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**BACHELOR OF ARTS IN MULTIMEDIA STUDIES**

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**Deceptive by Design: An Interactive Website Exploring, Simulating, and  
Discussing Dark Patterns**

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September 30 2025

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**Acceptance Page:**

This paper prepared by **ADRIAN COLIN C. HILARIO** with the title: **“Deceptive by Design: An Interactive Website Exploring, Simulating, and Discussing Dark Patterns”** is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Course.

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## **Biographical Sketch**

Adrian Colin C Hilario was born on July 23, 2000, in Quezon City, and he is second among three boys. His family eventually relocated to Kalibo Aklan where they currently reside.

He studied at St. Anne Montessori School from their pre-elementary program, elementary program, high school program, and continued to finish in their senior high school program. After graduating from senior high school, he then enrolled into the University of the Philippines Open University's BA Multimedia Studies program, becoming a third-generation UP student in his family.

During his time in elementary and high school, he was also an active student athlete in the sport of swimming, where he was a consistent regional athlete for Aklan, specializing in long-distance and butterfly events. He was also a member of the Aklan Aquablades swimming club where he would meet many lifelong friends, and was under the tutelage of coach Tom Davis a USA Swimming certified coach and a friend and life-long mentor.

Recently, he has gained interest in health informatics and health information systems, and has attended multiple lectures in the fields. He wishes to pursue work in these fields in the future. He also has continued swimming and recently had an opportunity to teach a learn to swim program at a local swimming pool, and volunteered in correcting the form of other practicing swimmers at the pool.

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## TABLE OF CONTENTS

Title Page	i
University Permission Page	ii
Acceptance Page	iii
Biographical Sketch	iv
Acknowledgment	v
Table of Contents	vi
List of Tables	viii
List of Figures	ix
ABSTRACT	11
I. INTRODUCTION	13
Statement of the Problem	15
Objectives of the Study	16
Significance of the Study	18
Scope and Limitations of the Study	19
II. REVIEW OF RELATED LITERATURE	20
Background and history of dark patterns	20
Legislation on dark patterns	26
Potential application for the Philippines	28
Comparison of dark patterns between different sources	29
Studies about dark patterns and society	35
Dark patterns and legislation	36
III. METHODOLOGY	38
The process of developing Deceptive by Design	38
Discussion of the phases of the cyclical development process	39
Application of the development process for Deceptive by Design project	41
The Survey design for Deceptive by Design	50
IV. RESULTS AND DISCUSSION	51
Results of the survey	51
Correlation of survey data	64

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS	68
Survey summary and Conclusion	68
Deceptive by Design study conclusion	70
Recommendations	71
REFERENCES	72
APPENDICES	75

## List of Tables

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)

29

## List of Figures

Figure 1. The cyclical progress that was utilized by the researcher for Deceptive by Design	39
Figure 2. The concept board for Deceptive by Design	44
Figure 3. The landing page on Framer for Deceptive by Design	44
Figure 4. The levels page on Framer for Deceptive by Design	45
Figure 5. An intro page for comparison prevention with the task of choosing one of the subscription plans on Deceptive by Design	45
Figure 6. The dark pattern page for comparison prevention on Deceptive by Design	46
Figure 7. The registration template for Deceptive by Design	46
Figure 8. The checkout template for Deceptive by Design	47
Figure 9. The Comparison Prevention breakdown page for Deceptive by Design	47
Figure 10. The Why Dark Patterns Matter page for Deceptive by Design	48
Figure 11. The behind-the-scenes page Deceptive by Design	48
Figure 12. Canva used for graphics for Deceptive by Design	49
Figure 13. Gender demographics for Deceptive by Design survey respondents	51
Figure 14. Age demographics for Deceptive by Design survey respondents	52
Figure 15. Education demographics for Deceptive by Design survey respondents	52
Figure 16. Technology demographics for Deceptive by Design survey respondents	53
Figure 17. Awareness of dark patterns before the website for Deceptive by Design survey respondents	54
Figure 18. Prior experience of dark patterns for Deceptive by Design survey respondents	54

Figure 19. Situation experiences for Deceptive by Design survey respondents	55
Figure 20. Knowledge check 1 Deceptive by Design survey respondents	56
Figure 21. Knowledge check 2 Deceptive by Design survey respondents	57
Figure 22. Knowledge check 3 Deceptive by Design survey respondents	58
Figure 23. Dark patterns familiarity Deceptive by Design survey respondents	59
Figure 24. Minimalist impact Deceptive by Design survey respondents	60
Figure 25. Need for legislation Deceptive by Design survey respondents	61
Figure 26. Need for fines Deceptive by Design survey respondents	62
Figure 27. Dark pattern recognition and avoidance confidence Deceptive by Design survey respondents	63
Figure 28. Respondents who work/study in a technology-related field awareness of the concept Dark Patterns prior to the project?	64
Figure 29. Highest level of education completed who disagreed that Knowledge Check 3 is a dark pattern	65
Figure 30 Highest level of education completed who agreed that Knowledge Check 3 is a dark pattern	66
Figure 31. Work/study in a technology-related field vs Do you believe that companies should be fined and/or penalized for using dark patterns?	67

## **Abstract**

Dark patterns are deceptive user interface and user experience techniques that affect consumers into making choices that they usually wouldn't make, and those choices benefit the corporation or developers of the service at the cost of the consumer. This concern has been on the rise in digital platforms, and studies have shown that these practices are effective in influencing consumers. As such, this has led the European Union and the Federal Trade Commission to create legislation to prevent dark patterns from affecting their citizens. At the moment, there is a lack of legislation that protects Filipinos from these deceptive tactics, aside from legislation, there is also a lack of awareness regarding dark patterns in the Philippines.

This study seeks to bring awareness to dark patterns through an interactive website that simulates, explains, and provides examples to showcase this problem, and provides an opportunity for individuals to become aware of the presence of dark patterns without being in harm's way. Furthermore, a survey was conducted in order to determine the effectiveness of the website and to see if individuals become aware of dark patterns, and whether they agree that there should be legislation in the country to protect citizens from dark patterns?

In the survey where twenty respondents participated, it was found that prior to interacting with the website, there was a significant lack of awareness of the concept of dark patterns, and yet all believed that at one point they faced a situation wherein they felt pressured by a website or program to make a choice they didn't intend to make. After interacting with the website, the majority of the respondents became aware of dark patterns and believe that there is a need for legislation and for

corporations to also be fined for the presence of dark patterns on their platforms.

Lastly, all participants of the survey said that they are now more confident in future encounters with dark patterns.

Keywords: Dark Patterns; Interactive website; User Experience; User Interface

# I. INTRODUCTION

## Rationale

Dark Patterns are relatively recent occurrences in User interface and User Experience design, this term originated in 2010 by Harry Brignull, who founded the website [darkpatterns.org](https://darkpatterns.org) (Brignull, H. 2010). He describes these practices as intentionally deceptive design elements that cause users to take actions they usually do not plan on making. Since the founding of the website, further contributors have contributed to describing these dark patterns as of 2025, there are sixteen different dark patterns (Brignull, H. 2010).

Moreover, the European Union in 2022 released a report stating that over 97% of the most popular applications used by EU consumers contain at least one dark pattern (Lupiáñez-Villanueva et al., 2022). Meanwhile, the Federal Trade Commission (FTC), alongside other groups researching the presence of dark patterns, found that in 2024, over 76% of the websites and applications had at least one dark pattern (Henderson, J. G., 2024).

In the context of dark patterns in the Philippines, there is a significant legislative gap on the focus of the presence of dark patterns in the country, though the National Privacy Commission has released an advisory describing the guidelines of dark patterns titled “GUIDELINES ON DECEPTIVE DESIGN PATTERNS” (National Privacy Commission, 2023), sadly these guidelines are not legislated into law and thus cannot enforce sanctions.

In contrast, in terms of legislation discussing dark patterns, the European Union has the Digital Services Act (DSA, 2022) and the Unfair Commercial Practices Directive (UCPD, 2005, updated in 2022) that prohibit deceptive UI elements in digital services, and the latter bans aggressive commercial practices. Both of these laws provide a clear and well-defined context of what violates this law, with violators being charged with necessary fines (Lupiáñez-Villanueva et al., 2022).

As for the United States, the FTC Act of 1914 prevents deceptive acts or practices that mislead the consumer. This act was the basis for the 2023 suit against technology corporation Amazon, deeming its practice of making subscriptions hard to cancel a dark pattern, and thus in violation of the FTC Act (Henderson, J. G. 2023, June 21).

While in the Philippines, there is no current legislation against dark patterns; instead, the law that would cover general consumer protection is RA 7394 (Consumer Act of 1992), and here, the NPC guideline may act as a tool for possible legislation in the future (National Privacy Commission 2023).

These dark patterns are not just a nuisance but have the power and opportunity to cause massive financial and psychological harm to users and consumers by intentionally deceiving and exploiting them, for the sake of profits for their corporation.

A recent case of this harmful effect of dark patterns is with Epic Games' flagship free-to-play game Fortnite, where the Federal Trade Commission concluded that

Fortnite had dark patterns present, namely in its in-game shop. This in-game shop would allow players to purchase cosmetic items within the game for real-world currency. The issue lies with the user interface, where players had an off-chance of pressing a button on their controller to purchase the item immediately without a confirmation. Moreover, Fortnite had a predominant child-to-teenage demographic audience; the platform also lacked safeguards for patterns to prevent unwanted purchases. This has caused the Federal Trade Commission to intervene and order Epic Games to pay over 72\$ million in refunds to their consumers that were affected by the dark pattern employed. Fortnite, since then, has added further safeguards for players wherein they must now hold a button on their controller for a specified time to purchase their item with a final confirmation to buy or cancel the item (Henderson, J. G.2023).

### **Statement of the Problem**

This design-based research project, called "Deceptive by Design," seeks to describe and showcase the concept of dark patterns, which are intentionally designed User interfaces and User Experiences that mislead consumers. This topic is relatively recent, with legislation already being present in other nations, but at the moment, the Philippines falls behind in terms of legislation and initiatives in tackling the issue. This project brings attention to the topic and seeks to survey respondents, asking if they believe that there is a need for legislation and sanctions.

## **Research questions**

This study further seeks to address the following questions:

1. Did the interactive project "Deceptive by Design" educate and improve users' understanding of dark patterns? With the knowledge from the project, do users feel that they are able to recognize and avoid them in future encounters?
2. Does the minimalist design interface and elements improve users ability to identify and learn about dark patterns compared to the standard, busy, and distracting elements that dark patterns are usually associated with?
3. After interacting with the Deceptive by Design website and learning about dark patterns and their impact, do individuals believe that there should be legislation in the Philippines to address the issue of dark patterns? And if so, should corporations also be fined for implementing dark patterns?

## **Objectives of the Study**

The researcher is motivated to pursue the reasons due to the following motivations:

Context to dark patterns - the rise of dark patterns has been alarming, with many completely unaware of its prevalence and impact. This project aims to educate and provide context and understanding of dark patterns in order to enlighten users of their presence and to avoid their predatory tactics.

Spark interest in UI/UX design - to elucidate the power of design, by producing a project focused on UI and UX design, it creates an opportunity for the masses to understand how simple changes and optimizations can be used positively

or negatively. This would provide an avenue for individuals who may not be familiar with UI and UX design in these topics to have an interest in this field.

Showcase the potential of interactive media as a learning tool - to provide individuals opportunity to interact with a website that simulates a complex topic, but broken down into simple, accessible, and interactive segments. It would demonstrate how technology can be used for deeper engagement and understanding. Aside from providing an opportunity to learn about dark patterns in a safe environment, there is also an opportunity to serve as a model for future education tools, for other complex topics wherein similar interactive methods may be applied. This way, aside from just being a learning tool, it may contribute to broader discussion on the role of interactive media in education, giving potential to augment how diverse topics are communicated and taught.

Aid in the research gap and potential legislation - to contribute to the research gap by discussing dark patterns in the Philippines, and to potentially aid in the legislation against dark patterns. Dark patterns continue to be understudied locally and unregulated, with only the National Privacy Commission (NPC) serving as a mere guideline. By showcasing accessible and clear examples through an interactive project, this learning aid may serve to simplify complex concepts, making them more understandable for the public and policymakers. This may hopefully contribute to future legislative efforts in tackling these deceptive practices.

## **Significance of the Study**

The findings of this study may be used to contribute to multimedia studies as a discipline and in its growing area of research by developing design-based research on the design process that focuses on deceitful user interface and user experience design.

Researchers can utilize this study as a resource for future research, interactive projects, design processes, and as a resource to provide context to dark patterns. The conclusions of this study can serve as a model for future design-based research projects and research on website creation and development in terms of delivering informational tools to its users.

Furthermore, future students may also use the resource as a reference for the process of an interactive website, focusing on simulating user experiences. Also, the material could also inspire young career seekers by presenting potential careers in the marketing space or as a future user interface and user experience designer.

Additionally, there could be an opportunity for curriculum makers and faculty members to utilize the resource to inform the development of assessments and other learning resources that help students demonstrate their knowledge about these exploitative design choices. As well as an opportunity wherein legislation can be used to include interactive multimedia experiences in ICT-related courses to allow individuals to interact with practices without being harmed. Lastly, consumers may

use the produced resource to better understand the concept of dark patterns and how it affects possible habits.

### **Scope and Limitations of the Study**

For this design-based research project to be deemed complete, the following outputs are expected to be produced:

An interactive website titled Deceptive by Design that simulates and discusses dark patterns - This website provides an opportunity to interact, to bring awareness of the presence of dark patterns, and for individuals to realize that dark patterns users may have already encountered prior to the project.

A survey on users' experience with dark patterns in general, and their experience with using the interactive website tackling dark patterns. - A survey is used to gain knowledge and data on whether users found the website to be useful in learning about dark patterns, and if they believe that there is a need to legislate the practice of dark patterns.

A research paper titled Deceptive by Design: An Interactive Website Exploring and Simulating Dark Patterns - This main research paper provides context to the background of dark patterns, through the use of an interactive website that tackles the topic of dark patterns, and the findings of the survey on whether the website was successful in teaching the topic of dark patterns.

