

Easy By Design

Addressing Deceptive Design Practices Through Education and Awareness

Joshita Nagaraj

To begin click your user name

	Me

Me

Welcome to the Internet!

Gaslit By Design

Addressing Deceptive Design Practices Through Education and Awareness

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A critical and process documentation paper submitted in partial fulfillment
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@Joshita Nagaraj, 2025

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The study is conducted on the shared, unceded, ancestral territories of the x̱w̱məθḵw̱ə'yəm (Musqueam), Sḵwx̱w̱ú7mesh (Squamish), and səliłwətał (Tsleil-Waututh) Nations.

This thesis is dedicated to,
Thaatha, I miss you everyday.

Abstract

This research examines the pervasive issue of deceptive design in the digital design industry, highlighting its detrimental impacts on user trust, emotional well-being, and long-term business sustainability. A course curriculum is created through the lens of critical awareness, ethical responsibility, and practical frameworks for responsible design practices, emphasizing the balance between user-centered values and business objectives to create a more trustworthy digital ecosystem. By interacting with design students and community engagement, the course serves as an educational platform with resources and a toolkit on how to identify and address unethical design behaviors through building and critical analysis of their work.

Community engagement and critical analysis emerged as key factors in addressing deceptive design issues through educational pedagogy. Engaging with design students, the course is an educational platform to help participants identify and address unethical design. By engaging in participatory activities, diving into types of deceptive designs and having ethical design dialogue, participants gain a deeper understanding on deceptive design and its implications. Through activities like building and critically analyzing their own work, participants develop practical skills to create more transparent and ethical user experiences.

The objective of this study is to establish a community of responsible designers, create frameworks of best practices and ensure, advocacy, and dialogue. Decisions that bridge design strategies and ethics must be made as part of a culture shift in the industry that values and adopts ethical design practices in order to decrease the use of deceptive design.

Keywords

Deceptive Design	Pedagogy
Behavioral Psychology	Design Education
Cognitive Bias	Awareness
Social Responsibility	Ethical Design
Responsible Practices	Critical Analysis
Community Engagement	Interaction Design

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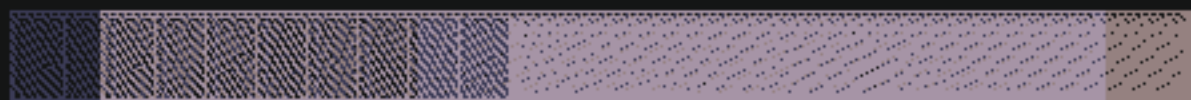
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Introduction

Deceptive design is a user interface approach crafted by industry to manipulate users into making decisions that may not align with their best interests. Deceptive design has been plaguing the digital design industry since the invention of the internet, and it is increasingly a problem today (Ghosh, 2020) (Brignull, 2024).

There are significant costs to deceptive design since these practices prioritize manipulation and short term profits over trust. The short term motivation is reduced business churn, increased sales and a higher sign-up rate. Unintended longer term choices result in a less user friendly digital landscape, declining user loyalty, financial loss and increased regulatory crackdowns (Verbeek, 2016).

This research study builds critical awareness with designers with deceptive design practices (Tharp & Tharp, 2018). It empowers designers to establish responsible design practices so they know how to create change.

Some questions that drive this research include:

- ***What is deceptive design and how can we understand it better?***
- ***What are the gaps in the existing research?***
- ***How can we resist deceptive design? and***
- ***What makes a responsible designer?***

The project utilizes a series of participatory workshops within different contexts and user groups such as design students and professionals to obtain data about how people approach these issues in their own design practice. The workshops have a practical focus in recognising and resolving unethical design behaviours by constructing and examining misleading design (Shwartz, 2016). These activities deepen participants' understanding of the impact of deceptive design on user trust and decision-making while encouraging them to think critically about responsible alternatives.

The workshop includes creating a framework for responsible design, using dissemination tools like zines and worksheets,

and reflecting on the ethical balance between user-centered and business objectives. Introspective activities assist participants in internalizing ethical considerations and converting them into workable tools for their creative processes. The project concludes with a framework for integrating these participatory methods into design education, promoting transparency, trust, and user empowerment.

