

## **Communication Hierarchies and User Engagement in Digital Media Design**

*Hierarchie komunikacji i zasady interakcji użytkownika w projektowaniu mediów cyfrowych*

**Maciej Kaźmierczak<sup>1</sup>**

**Abstract:** This article embarks on an exploration of how design principles in the digital domain impact user engagement, aiming to elucidate the correlation between design methods and user interaction. Employing a review of design philosophies such as minimalism and integrating psychological principles such as Daniel Kahneman’s “minimising cognitive effort” and Hick’s law, the study explores various aspects of digital design, mainly using message hierarchy. The investigation reveals that simplicity and clarity in design, coupled with a user-centric approach, markedly enhance user experience and engagement on digital platforms. The results demonstrate that intuitive navigation, effective use of whitespace, and adherence to foundational design principles substantially elevate the quality of user interaction and content assimilation.

**Streszczenie:** Artykuł ten podejmuje analizę wpływu zasad projektowania w środowisku cyfrowym na zaangażowanie użytkownika, mając na celu wyjaśnienie związku między metodami projektowania a interakcją użytkownika. Artykuł bada różne aspekty projektowania cyfrowego, zwłaszcza posługiwanie się hierarchią komunikatów, wykorzystując filozofię projektowania opartego na minimalizmie oraz wcielając w życie zasady psychologiczne takie jak „minimalizowanie wysiłku poznawczego” Daniela Kahnemana i Prawo Hicka. Badanie ujawnia, że prostota i jasność w projektowaniu, połączone z podejściem zorientowanym na użytkownika, znacząco poprawiają doświadczenie użytkownika i zaangażowanie na platformach cyfrowych. Wyniki pokazują, że intuicyjna nawigacja, efektywne wykorzystanie białej przestrzeni i przestrzeganie podstawowych zasad projektowania znacznie podnoszą jakość interakcji użytkownika i przyswajania treści.

**Keywords:** digital design, user engagement, minimalism, cognitive effort, whitespace, intuitive navigation, communication hierarchy

**Słowa kluczowe:** projektowanie cyfrowe, zaangażowanie użytkowników, minimalizm, wysiłek poznawczy, biała przestrzeń, intuicyjna nawigacja, hierarchia komunikacji

---

<sup>1</sup> Wrocławska Wyższa Szkoła Informatyki Stosowanej, e-mail mkazmierczak@horyzont.eu, nr ORCID: 0009-0007-5962-8352.

## 1. Introduction

In the realm of IT industry humour, an intriguing proposition asserts that the most effective location for concealing information mirrors the notion of hiding a body: it is found on the second page of a Google search result. This humorous observation, originating in the domain of search engine optimisation (SEO), poignantly highlights a prevalent lack of motivation in the average Internet user to actively search for and engage with online content. This phenomenon is characterised by a tendency to favour conciseness over expansiveness in the consumption of digital information. Daniel Kahneman, in his seminal work *Thinking, Fast and Slow*, provides a thorough analysis of this behavioural pattern, identifying it as a principle of minimising cognitive effort<sup>2</sup>. He argues that individuals, naturally inclined towards a state of inertia, demonstrate a preference for cognitive ease. This preference, in turn, has significant implications for the field of graphic design. By applying the principles derived from Kahneman's thesis, content creation can be made more approachable and comprehensible for a wide range of audiences, thus facilitating greater accessibility and assimilation of information.

## 2. Determinants of audience engagement in contemporary media consumption

Before starting any design endeavour, it is crucial to consider the target audience. The 2020 report by the National Library of Poland sheds light on a surprising reality: 58% of the Polish population did not use books and 23% did not own a single volume<sup>3</sup>. This statistic escalates to approximately 6 million people who are disconnected from the culture of written text and do not participate in the reading of lengthy texts within one year. These findings are instrumental in informing compositional and substantive choices in message design. Similarly, analysis of content consumption patterns reveals that reading modalities have evolved. Contemporary tools for content reception predominantly include tablets and smartphones, and reading frequently transpires within urban spaces, such as public transportation. This shift is highlighted in a study at UX Myths, which indicates that 60–80% of mobile users browse the Internet from home or office settings<sup>4</sup>. The fragmented attention span of the modern reader necessitates a design approach that accommodates frequent interruptions and the need for reengagement with the material.

---

<sup>2</sup> D. Kahneman, *Thinking Fast and Slow*, New York 2011.