## II. REVIEW OF RELATED LITERATURE

### Background and history of dark patterns

The term Dark Patterns originated in 2010 by Harry Brignull, who described these practices as intentionally deceptive design elements that intentionally manipulate users into decisions that would benefit the provider of the service (Brignull, H. 2010). Though a modern concept, dark patterns have their roots traced back to offline deceptive tactics such as snake oil salesmen, bait-and-switch marketing, tricky wording, abusive contracts, and pressure-focused sales in the form of time pressure or pushy sales representatives. As society has increasingly integrated technology into its daily life, these manipulative practices have also become more sophisticated and have embedded themselves into the interfaces and systems that humanity uses. (Narayanan et al. 2020).

Further expanding on the work of Brignull on dark patterns, there are now sixteen recognized types of dark patterns (Brignull, H. 2010). Beyond these, the European Data Protection Board also recognized six major categories with a total of eleven subtypes within those categories for deceptive design patterns that are present in social media interfaces (European Data Protection Board, 2023). Additionally, the European Union has released a Commission Notice showcasing a strict statement declaring that services must comply with their legislation covering dark patterns. The notice also included modernizing the previous interpretation of the European Unfair Commercial Practices, which was a list of over thirty-one unfair and Deceptive by Design: An Interactive Website Exploring, Simulating, and Discussing Dark Patterns

misleading practices that attempt to take advantage of the consumer, and was amended to apply to the digital age (European Commission, 2021). With these thirty-one practices now applicable to the digital age, these examples now share similarities with dark patterns.

To establish a clear understanding of these manipulative practices, Dr. Harry Brignull's sixteen dark patterns present a clear and concise description of each dark pattern and how they are being utilized to take advantage of individuals. Each one is showcased with a short description, which is as follows:

1. Comparison Prevention - Price comparison is purposely made difficult through confusing wording, design elements, and deceptive design.
2. Confirmshaming - Users are manipulated emotionally through graphics or wording to commit to decisions they are unlikely to make.
3. Disguised ads - Advertisements that are deceptively styled to blend into websites, making them appear part of the original website
4. Fake scarcity - Products are labeled to be low in stock, pressuring users to make rash purchases.
5. Fake social proof - Products are labeled with unproven claims or fake reviews to appear credible.

6. Fake urgency - Fake time pressure is applied to the user to pressure them into completing a decision.
7. Forced action - For actions to be performed, another accompanying action must also be completed.
8. Hard to cancel - Services that are easy to subscribe to but purposely difficult to cancel.
9. Hidden Costs - Products or services that are advertised with a low price, but at checkout do not match the advertised price.
10. Hidden Subscriptions - Users are enrolled in a service without being them of a recurring payment.
11. Nagging - Users are repeatedly interrupted to perform another action.
12. Obstruction - Barriers are placed to make certain tasks difficult to complete.
13. Preselection - Default options are pre-selected to influence decision-making.
14. Sneaking - Hidden or unclear stipulations are included to mislead the user.
15. Trick wording - Misleading wording is used to trick the user.

16. Visual interference - Information is purposely obscured and made confusing to trick the user.

Meanwhile, the European Data Protection Board's Guidelines on deceptive design patterns, as mentioned, have six major categories with a total of eleven subtypes that are summarized into the following:

1. Overloading - Users are presented with an overwhelming amount of options and information in an attempt to allow more access to their data or an attempt to lead users to certain decisions or options.

- Continuous prompting - Users are prompted at multiple different points during the service in an attempt to convince users to eventually give in to concentrating on the prompt.

○

- Privacy Maze - Information about data collection becomes difficult to navigate for the purpose of obfuscation, convincing users to give up looking through these pages.

○

- Too Many Options - Users are presented with an overwhelming amount of choices in order to look over details or give up committing to certain actions.

2. Skipping - The interface or the process flow of the service is created in a way that tends to overlook their actions or the protection of their data.

- Deceptive Snugness - Certain options or decisions are pre-checked in order to nudge the user to commit to these pre-chosen decisions.
    -
  - Look over there - Certain options and design elements are highlighted in order to convince the users to interact with these elements or to forget another possible option to interact with.
3. Stirring - Users are manipulated through design elements that appeal to emotions or visual nudges.
- Emotional Steering - Design elements such as text or graphics are used in order to attempt to make the user feel an emotion that would be beneficial to the system.
  - Hidden in plain sight - Visual design elements are used to nudge the user towards certain decisions.
4. Obstructing - Intentionally slowing down or preventing users from interacting with the service by making actions hard to complete or impossible to accomplish.
- Dead end - Certain links or services are unavailable, thus completely denying actions or options.

- Longer than necessary - The process of interaction with the service is purposely padded with unnecessary steps in order to discourage reaching certain points of the service.
  - Misleading action - Actions that are left to be misleading are meant to nudge users to certain actions or decisions.
5. Fickle - The interface is inconsistent, leading to difficult points of interaction, which can lead to poor decision-making and quality of interaction.
- Lacking hierarchy - Information lacks hierarchy, thus presenting information repeatedly confuses the user about their data, information, and processes that are being done.
  - Decontextualising - Information is located on a page that is out of context, making it difficult to find specific topics.
  - Inconsistent Interface - The interface is not consistent with different points of interaction, leading to misinputs or confusing decisions.
  - Language Discontinuity - Information is not available in the proper languages, making it difficult to interact with.
6. Left in the Dark - The interface is designed in a way to obfuscate or make data, information, or specific actions hidden

- Conflicting Information - Information given at different points of the service conflicted with one another, leaving users with a sense of confusion. This may lead users to choose the default option and not move from the general path of service.
- Ambiguous wording or information - Ambiguous wording and information are presented to the user, leaving them unsure of the service and processes.

### **Legislation on dark patterns**

The European Union's Commission Notice titled "Guidance on the interpretation and application of Directive 2005/29/EC of the European Parliament and of the Council concerning unfair business-to-consumer commercial practices in the internal market", also known as the UCPD, is the guidelines and supporting interpretation of how modern-day practices, such as user interface design and user experience design can be used. The UCPD is used to protect all European citizens before service in the form of advertising, during service such as sales and interaction, and after sales such as subscriptions and maintenance. The following are key points included in the UCPD:

1. The Unfair Commercial Practices Directive (UCPD) applies to businesses in consumer service and practices before, during, and after transactions concerning a service or product.
2. This notice prohibits any deceptive, unfair, or aggressive practices that are anti-consumer, regardless of intent. The authorities are not required to prove

intent; instead, they are required to prove the presence of these anti-consumer practices

3. Traders are required to uphold “professional diligence” and must be aligned with ethical standards and in good faith, and avoid consumer exploitation.
4. The Unfair Commercial Practices Directive (UCPD) is not a law; instead, it is a Commission Notice that is used to modernize and support the “The European Union’s 2005 Directive on Unfair Commercial Practices,” which is the law used to protect consumers and to punish those who break this law.
5. Though the UCPD does not explicitly use the word “dark patterns”, the UCPD effectively prevents manipulative UI and UX elements, alongside the thirty-one unfair and misleading practices which were originally present in the “The European Union’s 2005 Directive on Unfair Commercial Practices,” must also not be present.
  - A. The thirty-one unfair practices in the 2005 Directive consisted of traditional consumer protections, such as products and services must have valid claims, clear descriptive labels, clear wording, and without deceptive practices.
  - B. The UCPD references the 2005 Directive to use as an example, but modernises these practices on how these 31 commercial practices are possibly being applied in the digital services such as websites, mobile applications, and online platforms.

## **Potential application for the Philippines**

As mentioned, the European Union has taken great steps in terms of protecting its consumers against the presence of dark patterns. In a scenario where the Philippines is to follow the same blueprints as the European Union, there are certain challenges that the Philippines may face, which are the following:

**Outdated legislation** - First, in order to protect consumers from dark patterns, the government must first define and describe the concept of dark patterns, which would also require amending and updating legislation, which may take time and resources to progress.

**Cooperation between the government sector** - As stated in the UCPD guidelines, the member nations of the European Union must enforce the ban on dark patterns within their own country, with each country deciding within its government on which of its agencies must tackle the task. In the Philippines, there is no single government agency that currently tackles digital consumer protection. Instead, locally, an inter-agency cooperation would be needed with the Department of Trade and Industry, alongside the National Privacy Commission would ideally be key leaders in leading the change for consumer protection against dark patterns. Other departments may also be involved, such as the Department of Information and

Communications Technology and the Securities and Exchange Commissions, acting as support when tackling specific dark patterns.

**Budget Concerns** - Furthermore, there would also be a need for additional budget and training to ensure that these agencies become familiar and ready to analyse the presence of dark patterns and eventually be strict and precise when drafting legislation to proactively prevent the further use of dark patterns.

### Comparison of dark patterns between different sources

To better highlight and understand how these modern deceptive techniques work, the following table features the similarities between Brignull and his associates with legislation and frameworks from key regulating bodies in the European Union Unfair Commercial Practices Directive, and the European Protection Board’s Guidelines. This table reveals that there are indeed similarities, and overlaps further cement the role of dark patterns.

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)			
Brignull’s Dark Pattern	EU Commission UCPD based on the 2005 Directive	EDPB’s Dark Pattern	Summary of Dark Pattern
Comparison Prevention		<ul style="list-style-type: none"> <li>- Too many options</li> <li>- Privacy maze</li> </ul>	Price comparison is purposely made difficult through confusing wording, design elements, and deceptive design.
Confirm shaming		<ul style="list-style-type: none"> <li>- Emotional steering</li> </ul>	Users are manipulated emotionally to commit to decisions they are unlikely to make.

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)

Disguised ads	Using editorial content in the media to promote a product where a trader has paid for the promotion without making that clear in the content or by images or sounds clearly identifiable by the consumer	<ul style="list-style-type: none"> <li>- Hidden in plain sight</li> <li>- Misleading action</li> <li>- Look over there</li> </ul>	Advertisements that are deceptively styled to blend into websites, making them appear part of the original website.
Fake scarcity	<p>Making an invitation to purchase products at a specified price but not stocking at that price</p> <p>Falsely stating the limited availability of a product</p>	<ul style="list-style-type: none"> <li>- Emotional steering</li> </ul>	Products are labeled to be low in stock, pressuring users to make rash purchases.
Fake social proof	<p>Claiming to be a signatory to a code of conduct when you're not.</p> <p>Displaying a trust mark, quality mark or equivalent without having obtained the necessary authorisation.</p> <p>Claiming that a code of conduct has an endorsement from a public or other body which it</p>	<ul style="list-style-type: none"> <li>- Emotional steering</li> </ul>	Products are labeled with unproven claims or fake reviews to appear credible.

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)

	<p>does not have.</p> <p>Claiming that a trader or a product has been approved while it doesn't have approval</p> <p>Falsely claiming that a product is able to cure illnesses, dysfunction or malformations.</p>		
Fake urgency	Falsely stating the limited availability of a product due to a sale	- Emotional steering	Fake time pressure is applied on the user to pressure them into completing a decision
Forced action		-Continuous Prompting - Longer Than Necessary	For actions to be performed, another accompanying action must also be completed
Hard to cancel	Creating the impression that the consumer cannot leave the premises until a contract is formed.	- Longer Than Necessary -Dead end	Services that are easy to subscribe to but purposely difficult to cancel
Hidden Costs	<p>After sales are unavailable due to misleading contracts</p> <p>Describing a product as free but</p>	- Too many options	Products or services that are advertised with a low price, but at checkout do not match the advertised price.

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)

	the consumer must pay for another product first or at delivery		
Hidden Subscriptions		- Misleading action	Users are enrolled in a service without being a recurring payment.
Nagging	<p>Advertising a product's availability only to convince them to buy another product</p> <p>Making persistent and unwanted solicitations by telephone, fax, e-mail or other remote media.</p> <p>Conducting personal visits to the consumer's home ignoring the consumer's request to leave or not to return.</p>	<ul style="list-style-type: none"> <li>- Dead end</li> <li>- Longer than necessary</li> <li>- Misleading action</li> <li>- Continuous prompting</li> </ul>	Users are repeatedly interrupted to perform another action.
Obstruction		<ul style="list-style-type: none"> <li>-Dead end</li> <li>-Longer than necessary</li> <li>-Misleading action</li> </ul>	Barriers are placed to make certain tasks difficult to complete.
Pre-selection		-Deceptive Snugness	Default options are pre-selected to influence decision-making.
Sneaking	After sales are unavailable due to	-Misleading action	Hidden or unclear stipulations are

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)			
	misleading contracts		included to mislead the user.
Trick wording		- Ambiguous wording or information	Misleading wording is used to trick the user.
Visual interference	Including in marketing material an invoice or similar document seeking payment which gives the consumer the impression that he has already ordered the marketed product when he has not.	- Hidden in plain sight - Inconsistent Interface	Information is purposely obscured and made confusing to trick the user.

Table 1: Similarities Between Dark Patterns (Brignull, H. 2010), (EDPB 2023), and (EU Commission, 2021)

### Comparison of these definitions

In summary, these three frameworks above provide attention and context to the concept of dark patterns, though they may have similarities in their coverage and approach, they do have differences from one another.

Brignull's approach is less formal and focuses on showcasing and providing examples of common and frequent dark patterns that are featured on websites and applications, creating an accessible and understandable definition of dark patterns. But Brignull's definition and scope for dark patterns does not hold any legal power in

sanctioning or regulating the presence of these user interface and user experience elements. Despite this shortcoming, Brignull's approach is most accessible and simple, thus making it ideal for introducing dark patterns as a concept to the masses.

The Unfair Commercial Practices Directive (UCPD) approach is a commission notice that is created to support Directive 2005/29/EC of the European Parliament and of the Council, which is a directive to ban 31 anti-consumer practices in traditional means. The UCPD acts as a way to update and apply these 2005 sanctions to the modern-day internet, now also protecting users in digital spaces. The UCPD does not name dark patterns directly; instead, it provides scenarios wherein user interface and user experience design scenarios are banned to protect consumers. The directive is broad in its approach and covers the majority of the concepts of dark patterns, but is presented in a complex manner, making accessibility and ease of understanding a challenge.