By promoting transparency, empathy, and responsible practices, designers and businesses can create experiences that align with user needs and values, ensuring sustainable success while contributing to a more trustworthy digital ecosystem (Verbeek, 2016).

Chapter 1

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What is Deceptive Design?

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Copyright. © Software, Inc.

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De Detecting HID Secondary Master. No None

De Detecting HID Secondary Slave. No None

Chapter 1

Background

Deceptive design is defined as “a user interface that has been carefully crafted to trick users into doing things, such as buying insurance with their purchase or signing up for recurring bills” (Brignull, 2023). User interface designer Harry Brignull has been a key figure in the articulation of deceptive and manipulative patterns in the world around us, especially with the *darkpatterns.org* website, which launched in 2010 as a “pattern library with the specific goal of naming and shaming deceptive user interfaces”(Brignull, 2011).

Deceptive design used to be referred to as “dark patterns”. The term shifted from the term “dark patterns” in 2010 to “deceptive design” in 2023 to avoid language that might inadvertently carry racist associations (Brignull, 2023). Deceptive and manipulative practices generally prioritize short-term business goals, such as boosting sales and increasing user engagement over ethical considerations or user autonomy (Brignull, 2010).

Exploitation through deceptive design happens in many ways. At the risk of sounding cynical, humans have always been exploited for various things such as economic gain, political control, or personal advantage (Gray et al., 2021). Since the world has moved to an increasingly digital way of living, the ways that this exploitation takes place is through creative designs online. These designs are sophisticated enough that they have become invisible to users.

Deceptive design is a widespread problem today. As businesses in the digital space compete for user attention, deceptive design has become increasingly sophisticated, undermining trust in digital products and contributing to a less transparent and user-centered digital environment (Mathur et al., 2019). Addressing these issues is crucial to fostering a more equitable digital ecosystem and ensuring that design practices align with principles of trust, empathy, and user empowerment.

Well known deceptive design examples include Amazon’s

“Prime Subscription Trap” where users unknowingly signed up for a subscription that was impossibly difficult to cancel [cite]. Deceptive design can also impact politics. The Cambridge Analytica scandal is a notable example: the company released a simple quiz app that harvested the data from 87 million Facebook users and their friends. In BC alone, 33 users installed the deceptive app, but it ended up collecting data from over 92,000 people. (Blatchford, 2018)

But designers can do something about deceptive design. It is important for designers to be aware of the power they hold within the digital space. Designers can shape experiences, influence behaviour, induce changes and shape lives (Baumann, 2024). Ideally, designs are not just made for the businesses but the actual users that they are intended to be made for. Considering user well-being and trust should be a

Fig 1: News clipping from the New York Times about the Cambridge Analytica and its impacts. (Rosenberg et al., 2018)



critical part of ethical interaction design practice. All of this started with a few deceptive interface design choices—hidden permissions, manipulative UI, and subtle psychological nudges. And yet, the impact was global. This project primarily aims to educate students in deceptive design practices.

Objectives

Discourse in the form of education is used as a tool in creating positive social change with community engagement (Tharp et al., 2018). Understanding the gap between literacies is necessary to combat deceptive design. Awareness and critical education help in identifying and evaluating digital content (Geidner et al., 2017). As a part of this education, this project asks the question -

How can interaction designers' literacy regarding deceptive designs be improved using educational resources and activities?

Scope and Limitations

The project's scope is: A course curriculum is developed from a series of workshops whose participants are students. The participatory nature of the workshops in the project involves a focus on interaction designers, specifically with students from Emily Carr University. The interaction designers that the workshops were conducted with all had a basic understanding of UX and UI principles, tools and methods. The workshops were conducted as a part of a behavioral psychology class with first year interaction design students where these results are obtained. The first year students have a basic understanding of UX designs but have little to no experience of working in the industry. This research is based on work conducted in Emily Carr University with students in class critiques, and public surveys done with students studying an art or design major. The populations participating in the study are from diverse backgrounds who live in Vancouver. The work shown further is documented over a period of a year from November 2023 to November 2024.

