



MASTER'S FACULTY

Design Department

PhD program "Design"

Maria Nikolaeva Milichin

DESIGN METHODS IN BUILDING A WEB SPACE

ABSTRACT

On dissertation labor

for awarding the educational and scientific degree "doctor"

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Learned supervisor: Prof. Dr. Elena Todorova

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The dissertation contains: introduction, conclusion, statement of contributions and applicability of results, bibliography and is with common volume from 190 pages, included are a total of 91 images, supportive the theoretical study.

The author is a full-time lecturer in design at the Department "Design" in New Bulgarian university.

The dissertation labor is discussed and proposed for Protection from the advice on Department "Design" of Meeting.....
and it is referred for defense by the board of the Master's Faculty, New Bulgarian University, Sofia.

The public defense will take place on2024, from.....in the hall, NBU.

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GENERAL CHARACTERISTICS OF THE DISSERTATION

“The design process at its best integrates the pursuits of art, science, and culture.” — Jeff Smith

- **Relevance and significance of the thesis under consideration and the problems posed**

Web design is the art of planning and arranging content in a digital environment. Today, its design goes beyond aesthetics and includes the overall functionality of a website, web application, mobile application, game design, user interface design, user experience design, and other derivative visual-digital formats. Today's environment demands that the content and functionality of such products be accessible, intuitive and adapted to be shared online with the world. Through a combination of aesthetic and functional elements, this type of design is part of digital design, defining the appearance of products - colors, fonts, graphics, composition, structural elements (buttons, icons, navigation, etc.), content and user experience. interface. Creating digital content is one of the pillars of online presence. Because of this, the world of web design is dynamic, constantly evolving to meet the growing needs of both website owners and visitors. Web design is often a collaborative process that combines knowledge and tools from related sciences and industries, ranging from social sciences, web design statistics to SEO optimization and user experience design (UX).

With its positives and negatives, the Internet and its content have become part of mental health—an inherent element of the human ability to seek, interpret, and understand information. It's no wonder then that psychology and the social sciences play an important role in web design. In fact, the psychosocial aspects of digital design are directly related to certain areas of cognitive, emotional, behavioral, comparative, neuropsychological, social and ecological research - modern web designers know and should know how to use these principles to create pages that attract users and convert them into customers.

Designing an effective website is very similar to designing a physical landscape. Interacting with a computer is a highly intellectual act involving perceptions and preferences about the pages encountered. This activity implies not just perceiving a visual design, but immersing in it and experiencing the space. In other words, to study how psychology directly influences the basic principles of good web design, one must observe, analyze and understand how people evaluate, learn, like or dislike their surroundings.

In 2021, global spending on market research will exceed \$76 billion. Since 2008, costs have more than doubled. ¹The reasons for the need to better understand consumer behavior and needs lead to better presentation of design and products (including digital) in a way that matches their unique psyche. Good web design often uses precisely psychological tactics such as: colors that are appropriate for a given industry or target group, spacing and composition in the design, certain shapes in relation to their perceptual characteristics, established approaches and practices that can influence how the visitor feels about a site and what might lead them to take a specific action.

At the beginning of the 21st century, many psychologists are curious about the relationship of the human mind to the Internet—how it is used, how it is understood, and what it does to the human brain. Two researchers, Rachel and Steven Kaplan ², apply certain concepts of environmental psychology /Environmental psychology - studies how the physical environment affects human behavior and mental processes/. They found that cognitive environment, or the mental process people use to understand their surroundings, is related to users' preferences for the web design they interact with. Studying how people make sense of and explore new environments reveals the best principles by which designers can foster user understanding and engagement in visual design. The researchers observed that the cognitive space includes several instantaneous mental computations that can be performed simultaneously. Environments that are ordered—or coherent—enhance one's ability to understand space, others that contain balance and richness of elements or complexity encourage further exploration. Crucial to user perception, it is important to observe and know whether they can understand a certain situation and whether there are enough elements to sustain their interest. Both evaluations are followed by deeper questions, according to the researchers, because it turns out that there is an important value in this environment if there is a memorable component present to help the user in the future, and if there is a chance for him to learn something new.

Having a memorable component that helps understand a new environment - or

¹Statistics Research Department. (2023, June 20). *Market research industry - statistics & facts* . Retrieved July 21, 2023, from <https://www.statista.com/topics/1293/market-research/#topicOverview>

²Rosen, DE, & Purinton, E. (2004). Website design: Viewing the web as a cognitive landscape. *Journal of Business Research* , 57(7), 787–794. [https://doi.org/10.1016/S0148-2963\(02\)00353-3](https://doi.org/10.1016/S0148-2963(02)00353-3)

readability - reduces confusion when navigating to what the user wants to achieve. A promise of future gratification - or mystery - provokes a desire for long surfing and motivates space exploration. Researchers have found that people prefer environments that recognize preferences for coherence and readability while accommodating a desire for some complexity and mystery.

The interaction of psychology with web design builds up-to-date design approaches through which a website must find the right balance between achieving its technical goal and creating an overall positive and appealing impression. In other words, a company's website must be pleasant and interesting to visit, but it must also be effective in achieving its sales goals and converting users into customers.

Effective web design is clear, simple and invisible. In order to achieve its modern face, it is actually necessary to use a number of design approaches, tools and principles that are based on different sciences /psychology, neurology, physics, mathematics, marketing, etc./ and their directions. A website must strike the right balance between achieving its technical goal and creating an appealing impression. The basic principles of cognitive science - coherence and complexity, readability and mystery - are directly related to the most important achievements of web design. An efficient, intuitive page layout helps users navigate the page and understand the website environment , which creates coherence. Impressive and interactive design adds richness to the page layout and builds complexity. Clear, concise, and compelling content helps users understand the space , clarifies the website's message, and is a distinctive imprint of the voice of a company , brand, campaign, etc., leading to readability. Calls to action and effective conversion techniques promise future satisfaction , activity and impact that builds a sense of mystery.

When designing a useful website, good visual design alone does not determine the success of the site, nor does it alone make it usable and useful . User-centered design has become the industry standard for the most productive and successful sites .

The internet is constantly trying to build a better experience for everyone. Consumers need to get what they want without worrying about how to access the Internet and what effort they will have to make. Developers and designers need to create sites that can be easily managed and updated.

The trend of user-centered design is causing a rethinking of the design approach and a deep understanding of the target audience. Donald A. Norman in his book "The Design of Everyday Things" ³defines design as an act of communication, which means that a deep understanding of the person with whom the designer is communicating is necessary. To get a better idea of people's needs, of designers are recommended to take into account the psychological principles of human behavior, aspirations and motivations. The result of the work can be even more positive if the designer applies psychological approaches in the creative process, because science gives a closer, clear and explainable idea of the target audience. Scientific knowledge helps create a design that guides and directs users to perform certain actions they are expected to take, such as making a purchase or connecting with a team.

Psychological principles appear to be a complex approach to design improvement and therefore may be overlooked in research and analysis. Designers do not need to have a degree in the field to effectively apply psychological methods to their work. It is good to keep in mind the basic principles and approaches that are constantly applied in modern design.

- **Object and subject of the study**

Design approaches to design have evolved over the years. In this thesis, basic and up-to-date methods influencing the creation of professional web design are collected - scientific, effective and modern, which build the training path for design and which have as much to do with the psychology and behavior of users as creativity.