Lastly, the European Data Protection Board's Guidelines is a technical and well-defined definition of the European Union definition of dark patterns; these guidelines provide a narrow focus on specific dark patterns on how they are applied and what fines and sanctions are related to them. Unlike Brignull's and the UCPD, which are not enforceable or act as supporting materials, the UCPD is enforceable and can fine and sanction groups and individuals for the presence of dark patterns.

## **Studies about dark patterns and society**

As society becomes increasingly integrated with technology, there are now greater opportunities for dark patterns to continue to persist, unless changes are made to protect the general public from their possible harmful effects.

A comprehensive study done in 2019 by Arunesh Mathur and his constituents examined fifty-three thousand product pages from over eleven thousand shopping websites and discovered one thousand eight hundred instances of dark patterns, and they recommended that legislators study and analyze these anti-consumer practices (Mathur et al, 2019). Notably the study done by Mathur discussing the prevalence of dark patterns was conducted before the legislation was passed by the European Union. The legislation strictly regulates the presence of dark patterns by providing clear guidelines that web designers and design experts are meant to follow. Aside from those guidelines, a crucial point was stated by the European Union, wherein a corporation's intent is irrelevant, and that the mere presence of a single dark pattern can lead to penalties and require changes to remove the dark pattern.

Despite there being regulations, campaigns, and studies focused on the topic of dark patterns, they persist because these practices still work on individuals since they are psychologically effective. These practices are rooted in behavioral economics and human psychology. As mentioned by Narayanan and his associates, these dark patterns originated in non-digital practices, such as in-store sales, scams, and other deceptive practices, but have now been adapted into digital spaces.

(Narayanan et al. 2020). These practices attempt to tap into heuristics biases. These are human biases in which decisions are made without full consideration or rationalization, which are based on snap judgment. An example, such as flash sales, takes advantage of this by convincing individuals to spend quickly while the opportunity of the sale is present, using the added time pressure to nudge individuals to create these snap judgments.

A study done by Luguri and Strahilevitz found that when dark patterns were applied even at just mild levels, it would double user enrolment into unwanted services, and when these dark patterns were at an aggressive level, the amount of sign-ups was quadrupled. Furthermore, they found that individuals who were more educated were less likely to be manipulated by these dark patterns compared to their non educated counterparts (Luguri and Strahilevitz, 2019).

### **Dark patterns and legislation**

Now, an important topic of discussion is what governments are doing to properly regulate this concern. As mentioned throughout the paper, these dark patterns have a significant impact on individuals' decision-making, and corporations are well aware of the power these practices have. With such disruptive technology and rapidly advancing practices, these dark patterns will continue to become entrenched in digital spaces. In response to these practices, there have been legislations throughout different countries that aim to restrict and sanction corporations that use these dark patterns. The most notable coalition would be the European Union, which released legislation that has clearly defined dark patterns

and has placed fines for those who have included dark patterns in their websites (European Commission, 2021).

In the United States, they do not have an explicit law that defines dark patterns, but they have key legislation such as the Federal Trade Commission Act, which is an agency of the government that is tasked with engaging with companies that use deceitful practices against consumers with one of the core parts of the FTC act being “unfair or deceptive acts or practices in or affecting commerce.” This section of the act allows the FTC to act and serve in the protection of the consumer (Federal Trade Commission, 1914). Notably, in recent years, the Federal Trade Commission has successfully filed and settled with video game developer and publisher Epic Games in a case wherein dark patterns were present in a video game that predominantly targeted children (Henderson, J. G.2023).

While the European Union and the United States have taken steps to regulate and mitigate dark patterns, either through using commissions and departments to handle dark patterns, or strict enforcement and monitoring of websites for the presence of dark patterns. In South East Asia and with ASEAN nations, there is still a severe lack of legislation that tackles dark patterns. At the moment, there are only advisories placed by each government, but no written legislation that directly attempts to combat this practice is in existence.

In the Philippines, the National Privacy Commission (NPC) provides a guideline on deceptive design patterns that attempts to bring context to parts of dark

patterns, but since it is only an advisory and not a bill, it cannot be used to regulate the presence or use of dark patterns (National Privacy Commission 2023).

In Indonesia, the existing laws, such as the Consumer Protection Act, Data Protection Act, IT & Electronic Transactions Act, are in place to protect consumer data, aid in providing transparency, and regulate misleading information on the internet. This does not outright address dark patterns but indirectly covers some, but not all, of the dark patterns. Hayat A.N of the Asian Journal of Law and Society found that these legislations are indeed useful but are lacking in tackling dark patterns and recommends that regulating design interfaces that target users' autonomy and behavior would greatly aid this (Hayat A.N 2024). As of the moment, there is a severe lack of legislation or supporting advisories in other South East Asia countries.

### **III. METHODOLOGY**

#### **The process of developing Deceptive by Design**

For the development process of the design-based research project titled Deceptive by Design: An Interactive Website Exploring and Simulating Dark Patterns, the researcher created and applied a cyclical process throughout the project, as depicted in Figure 1.

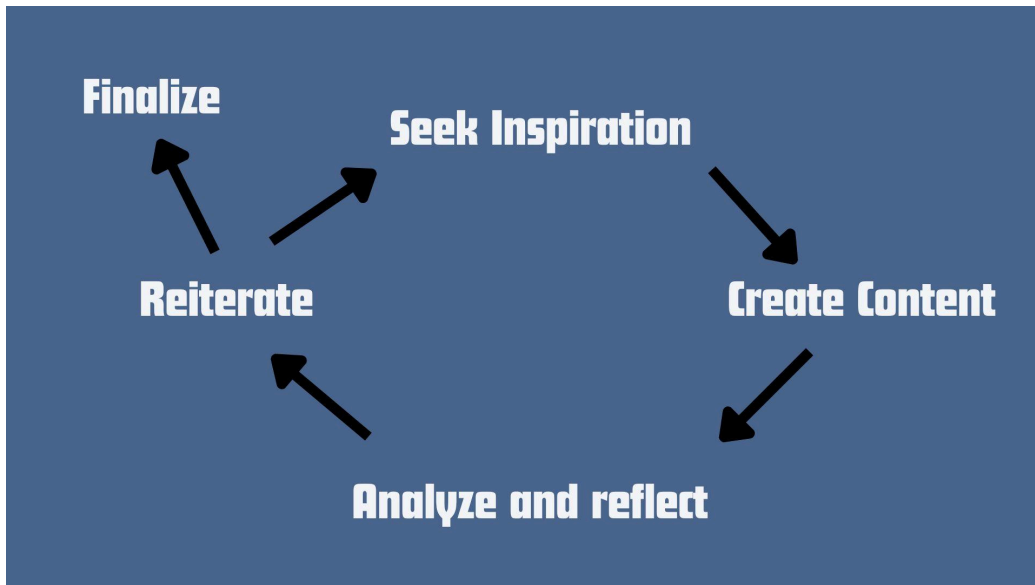


Figure 1. The cyclical progress that was utilized by the researcher for Deceptive by Design

Deceptive by design is hosted using Framer and can be accessed using the following link on PC web browsers: <https://deceptivebydesign.framer.website/>

### Discussion of the phases of the cyclical development process

1. **Seek Inspiration** - During this phase, the researchers read online articles, research papers, and watched videos about dark patterns. This was used to gather design materials and develop ideas that could be used for the project. The content of the articles, papers, and videos generally addresses dark patterns as a subject, with the content being either reporting about the legislation or the utilization of dark patterns. During this phase, the researchers also took notes on topics that were found interesting. During this phase, the researcher also found certain videos that were deemed to be educational while being entertaining. These videos were then curated

and will be featured on Deceptive by Design as part of the behind-the-scenes feature to showcase where the interest in dark patterns by the researcher came from.

For these videos to be deemed worthy of inclusion, they would have to fit the following criteria:

- a. The video does not contain inappropriate language
  - b. The video does not contain inappropriate video elements
  - c. The video is well-referenced and supported with facts and evidence
  - d. The video was well-produced and was transformative
  - e. And the video was deemed by the researcher to be entertaining
2. **Create Content** - During this phase, the researcher created content for the project. These were the following: the color palettes, a concept board, the website design, the website elements, articles for the website, and media for the website.
3. **Analyze and reflect** - After a portion of the project was created, the researcher critically evaluated the created content. The researcher then took notes of parts that could be redesigned or completely remade, adjusting to what was deemed to suit the project the most based on the ideals of Deceptive by Design, being a website that wishes to inform and educate the masses about dark patterns.

4. **Reiterate** - For the elements that the researcher deemed to be suitable, it was added to the final design. The researcher then repeated the process until a final piece of content was created and deemed suitable.
  
5. **Finalize** - Content pieces that make it to this phase are final will be utilized for the project.

### **Application of the development process for Deceptive by Design project**

1. **Seek Inspiration** - The first phase of the development of Deceptive by Design was seeking and surveying interesting topics that are either directly or tangentially related to dark patterns. These inspiration points became key targets for the goal of Deceptive by Design, which was to create an interactive project that is both informative while being entertaining and is able to spark interest in the topic of dark patterns. The following are video inspiration pieces for the Deceptive by Design paper:

Bandon “Atrioc” Ewing is a former Global Consumer Marketing Manager for Fortune 500 company Nvidia who is now a full-time content creator who focuses on gaming, global politics, economics, and marketing. A recurring segment on his broadcast is titled Marketing Monday, tackles global politics and marketing, and is presented as an accessible presentation filled with pop culture references, recent articles, supporting videos, and occasionally interviews with correspondents related to a particular field. On Sep 29, 2021, Ewing released a Marketing Monday video titled “How Gacha Games Trick Players Into Spending Thousands,” which showcased different marketing and game development tactics done within the video game industry

to greatly raise revenue at the cost of consumer trust, though Ewing did not directly mention dark patterns some of these practices that were showcased in his presentation are similar to dark patterns.

Moreover, Extra Credits, a YouTube channel dedicated to game design and video game-focused topics, released a video titled “Don't be a Victim of Dark Patterns! - Game Design - Extra Credits”, presented by Kroll M. The video showcased common dark patterns, namely hard-to-cancel subscriptions, guilt-shaming users, and bait-and-switch practices. The video concluded with some actions that game designers can take to prevent crossing the line of game experience into a feature becoming a dark pattern, noting that this line is hard to judge, but a step in the right direction is to ensure that features are made in the best interest of the player.

Lastly, a TEDx Sydney presentation by Sally Woellner titled Dark Patterns: How design seeks to control us | Sally Woellner, in the video, Woellner explained the concept of dark patterns and how design has changed to become addictive and is meant to capture the attention of individuals. Furthermore, Woellner showcased different dark patterns in which colors, the presentation of information, and wording are used to obtain more than necessary information about users, which can be used by data brokers and companies to target individuals.

These videos became key inspiration points examined by the researcher to create the foundational ideas for Deceptive by Design.

Additionally, the researcher reviewed papers and studies done by the authors mentioned in the review of the related literature section of this paper.

2. **Create Content** - For the process of selecting design elements and style choices, the following were selected:
  - I. **Website design** - Due to the nature of dark patterns to be confusing on purpose, with multiple design elements and distracting colors to obfuscate or nudge users in certain ways, Deceptive by Design, in contrast, will instead have a minimalist design to remove distracting elements and to highlight the presence of dark patterns, in essence by subtracting distracting elements the presence of dark patterns is further showcased.
  - II. **Color palettes** - To align the project colors with minimalist concepts, the palette will be simplified and will consist of black, white, gray, and occasionally green and red, which are used to highlight buttons.
  - III. **Concept board** - The concept board for the website was created on Figma and was used to plan the content of the Deceptive by Design website.

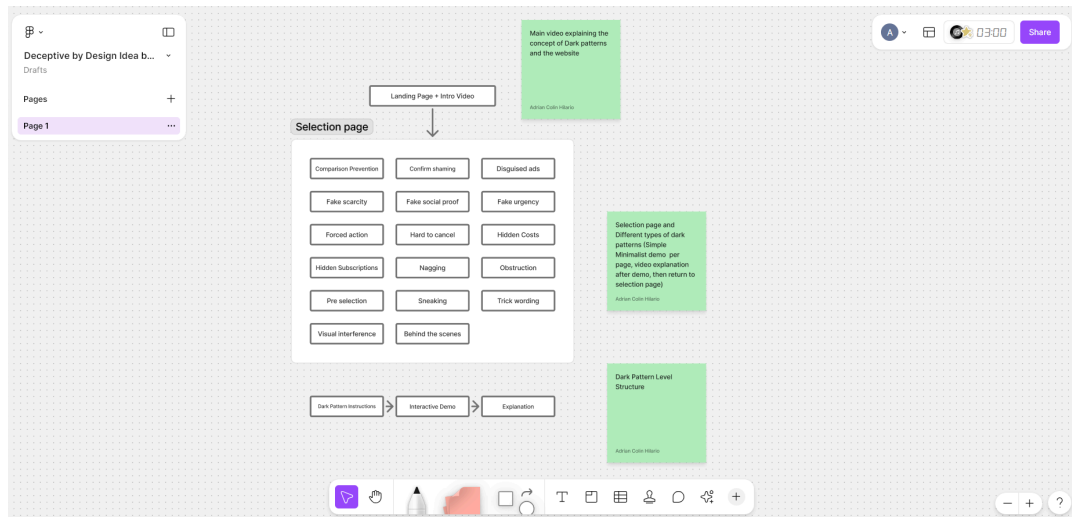


Figure 2. The concept board for Deceptive by Design

IV. **Website creation and Hosting** - For the website creation and hosting, Framer was used due to the ease of use with available drag and drop tools and free hosting. The website can be accessed using the following link on a PC web browser: <https://deceptivebydesign.framer.website/>