<sup>3</sup> R. Chymkowski, Z. Zasacka, *Stan czytelnictwa w Polsce w 2020 roku*, Warszawa 2021, <https://bn.org.pl/download/document/1621420376.pdf> (on-line 15.12.2023)

<sup>4</sup> Z. Góczy, *Myth #33: Mobile users are distracted*, <https://uxmyths.com/post/99302792550/myth-33-mobile-users-are-distracted> (on-line 15.12.2023)

### 3. The science of message hierarchy in communication design

The establishment of a hierarchy among various text elements constitutes a fundamental task in designing any form of communication. The term “communication” here encompasses all types of content where longer characters appear, regardless of the medium – this includes browser interfaces, phone screens, restaurant menus, advertising posters, or even televised commercials.

The message hierarchy involves assigning a class of importance to different areas of the text. This is particularly evident in newspapers, which typically feature a structure comprising headline, lead, and body text. A recent trend in the condensation of news articles into bullet points illustrates this principle effectively. This approach, as exemplified by the portal onet.pl, allows the reader to swiftly grasp the main themes without delving into the minutiae. As an example, Figure 1 of Onet Sport shows this method in action.

The image shows a screenshot of a news article on the Onet.pl website. The article is titled "Srebro uwłacza - Anglicy od razu zdjęli medale. Pycha i brak klasy" (Silver humiliates - Englishmen took the medals away immediately. Pride and lack of class). The article is categorized under "ONET > SPORT > EURO 2020". The text is structured into several key sections, each highlighted with a red border and a label on the left:

- Tytuł (Title):** "Srebro uwłacza - Anglicy od razu zdjęli medale. Pycha i brak klasy"
- Lead:** "Anglicy czekali 55 lat nie tylko na zwycięstwo, ale w ogóle na finał międzynarodowej imprezy. Zaraz po porażce z Włochami w ostatnim meczu Euro 2020 podopieczni Garetha Southgate'a otrzymali srebrne medale, które chwilę później zdjęli. Był to ostentacyjny pokaz sportowej złości, ale również brak klasy, który zbyt często oglądamy w finałach. Synom Albionu po ceremonii tylko przybyło krytykujących, których już wcześniej było wielu."
- Streszczenie (Summary):** A list of four bullet points:
  - Anglicy nie uszanowali srebrnych medali, czym pokazali brak klasy - ich rywalem był przecież zespół o wiele bardziej utytułowany i doświadczony
  - Podopieczni Garetha Southgate'a są zaledwie drugą drużyną narodową, która doszła do finału wielkiej imprezy. Piłkarze powinni traktować drugie miejsce jak sukces
  - Już wcześniej krytykowanym Anglikom tylko przybyło potępiających, zarówno w piłkarskim środowisku, jak i wśród własnych fanów
  - Więcej takich tekstów znajdziesz na stronie głównej [Onet.pl](https://onet.pl)
- Tekst akapitowy (Text paragraph):** "Nie jest tak, że Anglicy zdejmując medale dokonali przelomu - podobny obrazek widywaliśmy już w różnych finałach. Nie trzeba sięgać pamięcią daleko, aby odnaleźć potwierdzenie. Finałowy mecz Ligi Europy, porażka Manchesteru United z Villarrealem, medale szybko zdejmowane przez piłkarzy Czerwonych Diabłów. Bo każdy chce być zwycięzcą. Jak doszedłeś aż do finału, to porażka po prostu boli."

Below the lead section, there is a social media sharing bar showing 2,7 thousand likes, the time "Dzisiaj, 09:07", and a note "Ten tekst przeczytasz w 2 minuty". There are also buttons for "Lubię to" and a back arrow.

Fig. 1. The message hierarchy in the Onet Sport article<sup>5</sup>

<sup>5</sup> *Srebro uwłacza,*

<https://www.onet.pl/sport/onetsport/wlochy-anglia-anglicy-nie-chcieli-srebrnych-medali-brak-klasy-final-euro-2020/bzf6fc9,d87b6cc4> (on-line 15.12.2023)

Distinguishing the importance of different text sections enables users to quickly assess whether a particular text fits their needs. This differentiation often occurs through the use of font weight, size, and/or colour: the higher the position in the hierarchy, the more pronounced the appearance of the letters. In the realm of digital content design, the use of HTML tags is advantageous, as their inherent hierarchy aids in visually illustrating the relationships between categories. The hierarchy is typically structured as follows:

