petersburg, 2016. (In Russian)

[18] V. Papanek, Dizajn dlya real'nogo mira, Moscow, D. Aronov Publ., 2008 (In Russian)

[19] V. M. Rozin, Vizual'naya kul'tura i vospriyatie :kak chelovek vidit i ponimaet mir, Editorial URSS Publ., Moscow, 1996. (In Russian)

[20] E.V. Romat, Advertising: A textbook for universities, 2016. URL: https://books.google.ru/books?id=Rw-LDQAAQBAJ&pg=PA327&lpg=PA327&dq

[21] D. Roem, Vizual'noe myshlenie, Eksmo Publ., 2010. (In Russian)

[22] E.V. Strigina, WEP-development i WEP-dizajn v elektronnom biznese: uchebnoe posobie, State University of Telecommunications named after prof. M. A. Bonch-Bruevich Publ., Ch. 1. St. Petersburg, 2017. (In Russian)

[23] M.L. Vlasova, Sociologicheskie metody v marketingovyh issledovaniyah Ucheb. Posobiedlyavuzov, Publishing house of the Higher School of Economics Publ., Moscow, 2006. (In Russian)