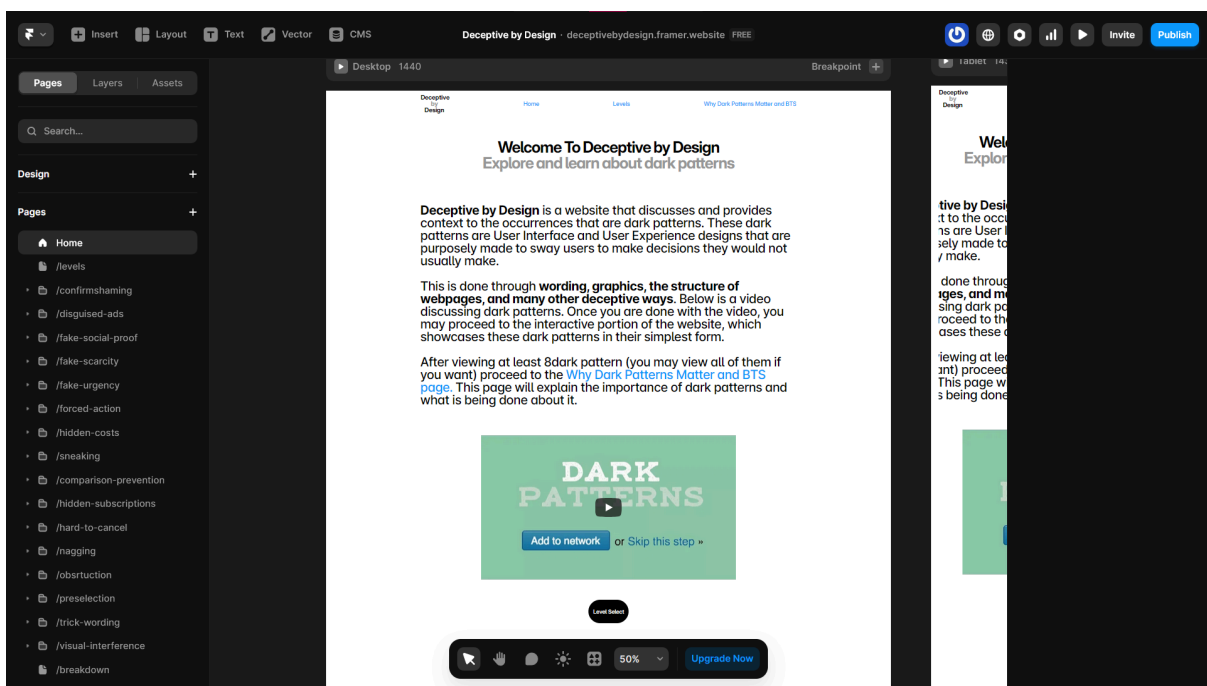


Figure 3. The landing page on Framer for Deceptive by Design

Deceptive by Design: An Interactive Website Exploring, Simulating, and Discussing Dark Patterns

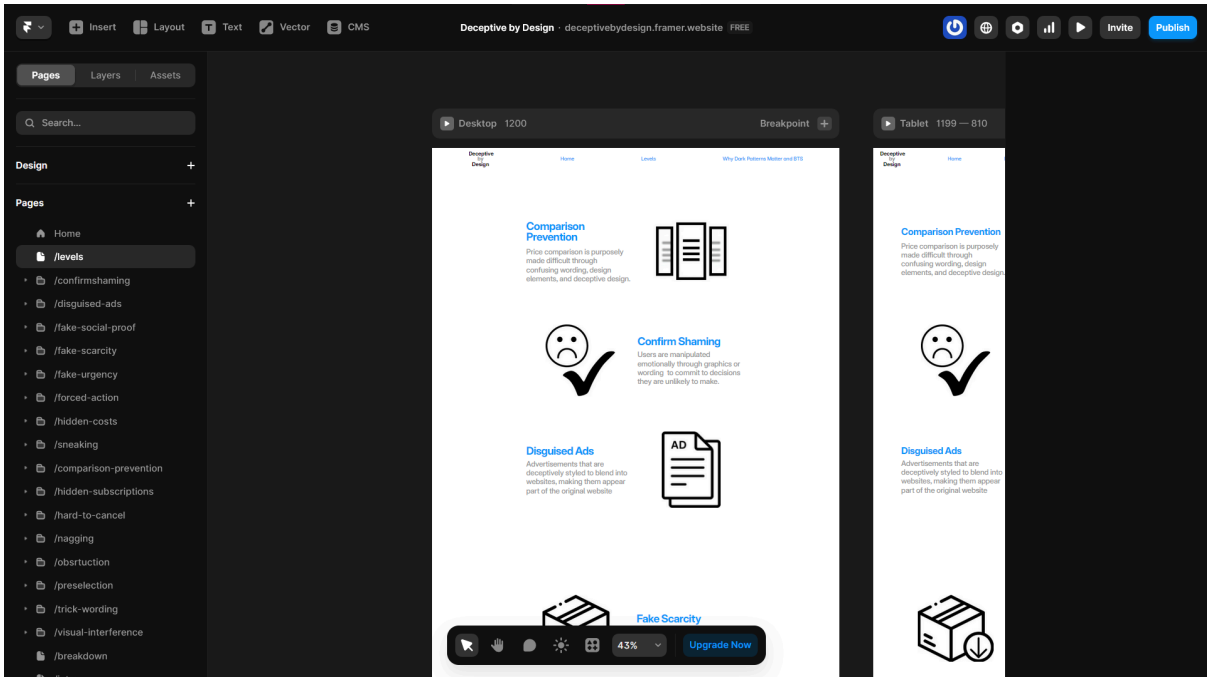


Figure 4. The levels page on Framer for Deceptive by Design

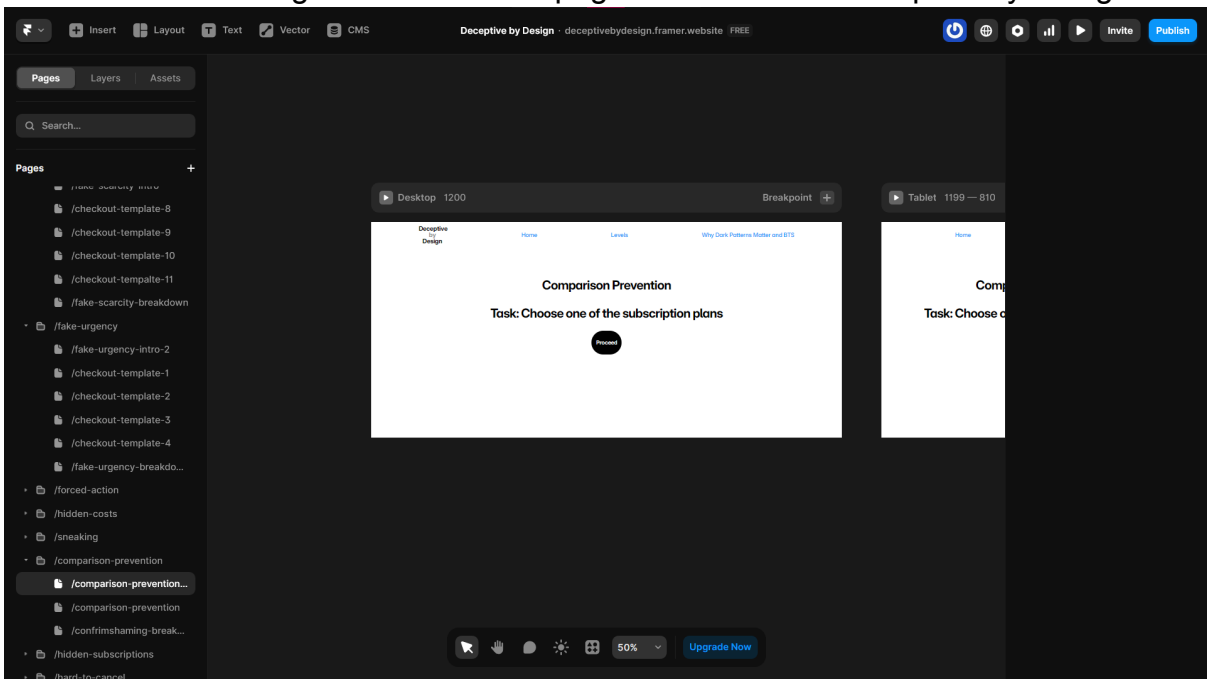


Figure 5. An intro page for comparison prevention with the task of Choose one of the subscription plans on Deceptive by Design