1. Title [h1] – Often the briefest text in the media, but one of the most crucial, as it influences the conscious choice of reading material.
2. Lead [h2] – The first visually distinct paragraph following the title or subtitle, providing further clarification of the content and offering greater assurance of its relevance to the reader.
3. Subheading [h3] – Additional internal titles that are applied to sections of the message, commonly marking subchapters.
4. Quote [h4] – Incorporating quotes allows the reader to take a momentary respite from the main text, drawing attention to significant observations. Employing a different colour for this content is advisable.
5. Summary [h5] – Key information in the text pointed by bullets.
6. Body text [p] – The main content of the communication.
7. Emphasis in the text [b] – It is often beneficial to highlight small portions of the text, especially when they are crucial to the reader.

#### **4. The essence of minimalism in digital design and its cognitive impacts**

Minimalism, a trend with origins tracing back to the 1920s, marked its entry into the digital realm around the year 2000, but it has only become significantly noticeable in recent years. The emergence of the principle “less is more” has allowed for a sense of relief in the composition of web pages.

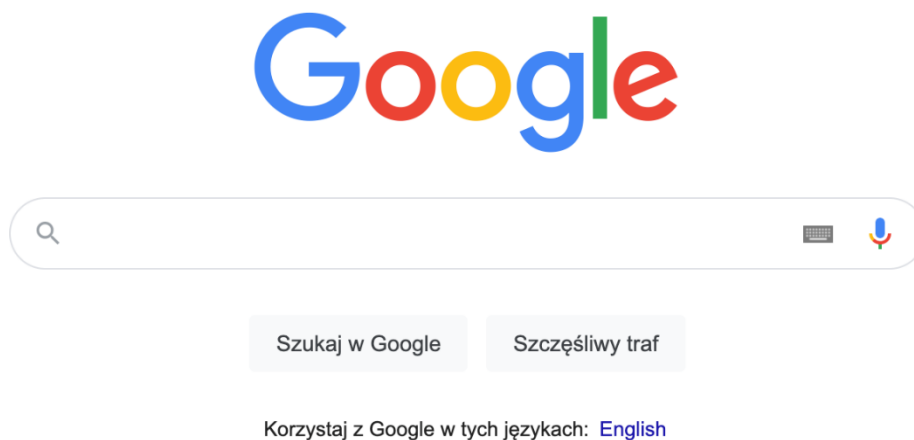
In previously cluttered on-line services, a compositional solution known as white space has begun to emerge, offering a reprieve from interfaces densely packed with content. By eliminating non-essential elements from a webpage, it has been observed that users experience reduced stress and increased emotional engagement with the content. Research involving older adults, published in *Computers in Human Behavior*<sup>6</sup>, indicates that the use of negative space

---

<sup>6</sup> D.-Y. M. Lin, *Evaluating older adults' retention in hypertext perusal: impacts of presentation media as a function of text topology*, “Computers in Human Behavior” 2004 (20), pp. 491–503.

between paragraphs and in margins can improve information assimilation by 20%. The full study can be explored in *Human Factors*<sup>7</sup>.

The concept of white space, while essential in creating minimalist designs, does not necessitate the colour white. It refers to the intentional leaving of empty space between elements such as graphics, photos, margins, or texts to enhance readability and ease of interpretation. A prime example of effective whitespace use is the Google search engine homepage.



*Fig. 2. Google search engine homepage*

By including only essential elements, the design focusses user attention solely on the purpose of the site, content search. The absence of distractions and the simplicity of the design significantly improve the user experience (UX), as detailed in *Usability Geek*<sup>8</sup>.

Hick's law, which posits that the more choices a user has, the longer it takes to make a decision, further supports minimalist design. This principle is evident in scenarios where the number of available options is minimised, thus focussing the user's attention on specific actions, such as entering a query and proceeding to search results. More information on Hick's