The subject of this dissertation is the different design methods that are used in the construction of web space and play a major role in the design of modern visual and digital design. These approaches are interdisciplinary, dynamic and influenced by a variety of technological, cultural and economic factors.

The subject of this dissertation is the construction of a system of web and digital space design methods that proves the advantage and importance of multidisciplinary functions, elements and tools / the necessary interrelationship between different scientific fields to achieve modern, professional design/. This system is a fragmented reading of the design algorithm presented in topical chapters that reveal the main features, hallmarks, concepts and

³Norman, D. (2013) . *The Design of Everyday Things* . Perseus Books .

tools of digital design.

- **Main research thesis**

Building a web space is a chain of methods, a composition of concepts and methods, a combination of visually appealing and interactive elements. It is a process that is based on interdisciplinary scientific theses and covers in equal force and degree the aesthetic, structural, content and functional parts of different visual-digital formats.

- **Purpose and tasks**

The main goal of this dissertation is to build and present a system of design methods that present the basic tools for building an effective, accessible, easy-to-use and useful web space. Achieving this goal is realized by setting and solving the following main tasks:

- Review, study and analysis of the existing literature on the subject, without pretensions to absolute comprehensiveness;
- Research of previous attempts to create and apply different design concepts in visual and digital design;
- Analysis of the meaning and meaning of existing design methods for building web space;
- Examining the motivations for creating and improving design techniques as a necessary act of modernizing, positioning and enriching the digital environment;
- Presenting the advantage and importance of a multidisciplinary approach in the design of current design;
- Depiction of the need to combine diverse methods arising from different directions in art and fields of science;
- Using examples from history and practice to formulate universal approaches and tools for designing and implementing digital and web design.

- **Research framework**

This dissertation examines the range of subjects and aims covered in such design scholarship and reviews them in the context of various design research frameworks discussed

over the years. One of the more widely used frameworks is Freiling's /1993/ classification ⁴of art and design research /adapted from the works of Herbert Read in *Art Education*, 1943/, which identifies three main types of research projects: /a/ practice research , /b/ practice research and /c/ practice research.

The first option refers to research whose objects are art or design practice. In the latter approach, the process is focused to learning where the practice of art or design is the vehicle of inquiry and the way of communicating the outcome. The third type aims to present an analysis embodied in a given design. It is good to note that these types of research are not mutually exclusive. Their non-linear nature and ability to be used in parallel and simultaneously enriches the research framework.

According to contemporary scholarly commentary, Freiling's analysis of art and design research succeeds in covering all the possibilities of design research. In support of the stated conclusion, a comparison can be made with other classifications of design research. The thesis of Cross /1999/ ⁵is based on the focus of the study, not on the research method. It emphasizes the knowledge contained in people, process or product: /a/ design epistemology: study of design ways of knowing /people/, /b/ design praxeology: study of design practices and processes /process/ and /c/ phenomenology of design: the study of the form and configuration of artifacts /product/. Cross argues that design is a natural human ability that is inherent in everyone, not just professionals. Therefore, the immediate subject of design research is the study of how people design. Design knowledge is also contained in the activity processes, tactics, strategies and tools used for design purposes. Finally, the designed artefact embodies knowledge in its form, material, technology and context of use. Folman /2008/ ⁶offers a more holistic framework in the field of interaction design research that is not just about academic research but includes knowledge gained through practice-based and exploratory pathways. The model delineates the position of design research activity between three extremes: /a/ design practice, /b/ design research and /c/ design studies. The differences are mostly in

⁴Frayling, C. (1993). Research in art and design. *Royal College of Art Research Papers* , vol 1, no 1, 1993/4.

⁵Cross, N. (1999). Design research: A disciplined conversation. *Design Issues* , 15(2), 5-10.
<http://design.open.ac.uk/cross/documents/DesignResearch.pdf>

⁶Fallman, D. (2008). The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration. *Design Issues* , 24 (3), 4–18. <http://www.jstor.org/stable/25224179>

tradition and perspective, not in the methods and tools used /figure 1/.

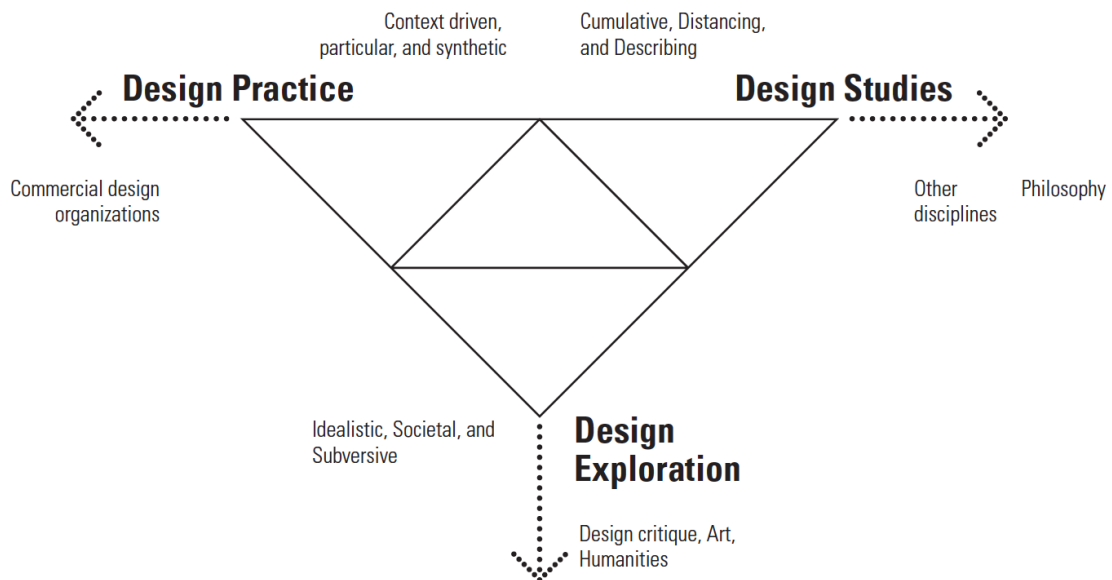


Figure 1. The interaction design research triangle – design practice, design studies and design research - Daniel Folman

Design practice involves activities that are similar to commercial design work undertaken on a commercial basis, but with the difference that the researcher engages in a specific design practice with an appropriate research question. The research question is developed and explored either in a reflexive way /through direct experience with the tools or processes/ or in a proactive way /through an already established research agenda that seeks to change the way a particular technique is used/. Design research is similar to design practice, but differs in one key way in that it aims to explore what-if questions through the design process rather than by answering a specific research question. Research design is a way of commenting on a phenomenon by developing an artifact that embodies the claim or question that the researcher is trying to critique or answer. This type is most similar to traditional academic research, which aims to contribute to the intellectual tradition and body of knowledge.

Each framework presented has its own function and value, one does not replace another, but instead provides different aspects of design researchers' understanding. This research will draw on the selected examples to analyze the purpose and research methods used in this PhD thesis.