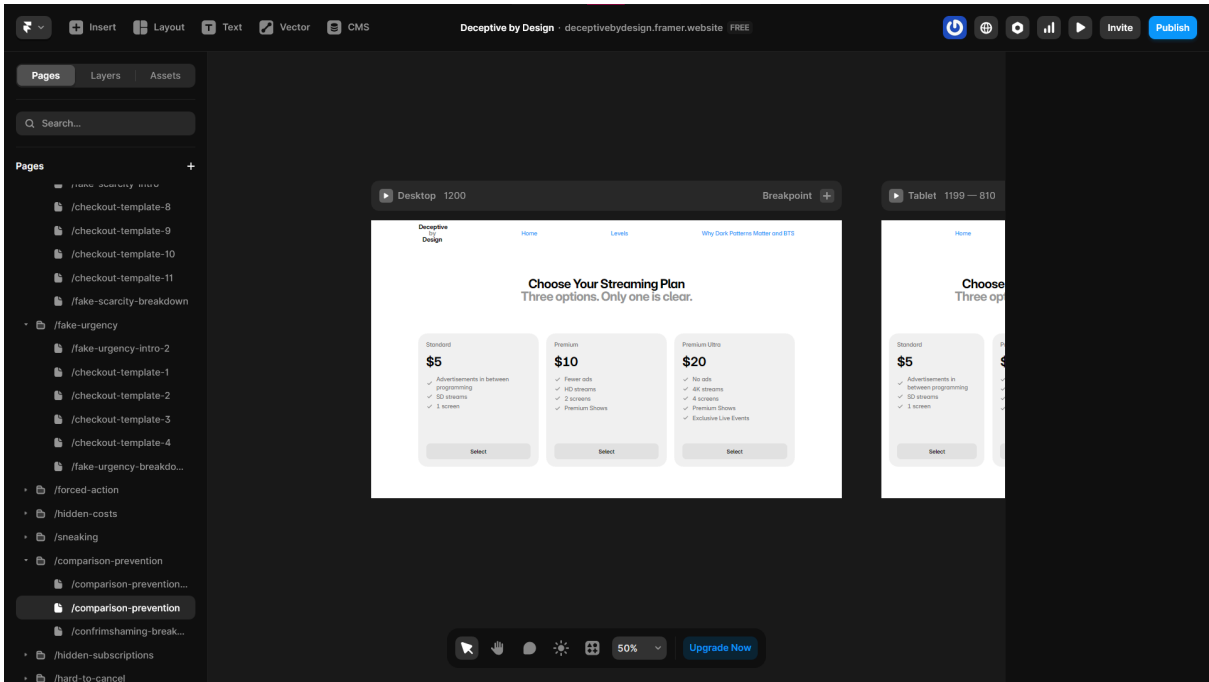


Figure 6. The dark pattern page for comparison prevention on Deceptive by Design

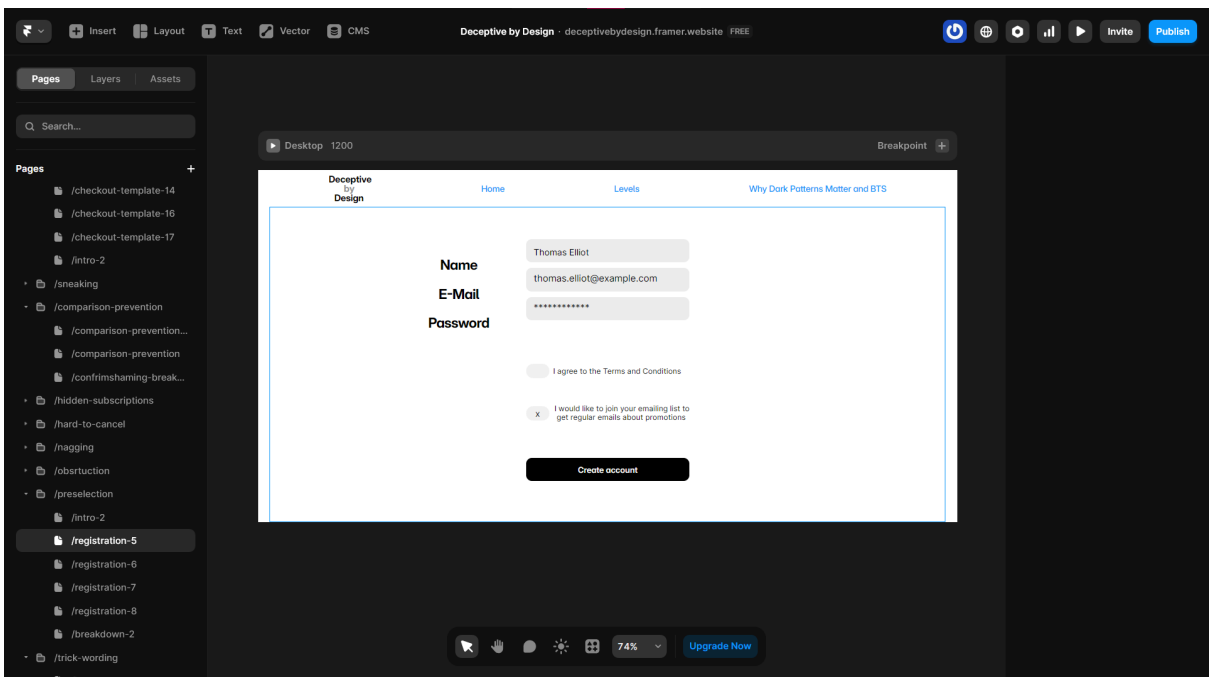


Figure 7. The registration template for Deceptive by Design

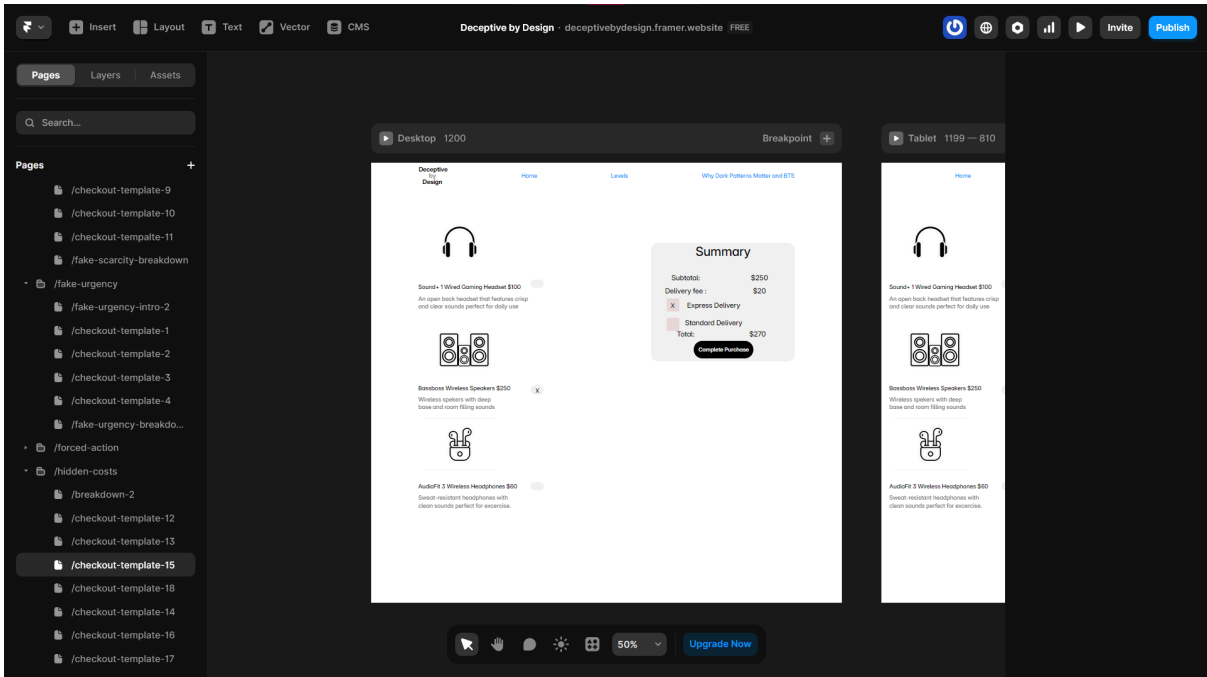


Figure 8 The checkout template for Deceptive by Design

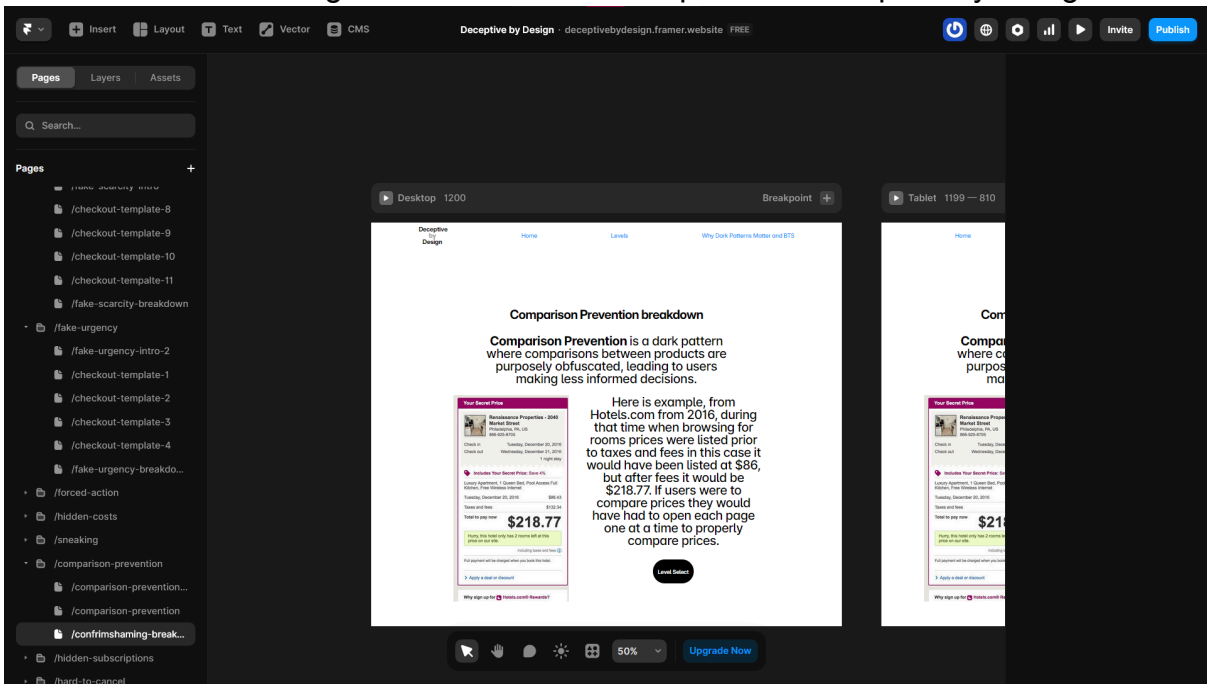


Figure 9. The Comparison Prevention breakdown page for Deceptive by Design

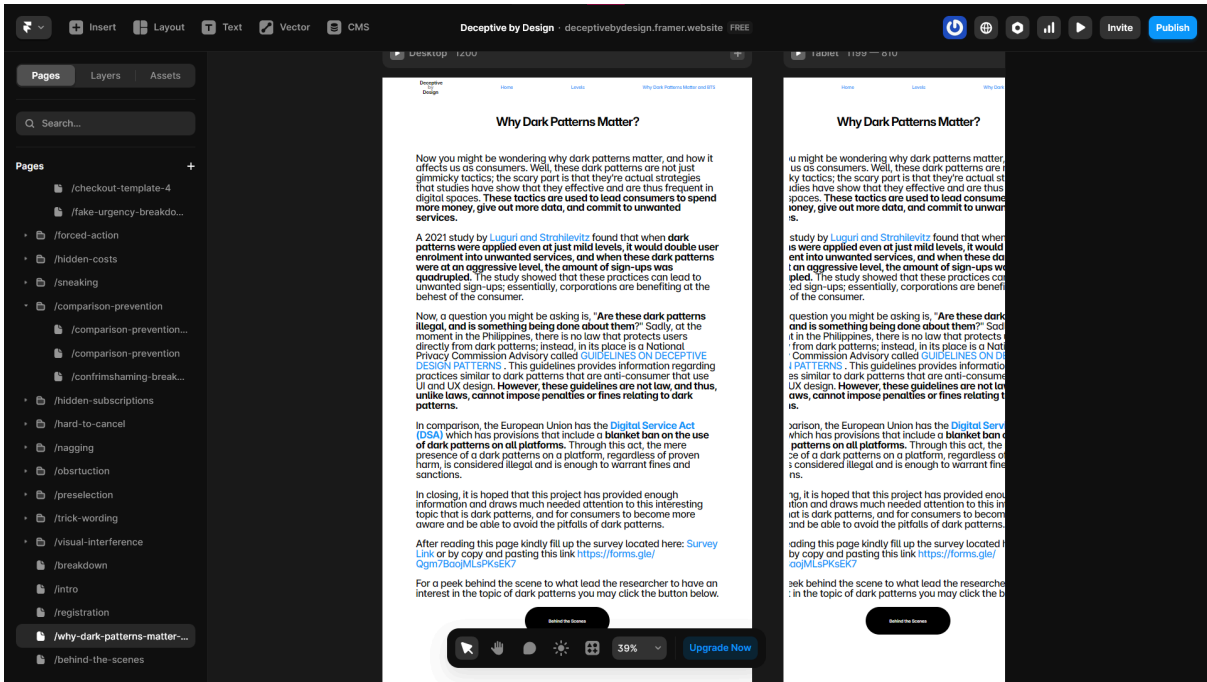


Figure 10. The why dark patterns matter page for Deceptive by Design

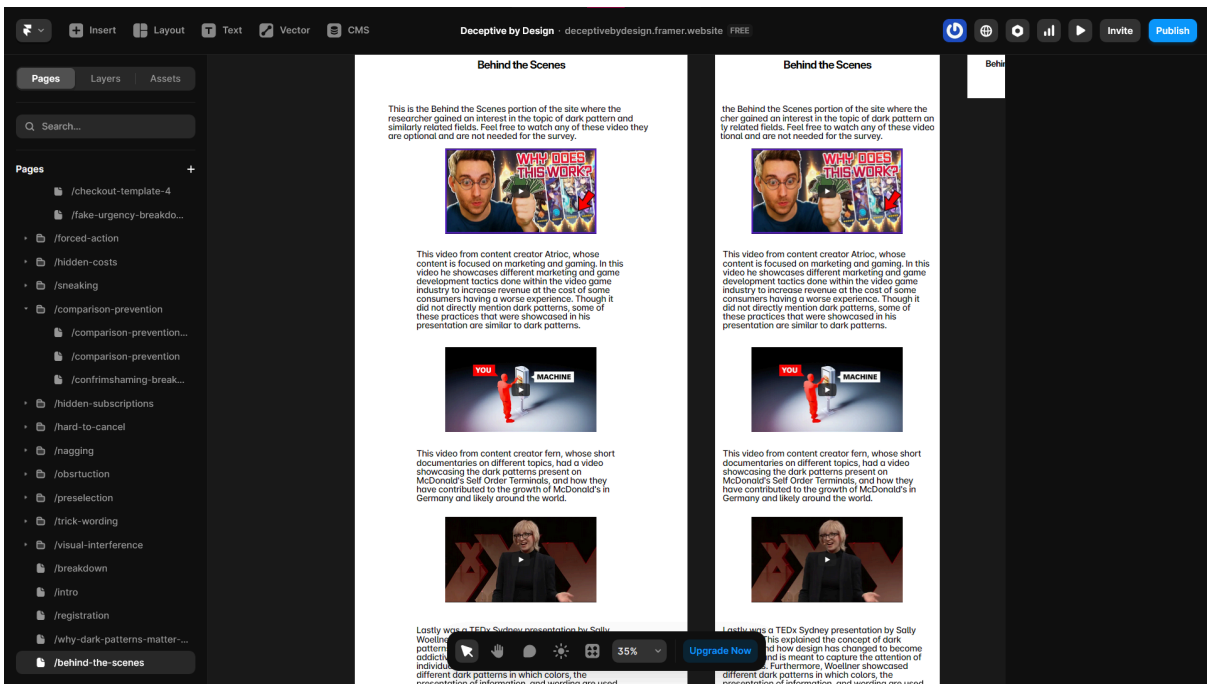


Figure 11. The behind-the-scenes page Deceptive by Design

V. **Website elements** - For the graphical elements of Deceptive by Design Canva was used because of the vast amount of available graphics.

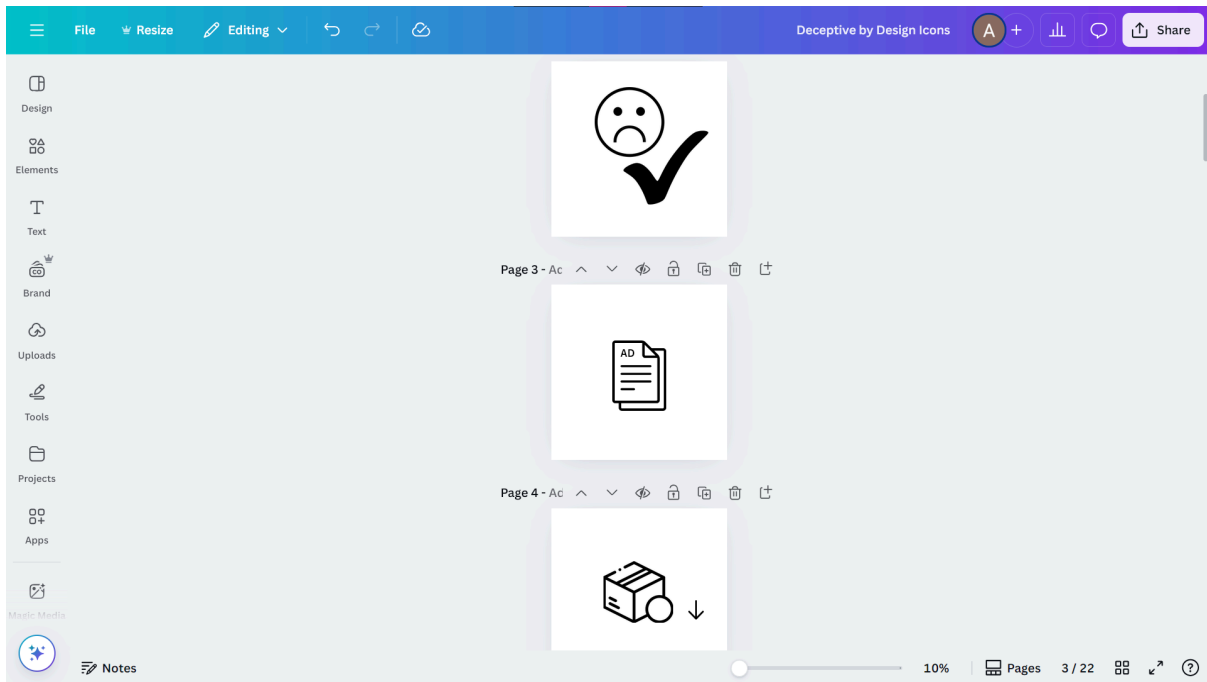


Figure 12. Canva used for graphics for Deceptive by Design

VI. **Articles for the website** - The content of the website was based on examples of common places where dark patterns took place, such as registration pages, checkout pages, and pages that made users compare prices and features. After each simulation, an explanation was provided with a follow-up example from a real-world scenario where a dark pattern took place. These real-world examples are scenarios where dark patterns occurred and have been changed due to public pushback and legislation.

VII. **Media for the website** - The media that were featured for the behind-the-scenes portion of the website were the same content pieces that the researcher showcased in the seek inspiration portion of the paper; these provided additional content for users to see the effects and impacts of dark patterns.

3. **Analyze and reflect** - During the first initial draft of the website, the additional real-world examples were not included. Upon an initial run through, the researcher believed that more context and an additional example would greatly aid users to learn about dark patterns. Furthermore the addition of colored buttons for certain dark patterns made it more realistic in simulating specific dark patterns, namely for the obstruction and hard to cancel dark patterns wherein color was used to nudge the users to fall for the dark pattern. behind-the-scenes portion of the website were the same content pieces that the researcher showcased in the seek inspiration portion of the paper; these provided additional content for users to see the effects and impacts of dark patterns.
4. **Reiterate** - Upon this change, the final version of Deceptive was created.
5. **Finalize** - The researcher then ran through all pages to ensure that all pages were functional and were ready to be deployed alongside the survey.