This project has some limitations which need to be addressed. The project addresses the deceptive designs which are visible

to people but not the ones which happen through the backend which are invisible. For example, the designer can change the way the cookies buttons are shown on web pages but if they are taking the user's data regardless of what the user clicks, the deception is happening in a way where the company is smuggling data with an infringement of consent. This study excludes backend data manipulation and AI driven deceptive practices due to regulation and enforcement involvement as I wanted to focus specifically on resisting visible deceptive designs.

"Technology can make us blind to the manipulation that is happening around us.

The things we see, the things we click, the things we are told to do— all of these things are designed to influence us, and we don't even realize it."

- Dan Ariely (Ariely, 2014)

The Role Of Behavioral Psychology

Deceptive design uses behavioral psychology in three key ways, and these ways are used to structure this project. These include using cognitive bias, grabbing user attention, and lack of transparency.

Cognitive bias is a tool that deceptive designs use. UI elements are intentionally placed, limiting users' ability to make the choice which are commonly called nudges. They actively diminishes the user's autonomy in using the platform or product, especially when made to be narrow and one dimensional. Clicking on a "accept all cookies" is easier than opening the window with different types of cookies and deselecting the permissions for the platform to be able to use them. Designers intentionally hide the permissions inside a couple of other steps so that the user has more work to do as opposed to clicking on a big, bright, bold "accept" button that they are nudged towards (Thaler & Sunstein, 2009). It actively diminishes the user's autonomy in using the platform or product, especially when made to be narrow and one dimensional (Tromp, 2018).

"The first misconception is that it is possible to avoid influencing people's choices."

- Richard Thaler (Thaler & Sunstein, 2009)

Grabbing the user's attention is a way of achieving this. Attention is a valuable commodity in the attention economy (Wu, 2016), where companies compete for user engagement to drive profits using deceptive designs. By leveraging personalized feeds and targeted ads, they encourage habits like doomscrolling¹, maximizing time spent on their platforms. This constant battle for attention influences user choices and impacts mental well-being. Optimized UI and

¹ According to Satchell et al. (2021), doomscrolling is the "compulsive consumption of negative online news, leading to heightened distress and anxiety." It is associated with digital media overuse and psychological effects like stress and helplessness.

deceptive designs thrive in this landscape, as they capture and retain attention effectively. Engaging design patterns trigger temporary dopamine hits, reinforcing user return and promoting addiction. Features like notifications and “like” buttons serve external validation, hence overwhelming pleasure circuits in our brains and creating dependency. Constant exposure to these tactics keeps users coming back to relive the same rewarding experience.

Lack of transparency is another way of achieving deceptive design. All of these psychological and social tactics that try to influence user behaviours result in products being made with a lack of transparency. Users are not aware of their next steps and are unable understand their current context when they’re hidden from the user. The interpretation of data from the user’s behalf is skewed towards a single goal which makes the user less in control of the task they are undertaking.



Chapter 2

Gaps In Existing Research

Chapter 2

Literature Review

Deceptive design's impacts are not black and white. There are nuances for the type of work produced and how deceptive a solution can be. These nuances are reflective of the values necessary to incorporate responsibility in the work that we produce and the impact we create (Filiz, 2024). They are explored in different ways that a deceptive design is created. Deception is often viewed negatively and is classified as "causing harm", but its impact depends on factors like location, cultural background, community values, and personal perspectives. What is considered deceptive can differ for different groups, and designs must reflect the same. There is no perfect solution¹, a design can be right for one person and wrong for another, depending on the problem it addresses and the audience it serves.

Deceptive design has an impact on pop culture. They have been referenced in the form of movies, books, music and internet memes. As an example, the term "gaslighting" originated from the 1938 play *Gas Light* by Patrick Hamilton where it is defined as a form of psychological abuse that involves manipulating someone into questioning their own sanity and judgment (Hamilton, 1983). Deceptive design is used as a catalyst for gaslighting users. Anyone who watched "The Social Dilemma" will know why that is harmful (Orlowski, 2020). It would not be a huge stretch of the imagination to argue that no one wants a digital model of themselves that can predict their exact behavior and control all their actions in an increasingly precise manner. Such a future strips individuals of their autonomy, reducing them to mere algorithms in a system designed to serve others' interests rather than their own (Gal, 2022).