- **Methodology**

In the development of the dissertation, different and complex methods are used to solve the set goals and tasks. The main methods used are research, analysis, comparison, synthesis and systematization in their main forms – theoretical, structural, functional and argumentative. The present study uses the method of conducting a snapshot study of the examples to discover the underlying principles of the research methods used.

The selection and justification of the data was influenced by the method of documentary analysis. This method is typically used to analyze documents to gain insight into an activity or approach. Since the main purpose of this study is to investigate the methods used in the design of web space, based on practice, documents, articles and scientific texts that can provide rich content of research data, the process becomes non-reactive and the collection of information allows a different perspective to be applied to any theme or design method. The main disadvantages of this method, cited by Appleton and Cowley /1997/⁷, are the limitation of data, potential bias in the description of an activity or situation, missing or incomplete data, inaccuracies in the original material and data studied out of context. As a preliminary screening method in preparation for a larger, more in-depth study, it is ideal because of its accessibility and easy data systematization.

The secondary data used in this study is based on articles written on scientific research. Examples of these articles include Maze and Redström's (2007) article⁸ discussing the operational and intellectual basis for critical design practice, and Seago and Dunn's (1999) article⁹ introducing new methods in art and design. These articles provided further insight into the purpose and rationale behind the methods used. These research approaches enable the discovery of patterns, approaches, themes and trends, and enable comparisons to be made. The presented information is subject to logical analysis and systematization and provides a prerequisite for deriving the main methods for building a design algorithm, expressing the essence of the work process, the interaction with other methods and the regularities of its

⁷Appleton, JV, & Cowley, S. (1997). Analyzing clinical practice guidelines. A method of documentary analysis. *Journal of advanced nursing*, 25 (5), 1008–1017. <https://doi.org/10.1046/j.1365-2648.1997.19970251008.x>

⁸Mazé, R. & Redström, J. (2007, November). Difficult forms: Critical practices of design and research. *Paper presented at the International Association of Societies of Design Research (IASDR07)*, Hong Kong.

⁹Seago, A. & Dunne, A. (1999). New methodologies in art and design research: The object as discourse. *Design Issues* 15 (2), 11–17. <https://doi.org/10.2307/1511838>

effectiveness and use.

Due to the specificity of different types of design methods, their different characteristics, time use and functions, the methodology in individual points is applied to a different degree.

The study makes no claims to absolute comprehensiveness and chronology, but is presented as substantiating evidentiary material from various sources, which are intended only to serve as evidence of the main research thesis. The conclusions drawn in the dissertation lead to basic and constructive conclusions, which subsequently prove the general thesis.

- **Structure**

The dissertation has a total volume of the main part of 190 pages, and is structured in three chapters in a logical sequence. They include an introduction, a conclusion, a statement of contributions and applicability of the results, and a bibliography. The terminological apparatus is laid out by chapter to all individual points for a clearer logical line.

The main text includes 91 images - photographic material, illustrations, diagrams and graphics that support the theoretical research.

The bibliography contains a total of 152 titles.

SUMMARY

INTRODUCTION

The introduction presents the research thesis and justifies its choice, which is presented through its relevance and significance. The use of design methods to build a web space requires a multidisciplinary approach, including scientific, efficient and contemporary practices influenced by various artistic trends. The main dissertation thesis, its purpose and the set tasks are presented in detail. The introductory part also defines the object and subject of the research work, describes the methodology used and its rationale. The general structure of the thesis is presented and the terminological concepts used in the text are defined.

CHAPTER ONE

Scientific design methods in building a web space

1. Introduction

Web design is the process of conceptualizing, planning, and building a collection of electronic files that define the layout, colors, text styles, structure, graphics, images, and use of interactive features that build pages for site visitors. This design covers many different skills and disciplines that are used in the design and maintenance of digital content. Its various fields include web graphic design, interface design, web page layout, content authoring and production, user experience design, and search engine optimization. The terms web design and web development are often used interchangeably, but web design is technically a subset of the broader category of web development. The design process is transdisciplinary, focused on a skill to understand the creative design of visual communication and is in relation to different scientific fields. Design methods are used to achieve the interpretation of scientific processes and discoveries and the integration of visual theory with science. Visual communication design language requires a clear understanding, liking and application of scientific knowledge and introducing the principles of design thinking through scientific methodologies. The need for synergy between science and the arts builds a connection between interdisciplinary fields where science illuminates through visual communication. Design Methods for Web Design follows innovative research approaches that require a clear and practical methodology to apply cutting-edge design research. These methods rely on a thorough examination of the history and theory of design science and the different types of theory that can be generated in design research. Scientific theory in design is based on practical examples that use models to conduct information and communication technology research. The continuous need to increase the effectiveness and efficiency of design requires research and the application of working models to provide the foundations of various design philosophies and techniques needed to implement innovations in the visual and digital world. Designing intuitive and effective user interfaces is both a science and an art. It includes applying user-centric requirements into usable designs, integrating visual design focal points, and realizing how website and app design strategies differ and overlap. Effective design requires the application of research-based and tested principles and methodologies in order to create usable, attractive and compelling interfaces. Design combines the scientific research and creativity method to be able to design intuitive navigation structures and appropriate navigation patterns, make better decisions to improve visual design - including layout, color, graphics, icons and text selection, implement effective

content organization and processing methods based on usability. Creating screens and pages requires controlling the user's focus, meeting their expectations, expanding the influence of user-centered design, the theme of accessibility and cross-cultural design, and optimizing efficiency and usability through knowledge of how website design strategies and applications differ and overlap.

A brief history of visual communication, Gestalt principles in design, the ways in which human perception responds to different forms and compositions, optical illusions relevant to visual design, scientifically proven and accepted laws of reflection on human sensibility, as well as review models of pages present working models in the design process that combine science and art.

2. A brief history of visual communication and its influence on design design

Since ancient times, spoken words and pictures have been in constant connection and mutual influence in the processes and means of communication. Human thought can generally be divided into two modes - visual and verbal. People use words to paint pictures verbally, and conversely, paint pictures to convey an idea. A study published in the journal *NeuroImage* in 2017 by Eleanor Ami and Evelina Fedorenko of Harvard Medical School ¹⁰ found that even when prompted to use verbal thinking, people created visual images to accompany their inner speech, suggesting that that visual thinking is deeply rooted in the brain. One of the main tools through which humanity has visualized ideas is through the use of writing, and as an extension of it, the typeface appears, as well as through the creation of art, creativity. Writing is the visual manifestation of the spoken word. And words are what humanity communicates through. So it is no exaggeration to say that writing is the essence of visual communication and as a complement to visual communication design. That is why word spelling and visual design are closely related and have a deeper connection from a creative perspective. Both words and pictures are used in the act of creation - this is art. If texts were not primarily about information but about communication, then scriptures, with their prescribed functions of education and training, would appear to be only a secondary art form. Calligraphy, for example, has had a curious relationship with art throughout its history. Besides the transmission of sociocultural and scientific ideas to various civilizations through conceptual

¹⁰Amit, E . , Hoeflin, C . , Hamzah, N . , Fedorenko, E . (2017) . An asymmetrical relationship between verbal and visual thinking: *Converging evidence from behavior and fMRI* , 10.1016/j.neuroimage.2017.03.029

ideas, the nature and limitations of writing have sometimes influenced the form and direction of abstract art.