### **The Survey design for Deceptive by Design**

In order to understand the effectiveness of the website, a survey was conducted to see how individuals reacted to the project. The project is a design-based research with a quantitative survey to be conducted through Google Forms and targeted at individuals who use the internet and who may have encountered dark patterns. The objective of the survey was to determine the effectiveness of the Deceptive by Design website in introducing the concept of dark patterns, and if the website imparts confidence after the interaction, and whether they believe after learning about dark patterns if legislation is needed against dark patterns.

For the purpose of proper ethics and data privacy of respondents, the researcher ensured that in the introduction portion of the survey, the respondents were informed of the purpose of the study, which is an MMS 200 thesis project, that would discuss dark patterns through an interactive website. The respondents were

Deceptive by Design: An Interactive Website Exploring, Simulating, and Discussing Dark Patterns

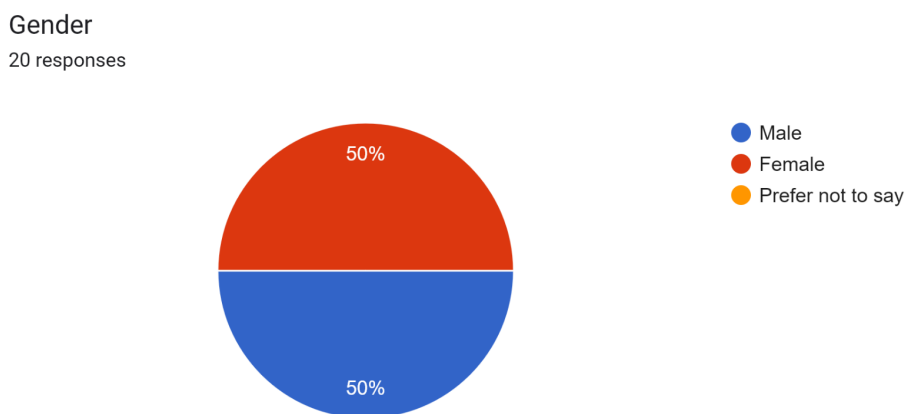
also informed that certain personal information would be gathered, and it was also clearly stated that all responses would remain anonymous and would only be used for academic purposes.

The survey asks for respondents' basic information, if they work in a technology-related field, this was to see if individuals who work in the industry are any more familiar or aware of dark patterns, if they had have previously encountered dark patterns while in the online space, which dark patterns they may have encountered before, if they found the website and its materials to be useful, and if they believe that corporations should have fines for the presence of dark patterns, and if legislation is needed to stop dark patterns, and an optional question wherein the respondents were asked for the most memorable part of the website.

The survey required the respondents to use the Deceptive by Design website, and to interact and learn about at least 8 dark patterns on the website, and then to proceed to the Why Dark Patterns Matter page in order to learn about the effectiveness of dark patterns and the lack of legislation in the Philippines.

The full survey questions can be loacated in the appendicies portion of the paper.

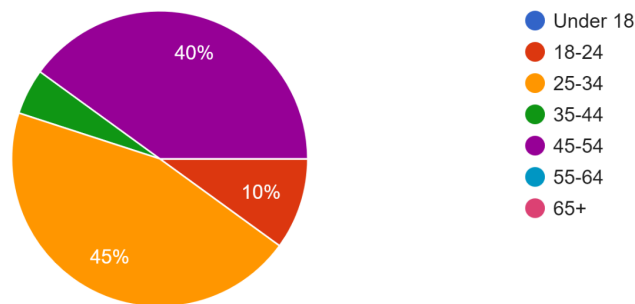
#### IV. RESULTS AND DISCUSSION



**Figure 13. Gender demographics for Deceptive by Design survey respondents**

The survey had an equal distribution of gender participation by having 10 female respondents and 10 male respondents.

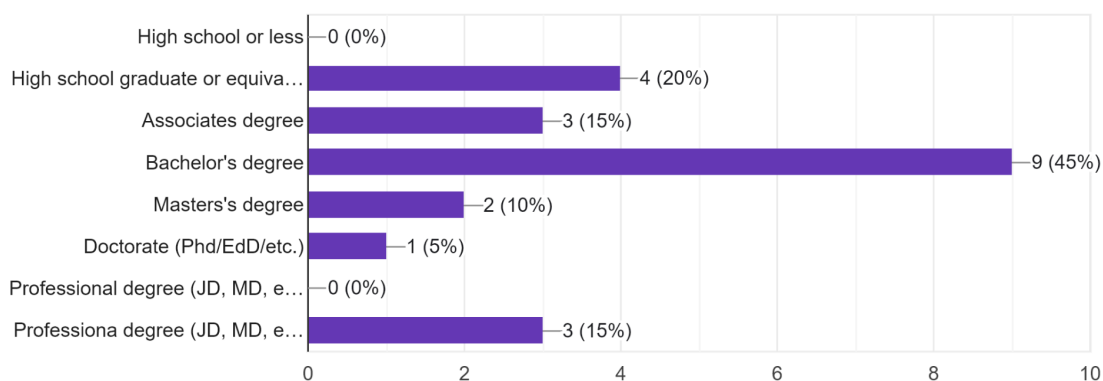
Age  
20 responses



**Figure 14. Age demographics for Deceptive by Design survey respondents**

The survey received two responses from the 18-24 age range, a majority of nine responses in the 25-34 age range, one response from the 35-44 age range, and lastly, seven responses from the 45-54 age range. The age demographic data of the survey group shows a wide distribution of ages of participants.

Highest level of education completed  
20 responses

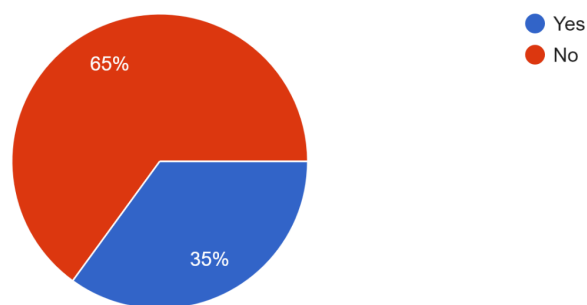


**Figure 15. Education demographics for Deceptive by Design survey respondents**

In the educational background among respondents, the majority of respondents (45%) had a bachelor's degree, 30% proceeded to have a higher level of education. The rest of the respondents had a high school education at 20%, and associate degrees at 15%. This distribution of educational attainment in the survey group shows more respondents having a higher level of education.

Do you work/study in a technology related field? (e.g., Computer Science, Information Technology, Web Design, software development etc.)

20 responses

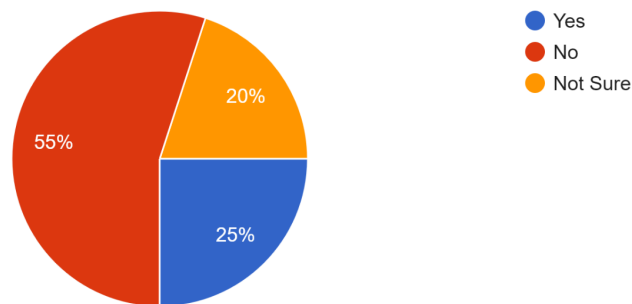


**Figure 16. Technology demographics for Deceptive by Design survey respondents**

Of the twenty respondents, the majority of the respondents (65%) do not work/study in a technology-related field, while 35% work/study in a technology-related field.

Before this project were you aware of the concept Dark Patterns?

20 responses

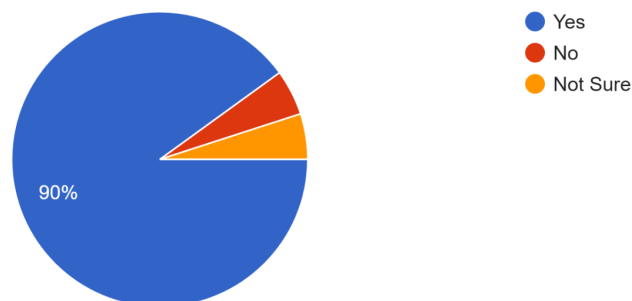


**Figure 17. Awareness of dark patterns before the website for Deceptive by Design survey respondents**

Among the twenty respondents, more than half (55%) of respondents were not aware of the concept of dark patterns prior to being introduced to the topic of dark patterns, four (20%) respondents were not sure if they were aware of the concept of dark patterns, and five (25%) individuals were aware of dark patterns.

In your experience, have you ever felt tricked, pressured, or misled by an application or website into making a choice you didn't want to make?

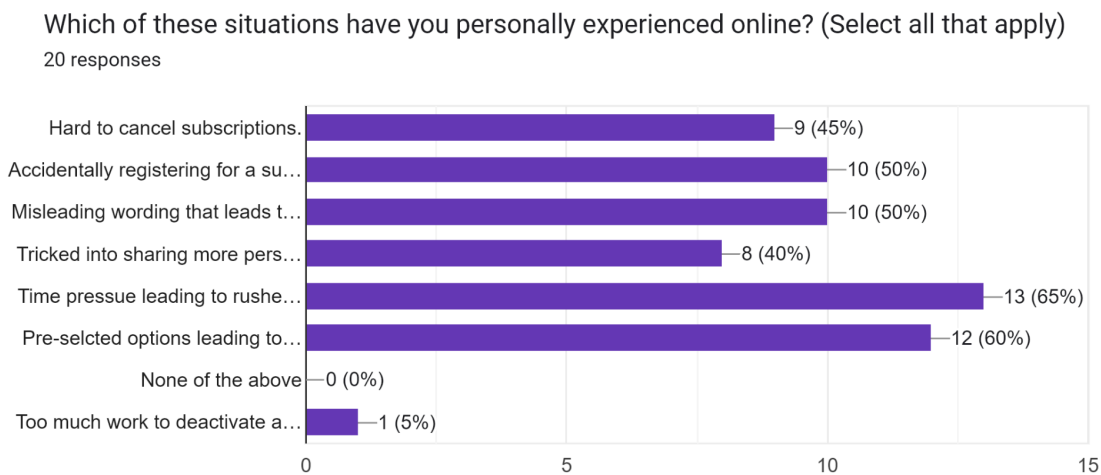
20 responses



**Figure 18. Prior experience of dark pattern for Deceptive by Design survey respondents**

Deceptive by Design: An Interactive Website Exploring, Simulating, and Discussing Dark Patterns

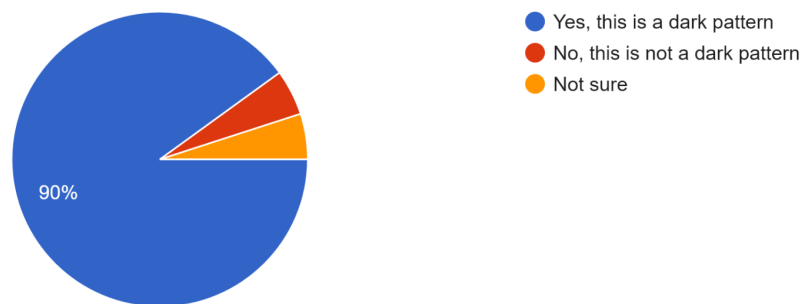
A majority of (90%) respondents at one point felt that they were tricked, pressured, or misled by an application or website into making a choice, one (5%) respondent did not feel that they were pressured, and another (5%) respondent was not sure if this had occurred to them. Based on the data presented in figure 17 were a majority of the respondents were not aware of the concept of dark pattern prior to interacting with the website, but it was found out in the data above that a majority of the respondents have had experienced a dark pattern in past but they were unknowing falling for the deceitful practices.



**Figure 19. Situation experiences for Deceptive by Design survey respondents**

All of the respondents have at least experienced at least one dark pattern when using the internet, with 10% of respondents experiencing at least all 6 of these dark patterns showcased in the question. This further emphasizes the pervasiveness and prevalence of these deceitful practices that are being used throughout the internet that purposely mislead and misdirect consumers in their use of digital services that they use in their daily lives.

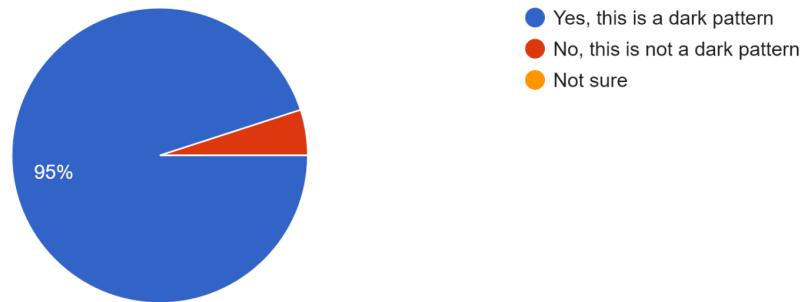
Example 1: On a website, you saw a product priced at ₱100. The next day, the same product was still ₱100, but this time the website site now has a “simulated” price. In this scenario is this a dark pattern?  
20 responses



**Figure 20. Knowledge check 1 Deceptive by Design survey respondents**

In the first knowledge check for respondents for dark patterns, a majority of 18 (90%) respondents recognized that this is a dark pattern, one (5%) respondent did not recognize that it was a dark pattern, and one (5%) respondent was not sure. The high level of recognition of the dark pattern in this knowledge check is likely due to the straightforward scenario that depicts a basic dark pattern of fake scarcity that is easily recognizable, especially after interacting with the Deceptive by Design Website.