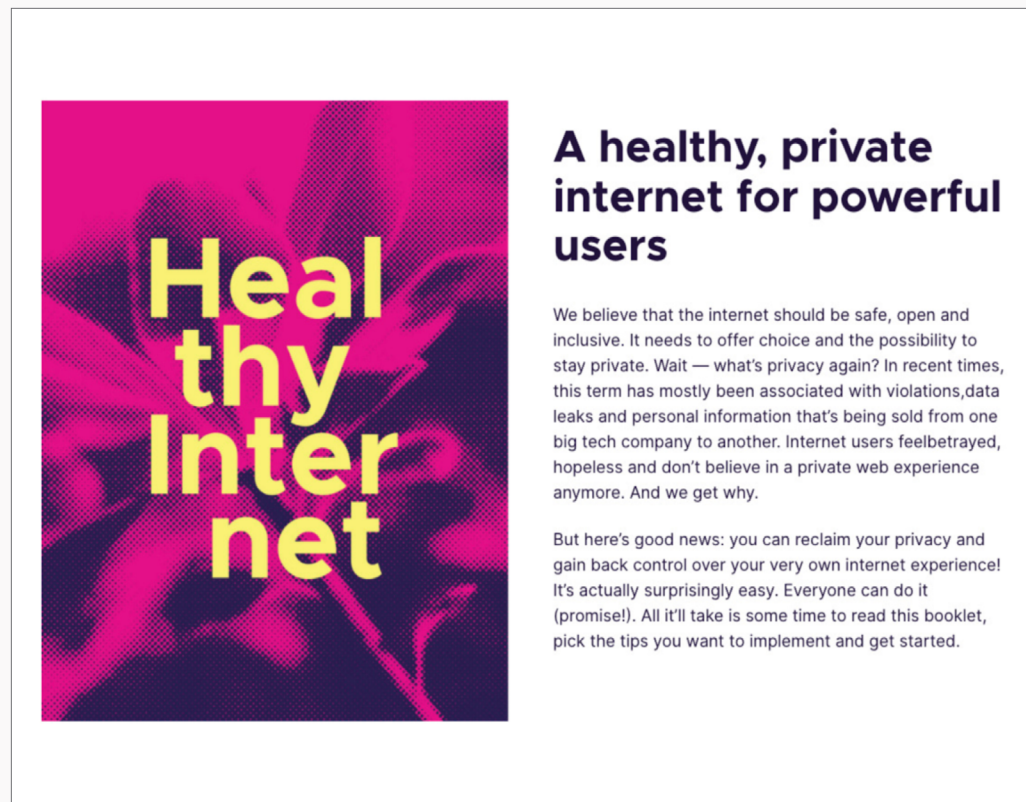
Designers are forced to take a moral stand considering how technology is used today. The way information is distributed and communicated through technological artifacts shape human behaviors and perspectives (Verbeek, 2006). This

² However, there are some best practices that one can follow when it comes to designing with the right intention with considerations of the users' best interests.

technological mediation results in designers having a moral responsibility towards users and by making design decisions, there are certain values where a neutral stand does not exist. This is a post-phenomenological perspective where technology ceases to be just a tool to get certain actions done and instead, mediates human experiences leads designers to consider ethical responsibilities and create their own set of

Case Study 1: The Little Book Of Privacy

Fig 2: A clipping of "The Little Book of Privacy" (Mozilla, 2020)



Some may not be complete sellouts by the evidence of them working for the users by advocating for ethical tech. There are organisations that push for protection of user privacy, consent and informed decision making through designs such as the "Little Book Of Privacy¹" introduced by Mozilla Foundation in 2020. (Mozilla, 2020)

¹ The Little Book of Privacy is currently not accessible to the public as it is converted into an eCommerce guide for consumers to protect their privacy called "Privacy Not Included."