The development of visual communication design from the radical experimentation of the early prehistoric artists of the Cro-Magnon period to the emergence of the globalized discipline of visual design and its diverse manifestations in contemporary practice - begins with the history of writing, which is the most important aspect of visual information communication. Within the paradigmatic framework of design historiography, visual language and cultural theory, they should focus on how designers have used image, text, print and symbol in response to changing paradigms of art and industry, new technologies, identity, politics and culture, to translate ideas into a visual communicative format. A written message is presented within the boundaries of semantic standards that relate to the meaning of particular symbols, the presentation of the message, its context, and how it relates to other collective memories within the culture. In fact, as soon as the observer encounters a message - on a book cover, poster, website, etc. - a vast array of visual background information, from font type, size, color, layout and illustrations provides her with a road map based on cultural semantic standards of how to interpret and understand the message. The first written languages were inherently visually developed in the ancient Eastern ideographic writing systems, where an image represented a word or morpheme /meaningful unit of words/ to the first pure alphabets of ancient Egypt, which mapped individual symbols to individual phonemes.

The history of visual design is a story that spans all of human existence and has the power to inspire and inform today's visual, graphic and web designers. Knowing where, why and how this industry came about helps them understand their place in history. In practical terms, the cyclicity of stylistic trends and the study of the past can inspire innovative ideas in the present.

Graphic design itself began after the invention of the printing press around 1440, but the roots of visual communication stretch all the way back to cavemen. The history of visual communication, that is. the history of the visualization of the spoken word largely follows the development of typographic systems, but also of layouts, illustration, photography, shapes, symbols, etc. The line of notables along this path is long, from ancient Egypt and Mesopotamia, through medieval booksellers to El Lissitzky and Paul Rand. This historical overview provides a foundation and builds a world of instruction, guidance and inspiration, for whatever is designed in the present rests on the examples, undeniable genius, good

judgment and taste bestowed over the centuries.

A look at the events of history informs how visual design made its way through the centuries until the world was ready for it, providing foundation, pride and inspiration.

The site is an information system. The observed content /e.g. page layout, user interface, graphics, text, audio/ is known as front-end. The flip side is functional design and programming or software engineering. In the early years of web design, web sites were only viewed on computer screens, but in recent years the range of devices that web applications have has expanded dramatically. The challenge of adapting the display of the same space to these different device screen sizes has been overcome to some extent by the development of responsive web systems.

3. Application of Gestalt principles in web design

The brain is always trying to make sense of the world by comparing previous experiences or visual patterns and connecting the elements. He has his own way of perceiving shapes, grouping information, filling in gaps to create a complete picture. Understanding how the brain works helps the designer to become wiser, to be a good manipulator of visual communication. This knowledge determines which visual elements are most effective in a given situation so that they can be used to influence perception, direct attention, and induce behavioral change. This is especially useful when it comes to purposeful, problem-solving, intuitive design - user interface design. Gestalt psychology is a movement created in Berlin in the 1920s. It seeks to understand how the mind perceives things in whole forms rather than in their individual elements. ¹¹The word "gestalt" is taken in its meaning as a form, a unified whole. The overall appearance of something that is greater than the sum of its parts. Gestalt psychology examines how elements are perceived in relation to each other visually. The principles he uses are basic building blocks for creating visual communication and are often used in design. The most frequently advocated when designing a web space are: Proximity; Similarity - Similarity; Figure/Background - Figure-Ground/Area; Continuity - Continuity; Closure - Closure; Simplicity - Simplicity; Common Fate - Common Fate; Symmetry - Symmetry; Connectedness; Common region - Common region.

¹¹Wagemans, J., Elder, JH, Kubovy, M., Palmer, SE, Peterson, MA, Singh, M., & von der Heydt, R. (2012). A century of Gestalt psychology in visual perception: I. Perceptual grouping and figure-ground organization. *Psychological bulletin* , 138(6), 1172–1217. <https://doi.org/10.1037/a0029333>

4. Perception of shapes and their importance when building a design project

The success of any visual story relies primarily on what the audience perceives. Every single element in visual communication tells a story. The constituent units and parts that the human eye can see can be related and explained by simple shapes. All elements - from photography to typography - can be analyzed by form. The use of shapes has a strong impact on design results. It is up to the designer to put the individual pieces together so that they creatively and effectively tell their story. All possible forms fall into three main categories: geometric, organic and abstract.

Geometric shapes are the simplest, most common shapes: squares, circles, triangles and their derivatives, such as rectangles, ovals, etc. Most geometric shapes are symmetrical and instantly recognizable, but they also convey silent messages.

Organic shapes represent shapes inspired by the natural world, such as leaves, flowers, trees, clouds, or paint splatters and droplets. They can be used alone or as part of a larger design. ¹²They have a clear meaning and message - they are not subliminal. They are suitable for design related to environment or ecology, tourism, camping, etc. All elements created by nature have their own unique form. The natural forms carry the clear meanings of the plants and animals they symbolize. The keywords associated with, cover suggestions such as oneness with the natural environment, originality, balance, refreshment, organicity. These shapes are used to create soft, fuzzy feelings that a mathematically perfect circle or square cannot. They symbolize the earth, describe hope and the usefulness of the non-profit.

The third type of forms, defined as abstract, carry a higher symbolism than the geometric and organic ones described so far, and it is in a religious, political or cultural sense. Symbols and icons are especially useful when creating graphics because they convey messages quickly. The difference between symbols and shapes is that more shapes can be used in a design, while too many symbols can lead to confusion, loss of meaning and clutter. The use of symbols should be minimal and judiciously chosen. These shapes are often seen in infographics because they help minimize the use of text and focus on important key messages. Abstract shapes give shape to ideas and are a simplified and/or stylized version of organic shapes. Some of them have universal meaning, others need explanation. They are usually

¹²Velarde, O. (2017) . *The Meaning of Shapes and How to Use Them Creatively in Your Designs* , Retrieved March 17 , 2023 from <https://visme.co/blog/geometric-meanings/>

visual symbols of abstract ideas or simplified versions of natural forms and often have both literal and figurative meanings. They are an effective way to quickly convey a message without text. Often used in visual communication, especially in logo and icon design, it is recommended to use only one element style within a project. In general, the meanings they carry are associated with a sense of the duality of meaning, uniqueness, more details.

5. Optical illusions in visual design

Optical perception is a sensory experience based on the functioning of vision. Illusions, which are perceived by the human visual organ, are dynamic visual art of conflicting forms in which tension is felt, and refers to geometric patterns that are mathematically designed to play with visual perception or create an optical illusion. In practice, this is the result of the mental mechanism with the help of which people look at the world around them. Illusions do not cloud the judgment, on the contrary, they help the more complete perception of information. The problem is that the brain does not know how to process the data from the senses. He does only what he considers important, and before presenting it to the world, he fills in the sticky pieces of the puzzle. Real deceptions happen when the brain makes wrong assumptions when switched off. Optical illusions help us process information more effectively, says Professor Richard Wiseman, a psychologist at the University of Oxford and a former illusionist.¹³ Our opinions are related to our expectations of what we will receive. The expectites determine the descending data traffic. It means that the acquired knowledge or descending brain functions prevail over the ascending ones, which deal with the analysis of the stream coming through the human senses.

