

A Critical Review on Designer Intent in Implementing Deceptive Patterns

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Abstract

Deceptive patterns refer to user interface design strategies aiming to manipulate and deceive users to make decisions for the stakeholders' benefit. The concept was coined in 2010 and has since reached a lot of interest in the research community. In this critical review, we focus on how designers' intentions in implementing deceptive patterns are described in the current literature. By doing so, we highlight the controversies around designer intent and illustrate the possible varieties of intention. As a result, we present and discuss designers as intentional or unintentional actors in implementing deceptive patterns. Future research warrants empirical examinations of the complexity of the competing forces and actors in implementing deceptive patterns, as well as careful considerations in the discussions related to intent in relation to deceptive pattern implementation.

Keywords

Deceptive design, Deceptive patterns, Dark patterns, Designer, Designer intent

1. Introduction

Since 2010, deceptive patterns have attracted growing attention in research across disciplines from human-computer interaction (HCI) to law, privacy, and business [1, 2, 3]. Deceptive patterns can be described as user interface (UI) design strategies that aim to covertly manipulate or deceive users into making decisions they would not otherwise make, and thus compromise user autonomy [2, 4, 5]. These patterns are often implemented to benefit the service provider [4] and lead to negative consequences for the user [5]. Deceptive patterns have become widespread and identified in various contexts, such as e-commerce [6], social media [3], and games [7]. Several regulatory bodies have recognized the issue and responded by including deceptive patterns in the legislation (e.g., [8, 9]).

Since designers create the designs, their role in implementing deceptive patterns is an important aspect in both the literature and design practice. The literature has called for designers to take a stand and prevent the unethical practices (e.g., [2, 10]), as well as offered them recommendations and tools to avoid implementing deceptive patterns (e.g., [11, 12]). In this study, we focus on the designer's intent in implementing deceptive patterns. Our research question is: *How designer intent is discussed in the seminal work of deceptive patterns, and what shortcomings can be identified in this discussion?* To answer the research question, a critical review was conducted to reveal inconsistencies in the current literature [13]. According to the common critical review procedure, we have identified most relevant items to review in light of the research question, and through narrative synthesis aim to identify directions for the future studies [14]. This work adds understanding of the discrepancies related to the discussion on designer intent in the deceptive pattern literature and paves the way for future research through problematization, i.e., by identifying and challenging the current assumptions [15, 16].

In addition to the overall unethicallity of deceptive design patterns, they can cause negative psychological effects on users, such as stress and anxiety [17]. The negative effects have been pinpointed as a designer's responsibility. Designers are required to be well aware of deceptive patterns to avoid

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creating unethical design solutions [18, 19]. These expressions place the unethical practice of deceptive patterns as a problem created by designers. In several definitions, deceptive patterns are stated as the result of designers' intentional implementation, "abusing" their knowledge of user psychology [20]. One of the extreme examples is the use of the catchphrase "asshole designers" which was brought to the academic literature through the Reddit thread related to "assholedesign", which mostly focused on deceptive patterns [21, 22].

However, the decision to implement deceptive patterns is rarely made by an individual designer [2]. Gray and Chivukula [23] refer to ethical design complexity, describing how the individual and organisational practices and ethical frameworks affect designers' ethical considerations. Similarly, Sánchez Chamorro et al. [12] ask what extent the designers can be held responsible for the ethical assessment, considering the other actors at play. Related to the aforementioned asshole design, Gray et al. [22] discuss that there is no certain way of knowing that those designs were implemented with ill-intent of the designer.

The rapid growth and fragmentation of the deceptive pattern literature has led to a lack of a common language and definitions of deceptive patterns [4]. We claim that the discussion around designer intent is likewise obscure in the deceptive pattern literature, neglecting the role of other stakeholders [5], and is a topic that should be more carefully studied (as stated also by, e.g., [22]). Only a small number of research focuses on why deceptive patterns are implemented. This is evident, as the idea that patterns are implemented with or without designer intent is often presented as fact without providing references with empirical evidence to support the claim (for example, see [1]). Multiple reasons may exist for why deceptive patterns are implemented in technological artifacts. One key starting point to address this phenomenon is to explicate differences in designers' intent in deceptive design practices, discussed in recent literature, to clarify the current understanding of designers and deceptive design.