Example 2: When checking out at a online shopping site, at the final step you noticed that an extra item is already added into your cart and it is preseled and is added to you total. Is this a dark pattern?  
20 responses

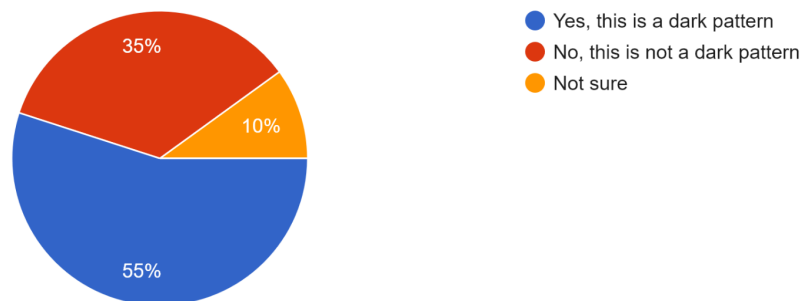


**Figure 21. Knowledge check 2 Deceptive by Design survey respondents**

In the second knowledge check for respondents for dark patterns, a majority of nineteen (95%) respondents recognized that this is a dark pattern, one (5%) respondent did not recognize that it was a dark pattern. In the scenario, again, a majority of respondents were able to recognize the dark pattern that is sneaking, where items are added to an individual's cart without being selected, since this is a basic dark pattern where recognition is easy.

Example 3: When uninstalling an application a cute mascot character appear and says "Please don't leave we will miss you :(" In this scenario is this a dark pattern?

20 responses

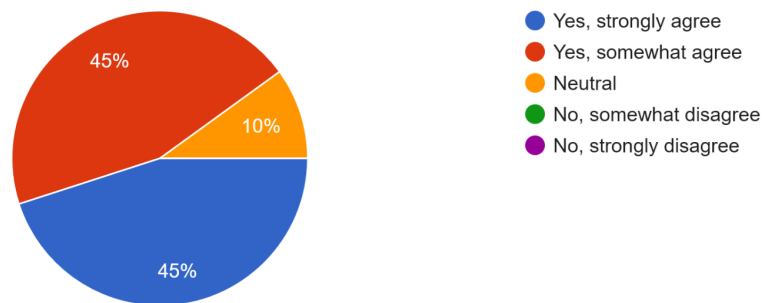


**Figure 22. Knowledge check 3 Deceptive by Design survey respondents**

In the third knowledge check for respondents for dark patterns a majority of eleven (55%) of respondents recognized that this is a dark pattern, however, seven (35%) respondents did not recognize that it was a dark pattern, and two (10%) respondents were not sure. The inability to recognize this dark pattern has risen, compared to the previous two knowledge check questions, and this may be due to the nature of the dark pattern that was featured in this question that is confirm shaming. Unlike the previous two dark pattern namely fake scarcity and sneaking which are directly manipulative, confirm shaming may be viewed as only coercive and is not directly manipulative. Another viewpoint may be seen is that the two previous dark patterns were proactively manipulative while confirm shaming was passively active. Therefore a significant portion of respondents were not able to consider this as a dark pattern.

Do you think after reading through the "Why Dark Patterns Matter page" have gathered enough knowledge to say you are familiar with the basics of dark patterns?

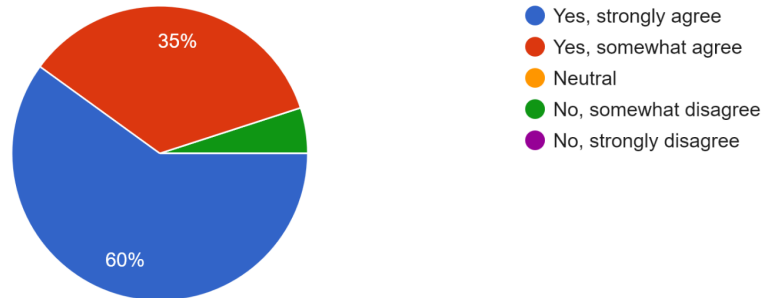
20 responses



**Figure 23. Dark patterns familiarity Deceptive by Design survey respondents**

After users interacted with the Deceptive by Design Why Dark Patterns Matter page, a majority of eighteen (90%) would say that they are familiar with the basics of dark patterns. Among these eighteen, nine (45%) felt they somewhat agree, while another nine (45%) strongly agree with them being familiar with the basics of dark patterns. Furthermore, two (10%) respondents felt neutral about their familiarity with dark patterns. The majority positive response represents clear evidence that respondents have gained knowledge and familiarity with use of the interactive media used in the project, this may mean that interactive media may be emulated for other topics as a learning aid.

Do you think the minimalist design made it easier for you to learn and understand the concept dark patterns? (Because of the lack of distracting elements which dark patterns are usually associated with)  
20 responses

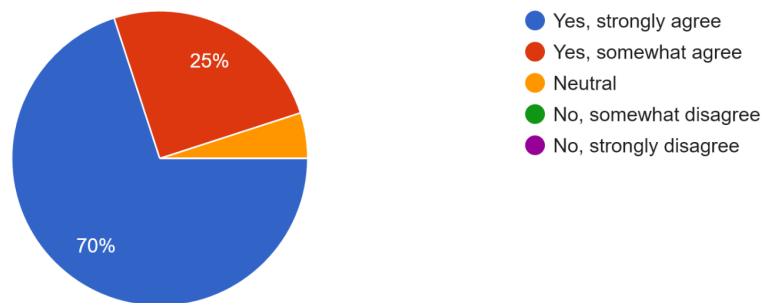


**Figure 24. Minimalist impact Deceptive by Design survey respondents**

A majority or twelve (60%) of respondents strongly believe that the minimalist design made it easier for them to learn about dark patterns, another seven (35%) of respondents somewhat agree with the use of minimalist design, and a single (5%) respondent somewhat disagrees with the use of minimalist design. With almost all agreeing that the minimalist design was found to be useful in learning about dark patterns, this highlights the effectiveness of minimalist design in the introduction of the concept of dark patterns.

Do you think there should be legislation to prevent companies from applying dark patterns to their services?

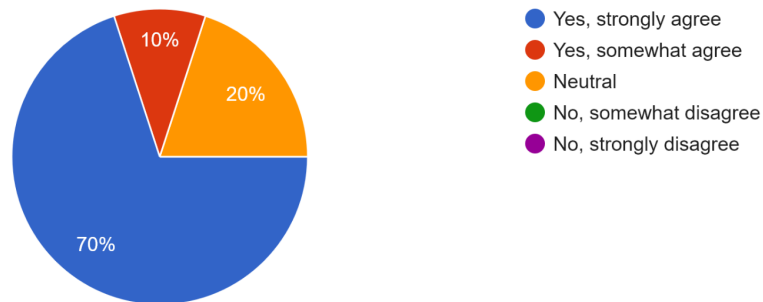
20 responses



**Figure 25. Need for legislation Deceptive by Design survey respondents**

Nineteen (95%) believe that there should be legislation to prevent companies from using dark patterns, in this group, there is a majority of fourteen (70%) who strongly agree with the statement, and a minority of five (25%) who somewhat agree. There is a single respondent (5%) who remains neutral on the statement. With almost all of the respondents agreeing that there is a need for legislation to protect consumers from dark patterns clearly shows that once respondents became aware of the negative impact of dark patterns and the lack of legislation to prevent companies from using them, they then choose to agree that there should be legislation. The results of this question may imply that creative multimedia projects such as this, can act as tools and means to further advocacies that may lead to upswell in public sentiment that may lead to pushing for necessary legislation.

Do you believe that companies should be fined and/or penalized for using dark patterns?  
20 responses

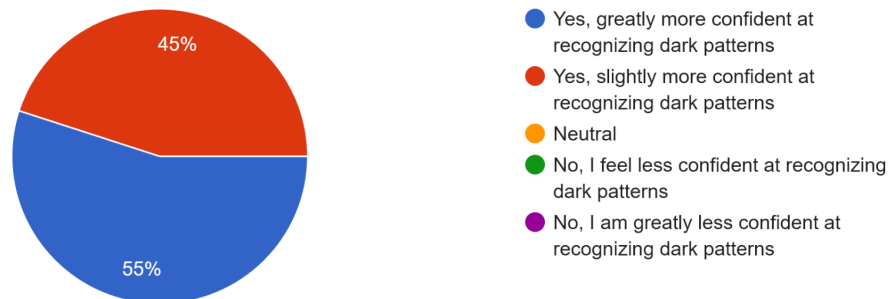


**Figure 26. Need for fines Deceptive by Design survey respondents**

Among the respondents, sixteen (80%) believe that there should be fines and /or penalties to companies that use dark patterns. In this group, there is a majority of fourteen (70%) who strongly agree with the statement, and a minority of two (10%) who somewhat agree. Four respondents (20%) remain neutral on the statement. The majority of sentiment for this question means that the respondents believe that legislation against corporations that use dark patterns should have fines and sanctions.

After learning about dark patterns, do you feel more confident in recognizing and avoiding dark patterns in your future online experiences?

20 responses



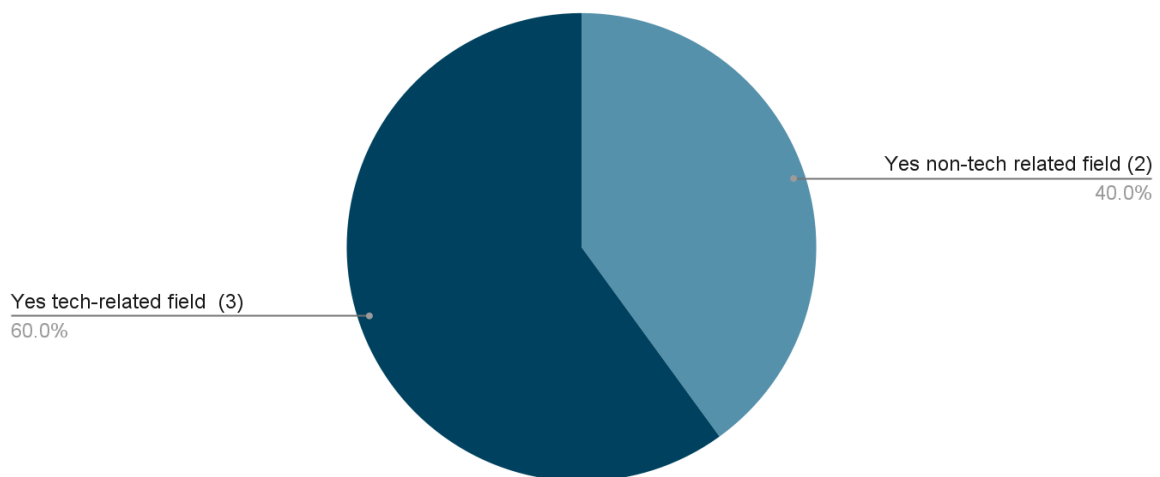
**Figure 27. Dark pattern recognition and avoidance confidence Deceptive by Design survey respondents**

Lastly, all respondents (100%) felt more confident in recognizing and avoiding dark patterns in future online experiences, with eleven (55%) respondents feeling greatly more confident, and nine (45%) feeling slightly more confident. With this resounding agreement, the interactive multimedia project aided in imparting not only much needed knowledge on dark patterns, but more importantly confidence in recognizing and avoiding these practices in the future.

## Correlation of survey data

To further discuss the results of the data presented above, correlations between the data sets will be discussed using the following figures:

Respondents awareness of the concept Dark Patterns prior to the project, and thier field of work

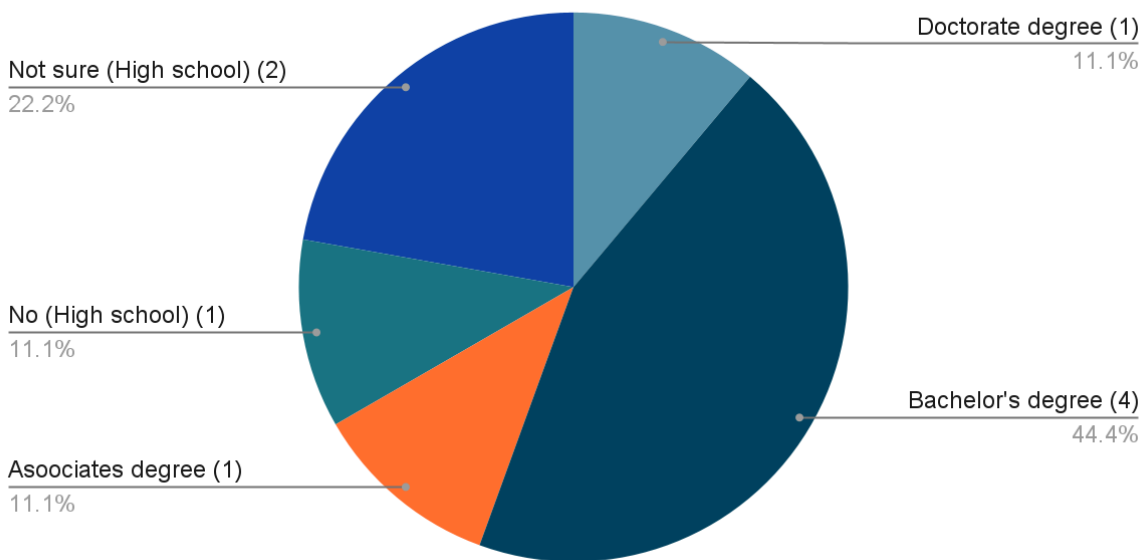


**Figure 28. Respondents who work/study in a technology related field awareness of the concept Dark Patterns prior to the project?**

In the figure above, the number of respondents who were aware of the concept of dark patterns prior to the project is presented in relation to their work/study. In the findings, among the five respondents who were aware of the concept of dark patterns, the majority of the individuals (60%) were found to work/study in a tech related field. This is to be expected since individuals who work in tech may be more exposed to the online presence of dark patterns in line with their work, especially with those who are user interface and user experience designers. However on review of the data for the survey group pertaining to the response of those in the tech work/study, only (43%) 3/7 were aware of dark patterns prior to the project. The

majority of individuals who were not aware despite working/studying in technology related fields, might not be aware of dark patterns because these individuals may have been specialized into non-user interface design and non-user experience design fields of expertise and therefore not as exposed to the concept of dark patterns.