Illusions occupy a significant place in visual communication design, creating a sense of pleasure and innovation. Their wide application is conducive not only to enhancing the vibrancy and figurativeness in design, but also meets the basic needs of users for artistry and innovation. This method offers abundant forms of design expression, diverse perspectives, and a powerful sense of impactful vision and originality.¹⁴ Many of the techniques encountered in interface, logo or illustration design are actually optical illusions. Diverse lines, mazes, graphics, overlapping images, 3D perceptions and anamorphic spatial experiences can become

¹³Wiseman, R., & Watt, C. (2015). And now for something completely different: Inattention blindness during a Monty Python's Flying Circus sketch. *i-Perception* , 6(1), 38–40. <https://doi.org/10.1068/i0706sas>

¹⁴Xin, T. and You Ye , H. (2018) . The Application of Visual Illusion in the Visual Communication Design, *IOP Conf. Ser.: Mater. Sci. Eng* , 317 , 012050 .

impressive communication weapons, tell stories and create incredible visual impact. There are several optical illusions that are often used in visual design and directly relate to its modern development. The Triangle-bisection Illusion, The Vertical Horizontal Illusion, The Mach Bands, The Hering Illusion, The Grid Illusion presented by Ludimar Hermann, The Hermann Grid Illusion Simultaneous Contrast Illusion, Watercolor Illusion, Munker-White's Illusion, Jastrow Illusion, Cornsweet Illusion and Müller-Lyer Illusion/ are important tools in designing a digital space.

6. Basic scientific laws of visual perception that apply to design design

The overall goal of any product is to make life easier for users, and designer design has as its mission to fulfill this goal. In order to build a design or product that everyone would enjoy using, it is necessary to incorporate principles from various academic fields into the design process. These renowned methods are interdisciplinary in nature, incorporating knowledge and skills from sciences such as psychology, philosophy, marketing and economics that can be applied to a given design. Hick's Law is a psychological principle often applied in digital design. Occam's Razor is a philosophical maxim that is used for visual hierarchy and effective perception. Named after the German physician Ernst Heinrich Weber, Weber's Law is also known as the Law of Subtle Differences and is a principle in psychology and user experience design. According to the Von Restorff Effect, the more strange, absurd an object is, the more likely it is to stand out and be remembered, because creating a strange impression is what is remembered. These scientific principles can be applied to design in a variety of ways. When designing digital content, sometimes it is necessary to draw the audience's eyes to one place, even if there are other design elements around it. This may mean using a different contrasting color, font, size, spacing, etc.

7. Conclusions to the first chapter

Engagement, interaction, visuals and enjoyment are all part of the user experience. When a customer visits a website, they should do so with ease, desire and satisfaction. To achieve this type of user experience, certain scientific web design practices, methods and principles must be applied. The application of an interdisciplinary scientific approach, art directions and artistic techniques are the necessary tools for building, growing and professional development of digital and web space design. Web design is about both the aesthetics and usability of web content. Designers use many different basic design principles

to achieve an aesthetically beautiful layout that provides the best user experience. In order to create a balanced layout, the web designer must refer to certain methods, scientific practices, colors and template elements. The use of contrasting colors, psychological principles, laws, textures and shapes can define and draw more attention to certain areas in the web space. Highlighting text in a different color or shape, applying a border, orientation, size, etc. or adding digital media will certainly help achieve the goal. The relationship between certain parts of a website's layout and its overall composition is important. What matters is how people tend to organize information by dividing items into categories.

Design and science combine in modern practice to create a digital environment that engages consumers, delivers pleasure, increases trust, develops awareness and drives business growth. In the ever-evolving digital landscape, understanding the importance of web design is critical for any individual or organization seeking success on the web. As technology continues to advance, awareness, scientifically proven theories and emerging trends are increasingly becoming best practices and it is essential to harness and combine them in the digital world.

CHAPTER TWO

Effective design methods in building a web space

1. Introduction

Usability and usefulness, as well as visual design, determine the success or failure of a website. The basic principles, heuristics and approaches of effective web design are those that, when used correctly, can lead to more complex design decisions and simplify the process of perceiving the presented information. User-centered design has become the standard approach for successful and profit-oriented web design. While designing a website, it is good to follow working and established techniques that help in creating an elegant, unique, simple, streamlined yet effective design. It must fulfill its intended function by conveying a specific message and engaging the visitor at the same time. When creating a website, there are many key factors that contribute to how it is perceived. A well-designed website can help build trust and drive visitors to action.

Effective web design techniques can lead to more complex design decisions and

simplify the process of perceiving the information presented. The correct use of effective design methods must take into account how users interact with the space, how they think and what their basic behavior patterns are. Various factors such as types of visual communication, consistency, images, simplicity, functionality, emotions (emotional design) and methodologies (such as design thinking) contribute to good design. Creating a good user experience includes making sure that the design is optimized for usability /form and aesthetics/ and how easy it is to use /functionality/.

2. Types of visual communication

Design uses visual compositions to solve problems and convey ideas through typography, imagery, color and form. Therefore, there are several types of visual design, each of which has its own area of specialization. Although they often overlap, each type of design requires a specific set of skills and design techniques. Many designers specialize in one look; others focus on a set of related, similar types. But because the industry is constantly changing, designers must be adaptable and lifelong learners to be able to change or add specializations throughout their career. Understanding the basic types of design helps to find the right skills for the job. These types extend into areas such as visual identity graphic design, marketing and advertising design, publication design, motion visual design, environmental visual design, visual art design and illustration, etc.

3. User experience design

User experience design or UX /User Experience design / is a collective term that covers all stages of design in the digital world /and beyond/, including research, information architecture, interaction design, visual design, usability testing, etc. It recreates the entire user experience with a brand, product or service and represents the process of designing and improving the user interaction with a given product. Cognitive psychologist and designer Don Norman coined the term "user experience" in the 1990s, but UX has been created and developed for decades.¹⁵User experience designers must ask questions like who, what, when, where, why, and how in designing from the beginning to the end of the design process.

¹⁵UX Planet. (2018). *Is UX Design a Science?*. Retrieved June 14, 2023, from <https://uxplanet.org/is-ux-design-a-science-8d46155c933f>

The goals set by this method are to achieve improvements in product usability, increase user loyalty, ensure and satisfy users, and ease of use. This is the necessary foundation for the successful development of any type of product, whether digital or not. Therefore, UX encompasses absolutely all interactions between potential or current customers and the organization, company or service being offered. In many ways, UX is the field of web design from the user's perspective ¹⁶. It matters how the web page layout and user interface affect the user. When moving to the advanced stages, UX becomes much more strategic, as in emotional design, which will be discussed in this thesis later, and which answers the question of how to design a page in such a way that it makes the user react and to engage.

Although it may seem redundant at first, there is actually a direct connection between UX design and business goals, such as sales or conversions. Given that much of the human decision-making process comes from emotions and instincts, optimizing website design can encourage certain behaviors and create an atmosphere that is more conducive to the desired behavior. For this reason, UX designers use a significant amount of psychological principles in design: attract attention through size, evoke the right emotions through colors, create a predictable visual flow on the screen, and place buttons for action /CTA /"Call to Action"/ through which they invite users to a specific action in the right places. However, unlike traditional design, UX professionals must also consider additional issues such as interactivity and time. This makes them specialists who are completely different from everyone else and at the same time inevitably related to them.