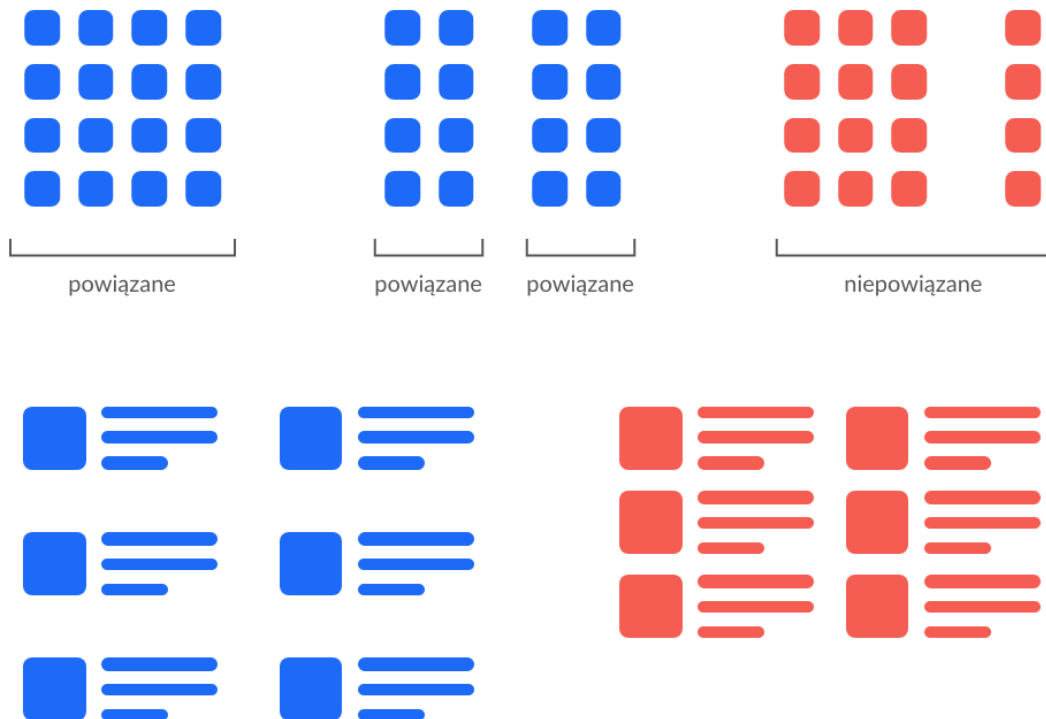
---

<sup>7</sup> K. Straub, *Yeah, but can you give me a reference?*, [https://www.humanfactors.com/newsletters/yeah\\_but\\_can\\_you\\_give\\_me\\_a\\_reference\\_2004.asp](https://www.humanfactors.com/newsletters/yeah_but_can_you_give_me_a_reference_2004.asp) (on-line 15.12.2023)

<sup>8</sup> A. Smith, *Less Is Still More: The Importance Of The Minimalist Approach To Web Design*, <https://usabilitygeek.com/less-is-more-importance-minimalist-web-design/> (on-line 15.12.2023)

law can be found in an article by *Interaction Design Foundation*<sup>9</sup>.

Furthermore, the principle of proximity, a concept from Gestalt psychology's visual perception laws, describes how people perceive relationships between elements, particularly graphical ones<sup>10</sup>. Elements placed closely together are perceived to be related, unlike those spaced more liberally.



*Fig. 3. The principle of proximity*

This knowledge allows designers to use white space effectively to create appropriate distances between layout elements, thereby forging connections among various components of a composition. A simple example of this principle can be seen in any book, where the text is

<sup>9</sup> *Hick's Law*,

<https://www.interaction-design.org/literature/topics/hick-s-law> (on-line 15.12.2023)

<sup>10</sup> Interaction Design Foundation, *What are the Gestalt Principles?*,

<https://www.interaction-design.org/literature/topics/gestalt-principles> (on-line 15.12.2023)

segmented into paragraphs that link sentences, thoughts, or arguments to the overarching narrative.

### 5. The imperative of clarity and simplicity in design

At the heart of my design philosophy lies a maxim that resonates profoundly with both my teaching and professional work: “Go bold or not at all”. This expression, borrowed from the contemporary youth vernacular, encapsulates the principle that I advocate among students and frequently apply in my own projects. When establishing a hierarchy of messages for any medium, it is essential to visually differentiate between content of varying importance, regardless of whether this distinction is made through colour, size, or transparency. The disparity between elements should be conspicuous enough for an uninitiated observer to perceive it instinctively and accept it as self-evident. The more intuitive the design, the easier it is to use. An illustration of this principle can be seen in the KISS approach (“Keep It Simple, Stupid”), as depicted in Figure 4.