Pros - The book raises awareness about data collection, security measures, and malware protection while offering resources and alternatives for safeguarding privacy. It provides users with practical solutions, such as browser options and efficient ways to navigate terms and conditions. Unlike fear-mongering narratives, the book maintains a positive tone, making privacy education accessible and actionable.

Gaps - The book lacks dialogue on legal compliance, such as GDPR and CCPA, and does not address regional privacy literacy where necessary. It also overlooks evolving AI concerns, including the privacy risks of facial recognition and generative AI, as well as the need for ethical AI literacy in daily life.

Case Study 2 - Hippocratic Oath for Design

The work that designers do impact multiple lives (albeit not with the same significance as doctors) which also would benefit from a code of ethics (Monteiro, 2019). The Hippocratic oath for designers¹ by Mike Monteiro is one such example of a code.

Pros - This model provides a decision-making framework that prioritizes users over business objectives, providing designers a moral compass for ethical solutions. It fosters ethical accountability by encouraging designers to take responsibility for their impact, set clear boundaries, and reflect on their work. It establishes ethical commitments and transparency. The model is credible, which assures users that their well-being is at the core of the product or service.

Gaps - Implementing a universal ethical oath is challenging as interpretations can be influenced by cultural contexts,

¹ The oath that doctors take before they can practice called the Hippocratic oath where they swear that they will not break the code of ethics set by Hippocrates. The nature of the work that doctors undertake impacts multiple lives whether it may be the quality and the quantity of them. This brings up the need to take this oath and weigh on their conscience on how breaking it would be betraying their oath and their own practice.

regulations, and norms. If the oath contradicts values, it may feel alienating, making inclusivity important in its creation. It also mentions industry resistance which poses a risk, as business pressures often conflict with ethical design ideals, potentially forcing designers to choose between their principles and job security.

Fig 3: A scan of The Ethics of Design section based on the Hippocratic oath in Ruined by Design (Monteiro, 2019)



Regulatory Perspectives

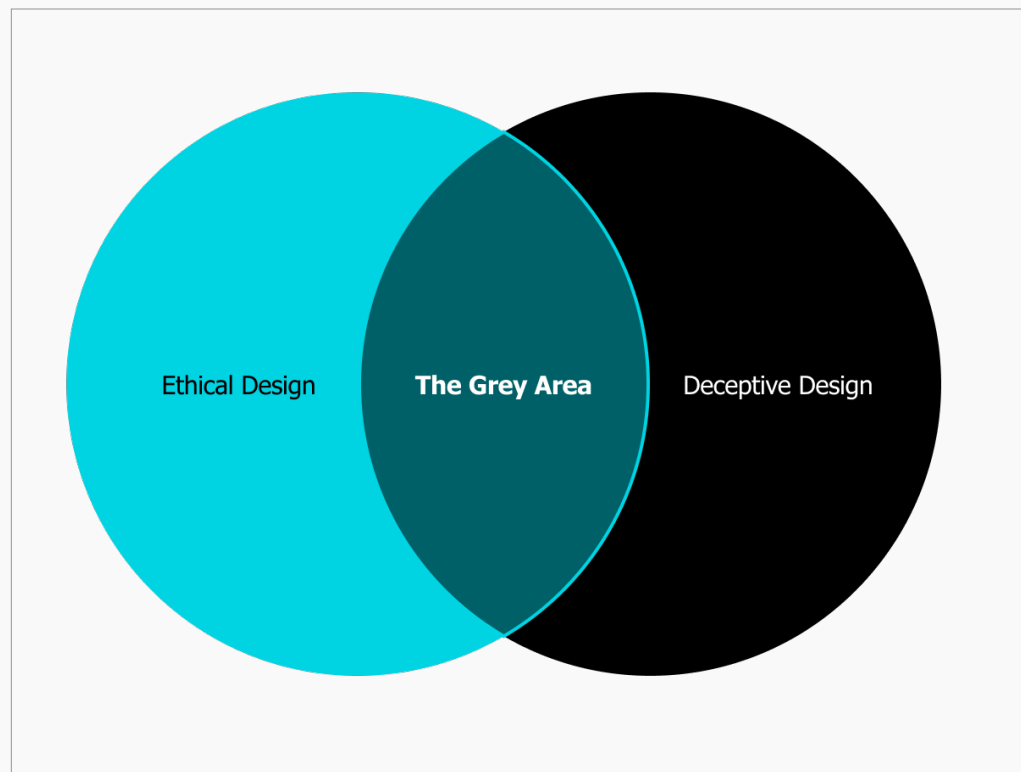
Regulations are being implemented all over the world in curbing the prevalence of deceptive design. Some of them are as follows:

- The General Data Protection Regulation (GDPR), was implemented internationally in 2018 in compliance procedures, which replaced the 1995 Data Protection Directive to unify 27 national data protection laws. Unlike its predecessor, which restricted personal data processing, the GDPR introduced stricter corporate data transfer rules and prioritized user control over their personal data.
- The California Consumer Privacy Act (CCPA), also implemented in 2018, gives consumers control over their personal data, including rights to know, delete, opt-out, and non-discrimination. As of November 2020, California residents gained additional rights, such as correcting inaccurate information and limiting the use and disclosure of sensitive information collected by businesses.

Theoretical Framework

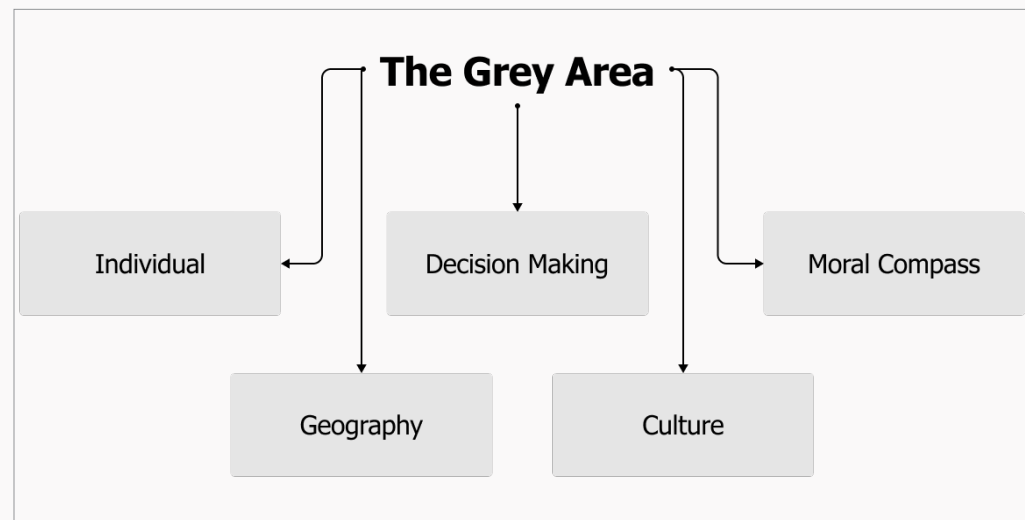
Who is responsible for choices of the users and how much control do designers have over the choices? There are a lot of stakeholders involved in the way that these decisions are made and the deployment of the designs. Management, product managers and other executives in a company are major decision makers as well. I believe it is important to consider the role of designers as half the job of a designer is to convince the client or “sell” their design to the client. Whether these design decisions are manipulative or not, is a choice that often lies with the designer as well. The people who help the users make a decision by presenting a certain set of choices are called Choice Architects (Thaler & Sunstein, 2008). Designers are choice architects in a lot of ways. A designer can choose to present the choices as they are or present them in a way that benefits the company they work for. Designers, when playing the role of the choice architect, have great power and also with it, naturally comes great responsibility.

Fig 4: Visual representation of where a grey space lies in design attitudes.