4. User interface design

A user interface is how a user interacts with a device or application. This design encompasses the process of designing interfaces that are easy to use and provide a user-friendly experience. User interface includes all the things that the target audience interacts with through the screen, keyboard and mouse, but in the context of its design, it focuses on the visual experience of the user and the design of graphical elements on the screen such as buttons, menus, micro-integrations, etc. This design engineers the way it interacts with applications and digital devices, such as social media platforms, websites, the mobile phone camera gallery and the operating system of any laptop. Every graphic element - such as buttons, text boxes on a

¹⁶Bowles, C. and Box, J. (2011). *Undercover User Experience Design, Learn how to Do Great UX Work with Tiny Budgets, No Time, and Limited Support* . New Riders.

form, color, layout, typography, illustration - is part of the user interface design. A UI designer must consider accessibility, efficiency, and fluidity of interactions ¹⁷. The designer's task in this type of design is to balance aesthetic appeal with technical functionality.

In digital design, user interface design principles are the main guidelines that designers rely on to create designs that serve and delight users. This helps them navigate through the content and features they need to achieve what they want. User interface design principles are inspired by Gestalt psychology principles of human perception, grouping design elements into simple patterns that users can easily follow to achieve their goals. Applying best practices in this kind of design makes digital products easier for everyone to use, follow and enjoy, and helps to set up specific cues for users to follow towards their goals - for example, a search result achieved through a single action, scrolling or interaction at once. Clear, consistent user interface design principles make decision-making easier for designers as well. Building them into design lifts the cognitive load for creatives and makes product teams more efficient. Basic design principles lead to high-performance user interfaces.

5. Emotional design

Emotional design is the concept of how to create a product that evokes emotions that lead to positive user experiences. This method anticipates and considers the needs and reactions of the target audience. Designers in modern design focus on the needs of users when they interact with products or services. It makes sense that the functionality being created should help them achieve their goals as efficiently as possible. But the process in today's environment must focus on consumer responses, which are naturally emotional. No matter how rational the design of a product may seem, emotions are at the heart of how reality is interpreted. Positive experiences stimulate curiosity. They help to develop motivation for personal growth.

Designers strive to reach consumers so that they develop only positive associations /sometimes including negative emotions/ with products, brands, etc. When creating good design, it's not enough to just understand how a certain group of users reacts — you need to understand why some of them are delighted with a feature and others are not, why engagement among some decreases after a color palette is refreshed, or why some share their experience

¹⁷Mir, N. (2022). *What is UI design?* . Retrieved July 9, 2023, from <https://99designs.com/blog/web-digital/what-is-ui-design/>

and some don't. In his book *Emotional Design*, Don Norman¹⁸ explores three different levels of design that capture how people respond emotionally to visual experiences—visceral, behavioral, and reflective. These experiences represent how users emotionally connect with objects.

6. Design thinking

The age we live in invites people to constantly use digital design. Beautiful interfaces, stunning looks and easy navigation are three of the most prominent features of a good user experience. Design thinking is a broad-spectrum methodology and a radical approach to innovation that puts user experience and experience at its center /human-centered design/. It can be defined as a combination of empathy for the person and the context of the problem, creative creativity in the search for ideas and rationality in the analysis and selection of solutions.¹⁹

Design thinking sounds like one of those things that should come naturally to designers. It's really about how design, or rather innovation, doesn't come naturally. It requires careful strategy, a commitment to helping people, and holistic thinking. It is a structured process where innovative solutions are generated through principles and tools. Here, the concepts of "design" and "thinking" are not taken in their pure, etymological variant /the name should not mislead/, but refer to systematic problem solving and a mindset that needs to be built and that better understands the world to others. This makes the process particularly suitable when attacking difficult-to-describe and understand problems related to conflict resolution, building soft skills and understanding user paths and user experience.

Innovation is the main goal of design thinking. An original approach does not come from aesthetics or the general advancement of technology: true innovation must serve a design purpose and fill a void, even one that the user is unaware of. Rather than leaving innovation to subjective factors like luck or good taste, design thinking provides a measurable means of achieving it. This thesis chapter is focused on the five-level model of design thinking proposed by the Hasso-Plattner Institute of Design at Stanford /d.school/. The methodology helps in the process of questioning: questioning the problem, questioning the

¹⁸Norman, D. (2007) . *Emotional Design: Why We Love (Or Hate) Everyday Things* . Basic Books .

¹⁹Innovation Starter . (2015). *Design Thinking* . Retrieved on November 6, 2021 from <https://innovationstarter.bg/resources/kakvo-e-dizajn-mislene/>

assumptions and questioning the consequences. Design thinking is extremely useful for tackling problems that are ill-defined or unknown by reframing the problem in human-centered ways, generating many ideas in brainstorming sessions, and taking a hands-on approach to prototyping and testing. The methodology involves continuous experimentation: sketching, prototyping, testing and trying out concepts and ideas.

7. Conclusions

Efficiency is one of the main elements of a good website. It is essential for a positive experience and a successful design that truly benefits visitors and owners. All types of visual communication design are influenced by the need for a clear, intuitive, efficient design concept. Whether considering a type of visual design with its own area of specialization, user experience or interface design, applying emotional design or algorithmic design thinking, practice shows the need for effective communication with visitors.

Each design method requires a specific set of skills and techniques, but as the industry changes dynamically, adaptability and continuous upgrading training can change or add the right skill and expertise for a job. Ideally, design united by effective methods that communicate and work together creates a clear, unified message to visitors. The design of a product, service or website includes not only the visual side, but also the full functionality. Apart from the core brand and web design elements that make it visually appealing and compelling, the product should always be user-friendly. The multidisciplinary approach uses problem solving as a mechanism to achieve specific goals. It is an iterative process that starts with user research - getting to know potential users, what their problems are and how they can be solved. Design thinking helps to create a solution that meets the key needs of the target group. Depending on the project, the client or the employer, the combination of effective methods can answer different aspects of the user flow. In designing a web space, efficiency is achieved through methods of aesthetic appeal, good user experience with specific elements, and the concept of creating designs that evoke emotions and that lead to positive user experiences. Web designers create designs that evoke emotions in users with visual design elements such as fonts, images, and typography. Given that much of decision-making comes from emotion and instinct, it makes sense that website design encourages behaviors that lead to better conversions and higher retention rates. Effective design combines methods that evoke feelings in users throughout their product experience, combines design principles by creating a predictable visual flow across the

screen, and ensures placement of elements in the right places, while taking into account additional issues such as interactivity and time. This methodological set allows for empathy with the audience regarding its level of demands. From attracting immediate attention, meeting their real needs, to managing risks and uncertainties by testing each prototype created from the ideas generated after brainstorming. Then through discussion and user engagement we arrive at guaranteed results, going through several prototypes and testing means that the design 's success is highly likely in the long term. The combination of effective web space construction methods puts the user at the center of the design process, finalizes a unique solution and has the potential to create opportunities that are unique and individual. All this allows simultaneous application of freedom and confidence in building the creative process, experimenting, testing and improving the design, an aesthetically pleasing, functional, effective and user-friendly product.