To address this shortcoming, we review deceptive pattern literature to illustrate the controversies in the discussion around designer intent. After that, we analyse more closely how the intent of the designer is discussed in four central articles addressing deceptive patterns [6, 10, 24, 25]. By following critical review procedure, the articles have been purposefully selected [13, 14]. We have selected the articles because they represent the most cited taxonomy articles in the deceptive pattern literature [4] and thus provide a conceptual backbone for the study of deceptive patterns. These articles represent the fields of HCI and law, illustrating the cross-disciplinary nature of deceptive pattern research. Based on the reviewed articles, as well as previous research on deceptive design, we present a categorisation of designer intent varying from intentional to unintentional implementation of deceptive patterns, that illustrates the complexity related to the topic. As a contribution to the study, we make visible the controversy in the current discussion related to designer intent in deceptive pattern literature across disciplines and call for more careful consideration of the matter in future studies.

2. Designer Intent in Deceptive Design

To discuss the designer's intent, it is important to clarify what is meant by a "designer". According to Herbert Simon [26], a designer formulates actions to transfer existing conditions into more preferred ones. These actions often take the form of an artifact, thus, designers can be considered as form-givers of artifacts to be made sense of and used by others [27]. In addition, an essential aspect of designers' competencies is to identify and frame problems to be solved with design [28]. In technology design, designers have a variety of different roles, such as UI designer; experience designer; accessibility designer [29]; interaction designer; user experience (UX) designer; visual designer; behaviour designer [30]; information architect [31]; critical designer; and service designer [32].

Different designer roles illustrate the complex nature of design practice for human-technology interaction design. Recent research has started to examine the value-laden and ethical relationship between designer intents and experience outcomes [23]. However, research focus has not been on designers' ethical awareness and practices as a form of design complexity including various mediating factors influencing decision-making. The same complexity applies to deceptive design practices in

balancing contradictory goals, for example highlighting user values and ethical design with external pressures [33].

Mathur et al. [20] have described the different definitions of deceptive patterns, illustrating that they vary between describing characteristics of the UI, the effect on users, the role of the designer, and the benefits for the service provider and harm to the users. They state that there exists no unified definition, which is apparent also when looking at how the actor (i.e., who implements the patterns) is implied in the literature. The definitions provided by Harry Brignull, who is credited for the concept of deceptive patterns, are good examples of implicit and unclear definitions of the actor. In 2010, Brignull [34] described that “[deceptive patterns] are not mistakes, they are carefully crafted...”, implying they are created with malicious intent but not taking any stance about the actor. Also, the current definition by Brignull et al. [35] states that “Deceptive patterns (also known as ‘dark patterns’) are tricks used in websites and apps that make you do things that you didn’t mean to”, which does not either entitle the responsible party.

As an example of definition including explicit reference to designers’ malicious intent, Zagal et al. [7] suggest as a definition of deceptive patterns in the context of games as patterns “used intentionally by a game creator to cause negative experiences for players...”. However, they also comment that it is challenging to determine the intentionality. To illustrate a definition referencing the possible lack of designer ill-intent, Gray et al. [4] highlight deceptive patterns have unwanted consequences for the user “regardless of designer’s intent”. However, they do not provide any references with empirical proof or offer further discussion to explain this claim. It seems to have stemmed from the California Privacy Rights Act of 2022 [36], which stated that “A user interface is a dark pattern if the interface has the effect of substantially subverting or impairing user autonomy, decision-making, or choice, regardless of a business’s intent”. As can be seen, the referenced Privacy Rights Act refers to the intent of “business” and not “designer”.

Another example of missing support from references and illustrating the problematics of taking the designer intent as granted, is seen in Lukoff et al. [1]. They explicitly state in their “What Can CHI Do About Dark Patterns?” workshop description that deceptive patterns are “generally defined” as being “intentionally created by designers”, who exploit the user’s psychological vulnerabilities. To support this claim, they reference Gray et al. [10], Mathur et al. [6], and Tran et al. [37], although none of these studies empirically examine designer intent, but rely on other scholars when discussing designer intent. This example shows the general tendency to blame designers, which in this case also sets a starting point for a workshop.