Fig. 4. An example of intuitive design. Author: Terretta<sup>11</sup>

<sup>11</sup> Interaction Design Foundation, *KISS (Keep it Simple, Stupid) – A Design Principle*, [www.interaction-design.org/literature/article/kiss-keep-it-simple-stupid-a-design-principle](http://www.interaction-design.org/literature/article/kiss-keep-it-simple-stupid-a-design-principle) (on-line 15.12.2023)

If the content presented to a user is not readily accessible, they are likely to abandon the page in search of a more user-friendly alternative. Research indicates that users rarely give up on a second chance, and 88% are unlikely to return to a site after a negative experience<sup>12</sup>. From this, it can be inferred that users do not prefer to read extensively, wait excessively, or search laboriously. With this in mind, content must be crafted to suit their preferences. To illustrate this point, I often compare designing a website with preparing a sandwich for a child. It should be cut into small, manageable pieces, easily navigable by tiny fingers, and effortlessly consumable.

## 6. Conclusions

The approach presented in this article underscores the essence of effective communication design: the simplification and accessibility of content are paramount. By adhering to the maxim, “Go bold or not at all”, designers can ensure that their creations are not only visually striking, but also intuitively navigable, thus improving the user experience and engagement.

## Bibliography

1. Chymkowski R., Zasacka Z., *Stan czytelnictwa w Polsce w 2020 roku*, Warszawa 2021, <https://bn.org.pl/download/document/1621420376.pdf> (on-line 15.12.2023).
2. Gócza Z., *Myth #33: Mobile users are distracted*, <https://uxmyths.com/post/99302792550/myth-33-mobile-users-are-distracted> (on-line 15.12.2023).
3. *Hick's Law*, <https://www.interaction-design.org/literature/topics/hick-s-law> (on-line 15.12.2023).
4. Kahneman D., *Thinking Fast and Slow*, New York 2011.
5. *Srebro uwłacza*, <https://www.onet.pl/sport/onetsport/wlochy-anglia-anglicy-nie-chcieli-srebrnych-medali-brak-klasy-final-euro-2020/bzf6fc9,d87b6cc4> (on-line 15.12.2023).
6. Interaction Design Foundation, *KISS (Keep it Simple, Stupid) – A Design Principle*, [www.interaction-design.org/literature/article/kiss-keep-it-simple-stupid-a-design-principle](http://www.interaction-design.org/literature/article/kiss-keep-it-simple-stupid-a-design-principle) (on-line 15.12.2023).
7. Interaction Design Foundation, *What are the Gestalt Principles?*, <https://www.interaction-design.org/literature/topics/gestalt-principles> (on-line 15.12.2023).

---

<sup>12</sup> M. Philips, *Know Your User – UX Statistics and Insights (with Infographic)*, [www.toptal.com/designers/ux/ux-statistics-insights-infographic](http://www.toptal.com/designers/ux/ux-statistics-insights-infographic) (on-line 15.12.2023)



8. Lin D.-Y. M., *Evaluating older adults' retention in hypertext perusal: impacts of presentation media as a function of text topology*, "Computers in Human Behavior" 2004 (20), pp. 491–503.
9. Philips M., *Know Your User – UX Statistics and Insights (with Infographic)*, [www.toptal.com/designers/ux/ux-statistics-insights-infographic](http://www.toptal.com/designers/ux/ux-statistics-insights-infographic) (on-line 15.12.2023).
10. Straub K., *Yeah, but can you give me a reference?*, [https://www.humanfactors.com/newsletters/yeah\\_but\\_can\\_you\\_give\\_me\\_a\\_reference\\_2004.asp](https://www.humanfactors.com/newsletters/yeah_but_can_you_give_me_a_reference_2004.asp) (on-line 15.12.2023).
11. Smith A., *Less Is Still More: The Importance Of The Minimalist Approach To Web Design*, <https://usabilitygeek.com/less-is-more-importance-minimalist-web-design/> (on-line 15.12.2023).



Zezwala się na korzystanie z *Communication Hierarchies and User Engagement in Digital Media Design* na warunkach licencji Creative Commons Uznanie autorstwa 4.0 (znanej również jako CC-BY), dostępnej pod adresem <https://creativecommons.org/licenses/by/4.0/deed.pl> lub innej wersji językowej tej licencji lub którejkolwiek późniejszej wersji tej licencji, opublikowanej przez organizację Creative Commons.