CHAPTER THREE

Modern design methods in building a web space

1. Introduction

Modern visual design uses different types of project design concepts that include recreating realism and physical environments, simplicity and minimalism, isometrics, movement and animations, each methodology striving to make it easier for users to use and find the information they need. This is achieved through the use of intuitive navigation, strong typography, appropriate color palettes, gradients, shadows, high-quality images, graphics, etc. Other key elements of modern web design include accessibility, usability, and speed. Websites should be designed to be accessible to all users, including those with disabilities, and should be optimized for fast loading to ensure a smooth user experience. Website design changes dynamically and continuously. While some constants remain – such as the need for relevant, timely and engaging content – additional design elements and methods are constantly emerging that can enhance a website's impact. Some of these elements help tell stories and explain the essence of a company, product, etc., while others work to immediately capture user interest or enhance the experience on any device. Using every element at the same time is not necessary

/it can lead to clutter and a confusing experience/, but choosing specific design methods that are in line with the goals, user group and idea behind the design can help increase the overall impact. Different types of web pages require an individual, specific design style, concept and stylistics to meet expectations and fulfill their role.

Knowing and applying the types of project design concepts, the current trends in building visual products, as well as the types of web pages with their peculiarities and characteristics can narrow your focus and provide the best tools. This understanding of modern website design and applying an appropriate combination of modern design methods improves efficiency, visual appeal and optimizes the design process.

2. Types of project design concepts

Web design trends are moving from interfaces that mimic real-world objects to extremely minimalistic, unadorned designs. All of them have their advantages and disadvantages, features and methodology. With knowledge of these types in the user interface one can create and experiment, which is essential for creativity through innovation and pushing the design industry forward.

2.1. Skeomorphic design

Skeomorphic design uses familiar materials to create a sense of security or comfort in users. Its main purpose is to imitate elements of the surrounding world and apply them in new products for the purpose of favorable perception by the user.

The shift from the physical to the digital world is one of the biggest changes in technology. Creating visual components for pervasive and abstract technologies is certainly no small task. Designing a design to make the user experience as satisfying as possible and to make working with a device easy and intuitive, when the user encounters such technology for the first time, requires the search for a mechanism that will allow easy orientation in space.

2.2. Flat /simple, clean/ design

Minimalist design has its origins in the so-called Swiss style /Swiss style/, which is influenced by such phenomena as the international typographic style, Russian constructivism,

the tradition of the Bauhaus school, the international style and classical modernism. It emphasizes clarity, cleanliness and minimalism ²⁰. Aesthetically, flat design does not include any design elements that are not absolutely necessary, using elements taken directly from its inspirations such as high contrast, efficient use of space, minimalism, use of color and contrast to create depth, and use of symbols instead of accurate interpretations, to convey ideas. Its main idea is the minimal /reduced almost to zero/ use of three-dimensional elements /such as light shadows, gradients, textures, etc./ and focusing on the use of minimalistic and simplified elements, typography and colors. This allows designers to direct the user's attention to the product itself much more effectively.

2.3. Semi-flat design

Semi-flat design, also known as flat 2.0, is a flat design with a few realistic touches added. It occupies the space between flat and 3D design, combining the look of flat design with added aesthetic details. This design attempts to compensate for the disadvantages of flat design, such as reducing the amount of information that can cause ambiguity and lack of interaction with the product. With a strictly minimalist design, users may not know where to press or scroll because the flat design may make some cues less obvious. From a less utilitarian perspective, the semi-flat design adds visual interest to the image. Traditional flat design is effective, but semi-flat allows designers to achieve a similar effect without sacrificing all the subtleties and special touches that give a design a stylistic appeal or allow for the use of trends such as color transitions. It is essentially a 2D illustration with a touch of realism, which can be represented by a simple drop shadow, a changing shade of color or a background that suggests depth.

2.4. Material design

In the evolution of design, there is a trend called material design /codenamed Quantum Paper/. It was announced in 2014 ²¹at the Google I/O conference and pushed for a new, revolutionary way of positioning and behavior of elements in web and mobile applications. It

²⁰Wikipedia contributors. Swiss Style (design). (2023, October 19). In *Wikipedia, The Free Encyclopedia*. Retrieved October 25, 2023, from

[https://en.wikipedia.org/w/index.php?title=Swiss_Style_\(design\)&oldid=1180824349](https://en.wikipedia.org/w/index.php?title=Swiss_Style_(design)&oldid=1180824349)

²¹Interaction Design Foundation - IxDF. (2016). *What is Material Design?* . Retrieved March 19, 2022, from <https://www.interaction-design.org/literature/topics/material-design>

is a living, natural and autonomous design language that seeks to clear the user's focus on the product in question.

It is inspired by a sheet of paper and ink, with a bit of skeuomorphism living in it. What makes it unique is that it is elegantly and measuredly combined with the flat design, through intelligent positioning and movement of elements, limited shadows and animations, as well as the icon pack and colors that can be found on their official site ²².

Material Design aims to develop a single core system that enables a unified experience across different platforms and device sizes. It has a set of strict visual guidelines, with no two pieces of material design allowed to overlap; all elements of this type of design are opaque and elements in it cannot be folded or bent. There are also guidelines for how a user can interact with an application.

2.5. Isometric design

Isometric design is a design trend that presents a combination of flat design and a 3D view in which there are no converging perspective lines. These kinds of designs create different perspectives on a given topic, so the user is able to take in more information from the design and gather additional knowledge. For businesses that give their customers more options, or for products or services that are best presented in a 3D projection, isometric designs are the perfect visual metaphor. Curved screens are difficult to render with flat design, but through an isometric technique, the ability to present more detail with less clutter is achievable. An ability to display three-dimensional space before this type of design was not available. Through this design, there is more space in which to place the design.

This design system is a natural evolution of flat design, keeping the simplistic style but literally adding new depth. When the design has three sides and not just a front view, the possibilities are enriched. In this way, visual effects are presented by drawing three-dimensional objects on two-dimensional planes.

3. Types of web pages

²²Material Design Official Site - <https://m3.material.io/>

Many websites compete for a certain share of users' attention. It is good for designers to be familiar with the main categories of web page types so that they can meet the different expectations and needs of clients and achieve different goals. Researching the selection of competitors and conducting tests allows the creation of the perfect format for each business, organization, event and type of user. Clear goals and type of design make it easy to identify website types. There are over 2 billion websites ²³on the Internet and any attempt to categorize them is inevitably imperfect, but a broad categorization is possible based on their purpose and the type of organization they are designed for.

A website is an interactive space in the digital environment where information can be found on a specific topic, product, event, etc. or to obtain online services. A popular example of a website is Amazon.com as one of the largest online stores through which users can buy and sell products and services. This is an online shopping and selling site. In contrast, SiteSaga.com is a blog website focused primarily on providing information and ideas related to website building. ²⁴Similarly, every website on the web is focused on a specific area, topic or niche and has a purpose and a specific user group that it serves. Essentially, every website is different from other sites. But they can be grouped into certain categories or types based on the main features and functionalities they possess.

4. Modern currents in building web design

4.1. Neomorphism

Neomorphic design is a visual trend that has gained popularity among UI and UX designers and has become a popular aesthetic choice for modern software, websites, and mobile apps. Based on aspects of photorealism and 3D design, this design method brings simulated physical attributes - such as shadows and textures - to digital interfaces.