Although limited, existing empirical research focusing on designer intent in implementing deceptive patterns pinpoints the many facets that can lead to creating deceptive patterns. Research shows that external pressure, especially from parties with decision-making power such as clients and management, forces designers into ethically problematic choices [12, 33, 38]. Also, previous research has noted that not all deceptive patterns are implemented with malicious intent. Zhang-Kennedy et al. [38] found that designers could list several non-malicious intentions for implementing privacy related deceptive patterns, such as aiming to improve UX, or simply lacking awareness or skills. Moreover, Sánchez Chamorro et al. [12] noted in their study, which focused on the fine line between persuasion and manipulative design, that some designers lack understanding of the consequences of their designs.

3. Designer Intent in the Reviewed Articles

In the reviewed seminal articles (see Table 1), the ways that the designer intent is described can be divided to intentional and unintentional implementation of deceptive patterns.

Regarding intentional implementation, the malicious intent of designers is presented in each of the reviewed articles. When defining deceptive patterns, Gray et al. [10] describe that “...designers use knowledge about users (and society more broadly) against them”, which clearly illustrates malicious intent. Similarly, Luguri and Strahilevitz [25] state that deceptive patterns “are user interfaces whose designers knowingly confuse users”. Bösch et al. [24] outline that designers can be knowingly malice,

Table 1

Reviewed articles

Author(s)	Year	Title
Bösch et al. [24]	2016	Tales from the Dark Side: Privacy Dark Strategies and Privacy Dark Patterns
Gray et al. [10]	2018	The Dark (Patterns) Side of UX Design
Mathur et al. [6]	2019	Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites
Luguri & Strahilevitz [25]	2021	Shining a Light on Dark Patterns

designing UIs that mislead the user and make them act against their original intentions, or manipulate users into taking certain actions. Likewise, Mathur et al. [6] argue that designers deliberately use design solutions that are inherently deceptive and intended primarily to generate financial gain. Luguri and Strahilevitz [25] use a difficult process for opting out of subscription auto-renewal as an example of an intentionally malicious design choice.

In addition to intentional, self-selected practice of implementing deceptive patterns, Gray et al. [10] and Bösch et al. [24] refer to implementing the patterns due to external pressure. Gray et al. [10] state that designers may prioritize the interests of stakeholders over the interests of users. Bösch et al. [24] describe a situation where “the system designer does not act out of pure maliciousness”, but instead might, for example, weaken the system security to gain more users’ personal data for targeted advertising.

In terms of unintentional implementation, both Bösch et al. [24] and Luguri and Strahilevitz [25] refer to the unknowing implementation of deceptive patterns. Bösch et al. [24] state that some designers may lack skills and understanding of system design and consequences of the design, which leads to implementing deceptive patterns accidentally. Also, Luguri and Strahilevitz [25] refer that deceptive patterns can be implemented by accident. Bösch et al. [24] further point out that there is a need for training and guidance of the system design process. In addition, Gray et al. [10] point out the possibility that a designer has implemented a pattern with a good intent, but a certain audience can perceive the design pattern as deceptive.

Of the reviewed articles, designer intent and responsibilities are discussed in depth in Gray et al. [10], whereas Luguri and Strahilevitz [25] and Bösch et al. [24] don’t contemplate designer intent in detail. Mathur et al. [6] do not explicitly mention designers at all, but they discuss design choices, which implicitly refers to the designer who makes the choices.

As a result of the analysis, enriched with the findings of previous research, it can be concluded that the designers’ intentional implementation of deceptive patterns can be the result of: 1) malicious intent [22]; 2) weighting suboptimal design choices [38]; 3) external pressure [6, 10, 12, 24, 25, 38]. Furthermore, the unintentional implementation can happen due to the following reasons: 1) lack of skills [22, 24]; 2) lack of awareness of user psychology [24]; 3) lack of understanding of the ethical consequences [12, 24]; 4) intention to help users [10, 38]; 5) by accident [25]; 6) as a result of the user interpretation [10]. The implications of the analysis, as well as the categorization, are further discussed in the next section.