### Highest level of education completed who disagreed Knowledge Check 3 is a dark pattern

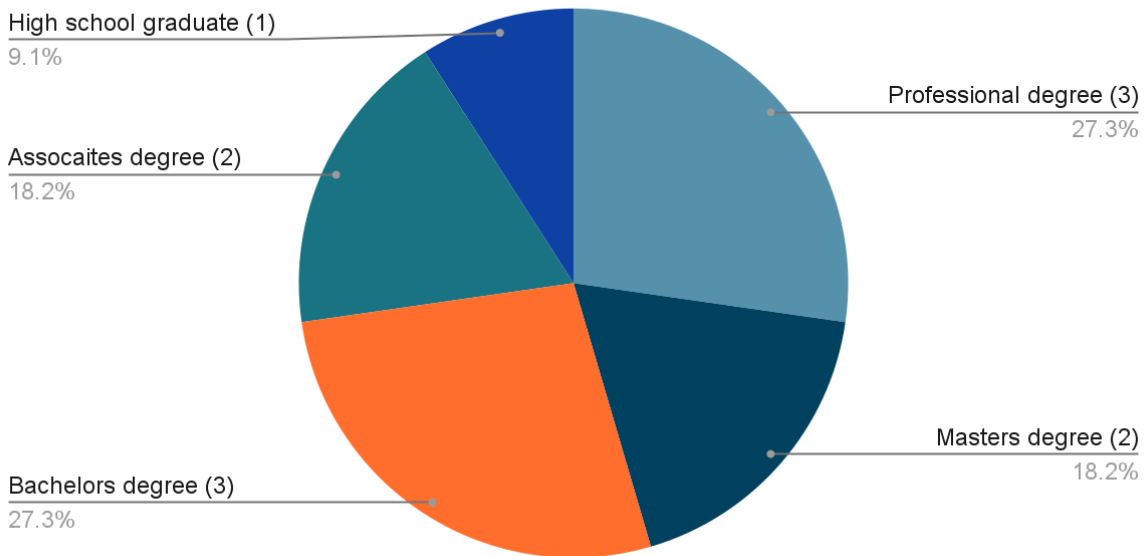


**Figure 29. Highest level of education completed who disagreed that Knowledge Check 3 is a dark pattern**

The figure above presents the data of respondents who disagree that knowledge check question #3 was a dark pattern, despite it being the dark pattern of confirm shaming, in relation to their education level. It can be seen that respondents who disagreed with knowledge check #3 were mostly (44%) of lower education level, with an equal number of bachelor degree holders who also disagreed (44%) and an outlier doctorate holder. This result agrees with the findings of Luguri and Strahilevitz

that less educated individuals were more likely to be manipulated by dark patterns compared to their educated counterparts.

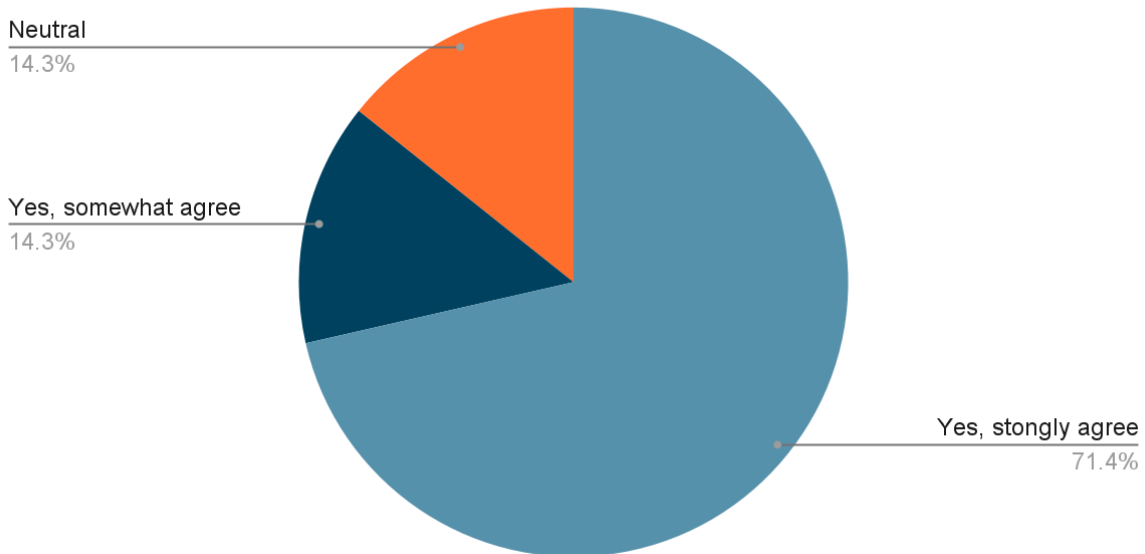
### Highest level of education completed who agreed that Knowledge Check 3 is a dark pattern



**Figure 30 Highest level of education completed who agreed that Knowledge Check 3 is a dark pattern**

The figure above presents a contrast to the previous figure 29 where in the figure above shows the data of respondents who agreed that knowledge check question #3 was a dark pattern. It can be seen that respondents who agreed with knowledge check #3 were mostly (45%) of higher education level, with (27%) bachelor degree holders who also agreed, and an outlier of associate degree holders (18%) and high school graduates (9%) also agreed. This result also agrees with the findings of Luguri and Strahilevitz that more educated individuals were less likely to be manipulated by dark patterns compared to their less educated counterparts.

## Work/study in a technology related field vs Do you believe that companies should be fined and/or penalized for using dark



**Figure 31. Work/study in a technology-related field vs Do you believe that companies should be fined and/or penalized for using dark patterns?**

This figure featured individuals who are working/studying in technology related fields and believe that corporations should be fined for using dark patterns. It is shown that the majority of the respondents (85%) agree that regardless if they work/study in a technology related field they still agree that there should be fines for the use of dark patterns. General sentiment should be that people working in tech would be anti-regulation, due to regulation affecting innovation and might impact income by not allowing dark patterns. But surprisingly the respondents in this survey who do work/study in technology related fields are advocating for fines against corporations who use dark patterns. This could be due to the fact that dark patterns affect everyone regardless of class and work, and it shown in the survey data in figure 18 above that nearly all of the respondents (90%) have experienced, being tricked, pressured, or mislead by an application or website into making a choice that

they did not want to make, and this might mean that nearly all are in agreement that dark patterns are a nuisance and that something must be done to curtail their use.

## **V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS**

### **Survey summary and Conclusions**

In summary, the survey had gathered 20 respondents from varying age ranges, with the age group of 25-34 being the most common. The educational backgrounds of the group was also varied with participants having a bachelor's being the most common, but some respondents had doctorates, and others had professional degrees. Among the group thirteen participants (65%) do not work/study in tech-related fields, while seven (35%) did.

The awareness of dark patterns as a concept before interacting with the website was low, with eleven respondents (55%) not being familiar with the concept, showcasing a lack of knowledge around the topic. Yet nearly all participants (90%) felt like, at one point, they felt tricked or pressured by online experiences and interfaces, with all respondents having an encounter with at least one dark pattern. During the knowledge check questions, participants had a general idea of dark patterns in the first two questions, though this lessened in the third scenario. After interacting with the Deceptive by Design website, the majority of the participants (90%) felt that they had become familiar with the basics of dark patterns, and nearly all (95%) agreed that the minimalist design helped their learning experience.

As for support for potential legislation, a majority of (95%) respondents agreed that legislation is needed to keep dark patterns in check, and a majority (80%) also believe that fines or penalties for companies should also be imposed. Finally, all respondents expressed an increased confidence in recognizing and avoiding dark patterns after learning about them through the website.

In the correlation of data, it showed that individuals working/studying in a technology related field are more likely to be aware of dark patterns due to the nature of their work having close experience with user interface design and user experience design, through other respondents who work/study in a technology related field may not have the same awareness since they may be specialized into non-user interface design and non-user experience design fields of expertise.

Furthermore it was shown that education level greatly affects recognition of dark patterns wherein individuals who had higher education were more likely to recognize the dark pattern and it is inverse for the individuals with lower education having less perception to recognize the dark patterns.

Lastly, contrary to general sentiment, respondents who work/study in a technology related field were found to be supporting legislation and the imposition of fines and sanctions against companies who use dark patterns, despite the possibility of them being affected financially and professionally, showcasing that dark patterns are a societal problem regardless of profession.

## **Deceptive by Design study conclusion**

After conducting the study survey to determine the effectiveness of the Deceptive by Design's website on introducing the concept of dark patterns, it was found that:

Based on the results of the survey prior to interacting with the website over 75% of respondents were not aware of the concept of dark patterns. After interacting with the website 90% of respondents became familiar with the basics of dark patterns.

The increase of familiarity of the respondents to dark patterns can represent the impact of the interactive multimedia projects on introducing dark patterns. After learning about dark patterns, 100% of the respondents felt more confident in recognizing and avoiding dark patterns in future online experiences. With all of the respondents being confident in recognizing dark patterns the website can be considered as a viable learning tool to introduce concepts, and raise awareness on other technology related advocacies, which may lead to much needed support for the call for legislation on dark patterns and other social issues of concern.

The results of the survey showed 95% of respondents found that the minimalist design made it easier for them to learn about the concept of dark patterns. Almost all (95%) of respondents believe that there should be legislation to address the presence of dark patterns in the Philippines. The majority 95% of respondents having experienced a dark pattern prior to the knowledge of the concept shows that

dark patterns are prevalent and require legislation. Lastly, 80% of respondents agree that companies should be fined and/or penalized for using dark patterns.

### **Recommendations**

As this study was intended to introduce and highlight the concept of dark patterns to the general masses, further studies on this topic may be conducted using more complex user interface and user experience elements to truly simulate interacting with a dark pattern instead of the minimalist approach used in this study.

Furthermore this study focused more on simulating a PC based dark pattern experience, dark patterns on mobile platforms may also be a focus on other studies, as this platform is more prevalent and accessible to Philippine masses. Additionally, to increase significance of the results of future studies on dark patterns, a larger survey group may be used.

Due to the positive results of this design-based study this may become an opportunity for other researchers to reference and build upon this research to focus and shed light to other technology policy issues that are also not being addressed. Lastly, as the data shows the effectiveness of the interactive media project used in this study to bring awareness to the concept of dark patterns, raise confidence to recognize dark patterns, and after being made aware of the negative impact of dark pattern and the lack of legislation, respondents agreed that there need for legislation to regulate against dark patterns.

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## APPENDICES

### APPENDIX A



#### TCPS 2: CORE 2022 Certificate of Completion

Link for the Deceptive by Design website: <https://deceptivebydesign.framer.website/>

Link for the Deceptive by Design survey:

<https://docs.google.com/forms/d/e/1FAIpQLSdEmV0mCZ7sSdbmMSZjcUpWi7NU7IryVWp4HUq4oWFBSxly5A/viewform?usp=header>

## **APPENDIX B**

The following are the survey questions included in the Deceptive by Design survey:

### **Email**

### **Name**

### **Gender**

Male

Female

Prefer not to say

### **Age**

Under 18

18-24

25-34

35-44

45-54

55-64

65+

### **Highest level of education completed**

High school or less

High school graduate or equivalent

Associates degree

Bachelor's degree

Masters's degree

Doctorate (Phd/EdD/etc.)

Professional degree (JD, MD, etc.)

**Do you work/study in a technology related field? (e.g., Computer Science, Information Technology, Web Design, software development etc.)**

Yes

No

**Before this project were you aware of the concept of Dark Patterns?**

Yes

No

Maybe

**In your experience, have you ever felt tricked, pressured, or misled by an application or website into making a choice you didn't want to make?**

Yes

No

Maybe

**Which of these situations have you personally experienced online? (Select all that apply)**

Hard to cancel subscriptions.

Accidentally registering for a subscription without meaning to.

Misleading wording that leads to miscommunication.

Tricked into sharing more personal information than needed.

Time pressure leading to rushed decision making (i.e., flash sales, or timed sales).

Pre-selected options leading to unwanted services (additional charges, or given permissions to data).

None of the above

Other:

**The next three questions are scenarios to test your familiarity with dark patterns. Afterwards you will be asked with your experience learning about dark patterns**

**Example 1: On a website, you saw a product priced at ₱100. The next day, the same product was still ₱100, but this time the website site now has a site wide sale and they claimed it was “50% off,” showing a grayed-out ₱200 as the “original” price.**

In this scenario is this a dark pattern?

Yes, this is a dark pattern

No, this is not a dark pattern

Not sure

**Example 2: When checking out at an online shopping site, at the final step you noticed that an extra item is already added into your cart and it is preselected and is added to your total. Is this a dark pattern?**

Yes, this is a dark pattern

No, this is not a dark pattern

Not sure

**Example 3: When uninstalling an application a cute mascot character appears and says "Please don't leave we will miss you :(“ In this scenario is this a dark pattern?**

Yes, this is a dark pattern

No, this is not a dark pattern

Not sure

**Do you think there should be legislation to prevent companies from applying dark patterns to their services?**

Yes, strongly agree

Yes, somewhat agree

Neutral

No, somewhat disagree

No, strongly disagree

**Do you believe that companies should be fined and/or penalized for using dark patterns?**

Yes, strongly agree

Yes, somewhat agree

Neutral

No, somewhat disagree

No, strongly disagree

**After learning about dark patterns, do you feel more confident in recognizing and avoiding dark patterns in your future online experiences?**

Yes, greatly more confident at recognizing dark patterns

Yes, slightly more confident at recognizing dark patterns

Neutral

No, I feel less confident at recognizing dark patterns

No, I am greatly less confident at recognizing dark patterns

**What is the most memorable insight you gained from this project?**

An optional text box for users to return their input on the project

These are the result from the optional memorial insight portion of the survey:  
The website allowed me to gain a memorable insight about the basics of Dark Patterns, as well as how I am able to ascertain examples of it that corporations or conglomerates use. For instance, the graphic designs, wordings and many psychological tricks to prompt any unwarranted action by users. Thus, it is an overall good experience

That there are many instances of dark patterns that we encounter but we are just not aware and take them for granted, when something should be done so that they do not negatively affect the users or consumers.

That there is a terminology (Dark Pattern) used to identify this phenomenon and that there several types and formal names for each of them.

Companies, especially very large corporations, make use of dark patterns to artificially boost their sales

There is actually a term that describes these actual challenges that I've encountered!  
Become more knowledgeable of the websites and other things connected with internet

giving me more knowledge or insights about dark patterns

Dark patterns exist and used as marketing strat

Be vigilant when using the internet

Introduction to dark patterns