At the end of 2019, neomorphism /neumorphism - "new skeuomorphism"/ began to offer a combination of the best of project design concepts. It strikes a balance between

²³Galvan, M. (2020). *12 popular website types and how to design them* . Retrieved October 15, 2021, from <https://www.flux-academy.com/blog/12-popular-website-types-and-how-to-design-them>

²⁴SiteSaga Editorial . (2023) *21 Most Popular Types of Websites in 2023 (With Examples)* . Retrieved October 3, 2023, from <https://www.sitesaga.com/types-of-websites/>

hyperrealism and minimalism, using colors, textures and shadows in a way that looks realistic without being overly detailed.

4.2. Glasmorphism

In designing a modern web space, there is a method by which designers can give their work a physical feel. When a blur effect is combined with transparency, the pixels take on a slightly opaque quality of frosted glass, adding depth, a touch of texture and dimension to the design and achieving the modern method of glasmorphism. It captures the look of glass, but not in the traditional sense like its predecessor, but rather evokes a sense of it. Buttons, navigation options, sliders, and other UI elements stand out when their crisp lines are laid over a glass blur. Instead of vying for attention on the same dimensional plane, glasmorphism provides a small visual boost by making elements more obvious to anyone visiting the digital space.

This design method is characterized by transparency /a frosted glass effect using background blur/, a layered approach to objects floating in space, bright colors to emphasize the blurred transparency, and a subtle, light border on translucent objects. This sense of layers, and the fact that one can observe through them, means that users can establish hierarchy and depth to the interface. They see which layer is on which, just like through pieces of virtual glass. Recreating this effect is achieved through a combination of layering, opacity and blur value.

4.3. Parallax effect

From microinteractions to particle backgrounds, web design has seen a growing popularity of web-based animation trends for several years now. Web animations become increasingly complex by separating page elements into foreground and background, creating a parallax effect. In digital design, this effect is seen when scrolling through a page that feels dynamic, with the movement passing through more than one image or shape at once. This is a parallax effect and occurs when different elements on a page move at different speeds - creating the effect of 2D and 3D depth.

The effect on web pages is perceived as both real and surreal. The depth created by using the interaction between foreground and background brings the added benefit of immersion, turning the computer screen into something closer to a theater stage.

5. Conclusions

In modern times, the digital space is subject to continuous change and innovation. This requires designers to be aware of current trends, methods and use the latest and most effective concepts. Because every design has to compete with thousands, sometimes millions of options online, it can't afford to present anything other than the most effective and aesthetically pleasing option. When discussing web design elements, methods and approaches, it is important to analyze, present and use best practices, creativity, creative algorithms and design specifics. Whether the design in question is for an e-commerce website, blog, portfolio, informational or any other type of website, there is a significant need for effective communication with visitors. The essential elements, methods and techniques for building modern web design can transform the efficiency, functionality and enjoyment of digital design.

Conclusion

The aim of this PhD thesis was to build, present and analyze a system of design methods that represent the main tools for building an efficient, accessible, easy-to-use, useful and modern web space. The dissertation compares technologies and demonstrates examples that are used in modern development principles. Responsive design projects created through different categories of methods represent a very good opportunity for designing visual and digital content. Extending the techniques and methodologies analyzed in the thesis provides a secure and future-proof way of building a web space that functions effectively on any device and on any screen. Exploring the field of contemporary visual and digital design, covering its definition, interplay of scientific fields, vital roles, prevailing trends and exemplary methodologies, delves into the dynamic nature of design, attempting to highlight the importance of evolving trends and techniques. Modern design is not just about aesthetics, it creates a seamless and enjoyable journey for users, fosters trust, engagement and ultimately growth and change. The continuous opportunity to be inspired by trends and good examples, research and studies, experiments and opportunities to include a unique touch in modern design, builds a solid foundation for emerging ideas, methods, technologies and constant development.

The study of different design methods for designing web space builds an answer to the idea and place of the multidisciplinary approach, as well as to many unresolved questions

about the future of effective approaches and modern techniques based on trends. The constructed system of web and digital space design methods thoroughly examines their application aspects and proves the advantage and importance of interdisciplinary functions, elements and tools /the necessary interrelationship between different scientific fields to achieve modern, professional design/. The dynamic development of the professional field fixes the relevance at the present moment. In the long term, cardinal changes and changes in some method, emergence of new approaches, as well as different interdependence between them are possible.

The dissertation makes it possible to formulate several main conclusions, despite the constantly developing and changing digital world:

1. Web space design methods construct a process that is based on communication between the design and the user. This builds a visual philology, on whose organism the possibilities for interaction in the digital world step. Ways are being created to convey content, meaning, entertainment, education, business, etc., even to transactions and outcomes with an impact on physical reality.

2. The interaction of scientific fields is an uncompromising way to build a complex design approach that meets the requirements of modern design with equal degree and value.

3. The digital vision has an indisputable semantic meaning and influence, and through this role it formulates needs, awareness, reactions and activities by positioning users in the Internet space and creating social interactions.

4. Web design design methods in their eclectic form create an opportunity for effective impact, for the expression of both a group and an individual attitude. This becomes an essential factor for preserving community interests, identity, opportunities for personal and professional development, as well as for timely communication at the global level.

5. Innovative design methods build a bridge between tradition and the future, create conditions for experimentation, creativity and develop the toolset of concepts.

6. A chain of methods, of techniques and methods, a combination of visually attractive and interactive elements is based on various scientific and practical theses. Thus, it is possible to cover the aesthetic, structural, content, effective, functional and innovative parts

of different visual-digital formats.

7. The presence of a built system through a fragmented reading of design algorithms from scientific, effective and modern methodologies reveals the main characteristics, distinctive features, concepts and tools of digital design.

Reference for the contributions of the dissertation work

1. Based on numerous scientific and literary sources, this dissertation researches, analyzes and proves the need to apply a system of different design concepts in visual and digital design.

2. Each chapter of the doctoral thesis presents an in-depth review and analysis of a certain type of design methods, compared to their comparing characteristics from scientific fields, effectively working approaches or innovative concepts. This classifies the methodologies and allows systematization of their features and characteristics.

3. For the first time in the Bulgarian scientific literature, an in-depth study and detailed classification of the design of web space is carried out from the point of view of design algorithms, combining methodologies and as a function of creating innovative strategies and concepts.

4. The dissertation not only thoroughly analyzes design tools and approaches, but formulates and examines their functioning in the process of building visual and digital design, presenting their impact on the user community.

5. For the first time in our country, the topic of using design methods in designing a web space is presented through the interconnection of scientific fields such as psychology, medicine and social sciences and is analyzed in a literary and practical paradigm.

6. This dissertation is one of the first studies described in Bulgarian in the field of epistemology, praxiology of design and the study of the form and configuration of the final product. It could serve students and teachers of web design and graphic advertising, as well as

a wider range of readers who have an interest in this field.

7. Methodologically, the present study lays a good foundation for future concrete developments concerning the design of digital space, the multidisciplinary connection of scientific fields, the effective design of visual design and the functionality of modern methodology , which undoubtedly concern the construction and development of design products and the needs of target audiences.

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