4. Discussion

The reviewed literature indicates that the designer intent in implementing deceptive patterns is diversely approached in the current research. Our analysis reveals that the designer intent descriptions vary between intentional and unintentional implementation. However, as illustrated by the closer examination of the reviewed articles, a single article often neglects this variety focusing only on certain aspects as well as lacks empirical evidence when discussing designer intent. The intentional implementation can result from a deliberate decision made with malicious intent (e.g., part of “asshole” design practices [22]). The intentional implementation can also be the result of weighting suboptimal design choices, for example if the designer considers the design pattern as not that malicious and decides to

implement it e.g., to reach business goals or because of following design trends [38]. Furthermore, the implementation may occur because of external pressure [6, 10, 12, 24, 25, 38]. In conflicting situations, designers may diminish their values and comply with the employer's or client's demands [12, 38].

The unintentional implementation of deceptive patterns can stem from the designers' lack of technical or design skills [22, 24], lack of awareness of user psychology [24], or lack of understanding of the ethical consequences [12, 24]. These reasons can lead to the designer being unaware of the consequences of their designs, but it does not remove the possible harm the design can cause to users. Designers may implement deceptive patterns with the intent of helping users [10, 38], e.g., aiming to improve UX or system functionality [38]. Lastly, designers may implement deceptive patterns by accident, due to insufficient consideration of the user's perspective [25], or the implementation of deceptive patterns may result from the user's misinterpretations, even if the designer did not intend harm with their design choices [10].

Stating that implementing deceptive patterns is done with malicious intent takes an ethical stance, that deceptive patterns are evil and implemented to hurt others. This does not acknowledge factors such as the level of deceptiveness of the pattern, which can vary greatly between deceptive pattern types [38]. After all, it's natural that business goals guide the designers' work and there is a vast grey area of deceptive patterns between established marketing practices and straight-out scams [10, 38].

The question of the actor's intent and responsibility in this context is important, especially from the legislative perspective, as it can be used to determine an accountable party. In the reviewed articles, the consensus was that if the actor who had made the intentional design choice was mentioned, it was the designer, ignoring the stakeholders and other parties involved in the design choices (see e.g., [7, 10]). This leads to the question: what is meant with "designer" in the deceptive pattern literature? We claim that in the current literature the term "designer" is used without defining whether it is used to refer to individual designers (e.g., UX or UI designers), to the team responsible for creating the product or service, or to any party that can be held responsible directly or indirectly for the design choices. Furthermore, it could be discussed whether the definitions could just as well be phrased to refer to "business intent" or "company intent" rather than "designer intent" (see [9] for an example). However, this approach would make it more difficult to plan interventions (such as education targeting the actor).

Considering the multitude of identified deceptive patterns and the broad definition of the concept, it is quite possible that deceptive patterns could emerge from user interactions that diverge from what was intended by the designers (as discussed above, see also [10]). That would lead to the technology being the sole, non-human actor creating deceptive patterns, without the intention of the designer or other stakeholders. Furthermore, if the intentionality would not be at all included in the discussion of deceptive patterns, that raises other questions, such as what are the lines between deceptive patterns and "bad design" such as anti-patterns [7, 10, 22].

When evaluating the results of this study, certain limitations should be acknowledged. Firstly, critical reviews inevitably suffer from subjectivity due to the selective manner of article choice [13]. We have, however, motivated why the selected articles represent the most suitable targets for the review. Secondly, the in-depth review focuses on four articles. We have limited the review to these seminal pieces, as they are central sources in the deceptive pattern literature [4] and thus function as key entities to illustrate the shortcomings. Future research could extend this topic through a systematic literature review to achieve more generalizable results.

In conclusion, we call for research on the intentions of the designer in implementing deceptive patterns, and authors to more clearly motivate why or why not they refer to the designer intent or the lack of it when defining the concept of deceptive patterns. The current state warrants further empirical research on how, why, and when deceptive design patterns are implemented and what is designers' role in this.

5. Conclusions

In this critical review, we have highlighted the controversies of current discussions related to designer intent in the deceptive pattern literature and described the variation in designer intent in implementing deceptive patterns. The reviewed articles illustrate the several possible cases of unintentional and intentional implementation of deceptive patterns. However, the current literature referencing designers' intents to implement deceptive patterns neglects this variety and is not empirically grounded, and thus this topic urgently calls for further research.

Declaration on Generative AI

During the preparation of this work, the authors used ChatGPT in order to: Grammar and spelling check. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the publication's content.

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