Critical design¹ has been an integral part of my journey in understanding deceptive design. Workshopping these projects within the critical design space with people, who would be playing the role of users who fall prey to the same tactics for the purposes of challenging the norm and exploring the ethics of design by putting oneself in the perspective of the creator of the designs. This approach provided opportunities to discover the agendas and values hidden behind the designs to understand the different contexts in which they exist—the ones where they are harmful to certain users and the ones where they are created with a certain intent which is justified and has some truth and value to it. It was a fascinating experience to be in this cognitive dissonance² to explore the ethical implications of design through completely unethical methods.

Fig 5: Factors that the grey area is made up of.



I used critical making as a tool in my project. Having contradictory views and viewing humans as more nuanced, complex and paradoxical is something Anthony Dunne and Fiona Raby viewed as the nature of critical design in its origination. Initially, it arose as a contention to problem solving and consumerism in the 80's as they were rampant at the time, much like it is now (Dunne & Raby, 2013).

¹ Critical design is less a method and more so an attitude towards design where status quos are challenged, and incisive questions are posed for further debate. (Dunne & Raby, 2013)

² Inconsistency between behaviors creates an aversive motivational state akin to hunger or thirst (Festinger, 1957).

Encouraging critical making as a tool in design education allows for a deeper understanding of the work produced and their societal implications (Schwartz, 2016). This allowed me to question the nature of deceptive design being “bad” regardless of all social, cultural and geographical situations that the design is located within.

Chapter 3

Chapter 3

Chapter 3

Chapter 3



Community Approach

Proceed

Chapter 3

Research Design

As a person with an interaction design background, I interact with design students in some form or another within my own work. Design students who are just beginning to understand their practice are open to ideas, they are figuring out their process and are often flexible with it. Awareness of frameworks through education have the strongest impact on them. What if there was a course for undergraduate students, which could provide them with a comprehensive understanding of deceptive design and reinforce the concept of responsible design?

I started by workshopping the background research, ideas and case studies into an educational curriculum (Anselmo et al., 2021). This includes creating a course curriculum that allows critical thinking and making of deceptive design in order to develop responsible frameworks. This offers opportunities for groups to collaborate, explore theoretical concepts, allow dialogues and critical understanding of societal impacts of design.

Education is used as a tool for deceptive design literacy. The course developed from the workshops aims to understand the gap and form literacies that are necessary to combat deceptive design in workspaces by providing users with simulations of workplace design briefs. The course creates a shared understanding of deceptive design and strategies on how we can work together as a community to combat them. It also deals with how we can become responsible designers and assess our own work through reflective practices.

A zine is used as a way of dissemination of taxonomy of deceptive design. A taxonomy (Mathur, 2019) is used in the course, categorised based on the psychological impact they have on the user and how the users are being deceived cognitively by closely studying common human tendencies and preferences. Using the taxonomy to reflect on one's own designs is a way to assess work that can be deployed responsibly.

Interviews and Surveys

From July through November 2024, I conducted expert interviews. This included five designers between the age of 25-40, working in the field of interaction design, and three legal experts. The prominent ones include:

- Harry Brignull - Author of “Deceptive Patterns” and creator of deceptivedesign.org.
- Kosha Doshi - M.Law Berkley, Advocate for Ethical design and contributor to deceptivedesign.org.
- Dark Patterns Lab - Legal team in Australia working towards ethical design frameworks.
- Trusted Design Organisation - Full stack team working towards ethical design frameworks.

Relevant insights gained from these expert interviews are as follows:

- Laws addressing deceptive design are evolving, focusing on visual designs with easily gathered evidence, but invisible dark patterns, often driven by AI and predictive algorithms, remain hard to regulate.
- While laws are being implemented, enforcement is lacking, and cases often overlook the broader consequences of deceptive designs.
- Businesses relying on dark patterns are less likely to adopt ethical frameworks, and fines for deceptive practices are often insignificant compared to profits.
- Designers, through community collaboration and advocacy for ethical design, can push for solutions that prioritize user well-being.
- Engaging teams across hierarchies and raising awareness of ethical design frameworks can promote responsible design practices.

Based on the information collected so far, I conducted a survey for qualitative data collection. I decided to explore a larger educational institute’s audience¹ outlook on what

¹ Educational Institute’s Audience refers to the students of Emily Carr University of Art and Design.

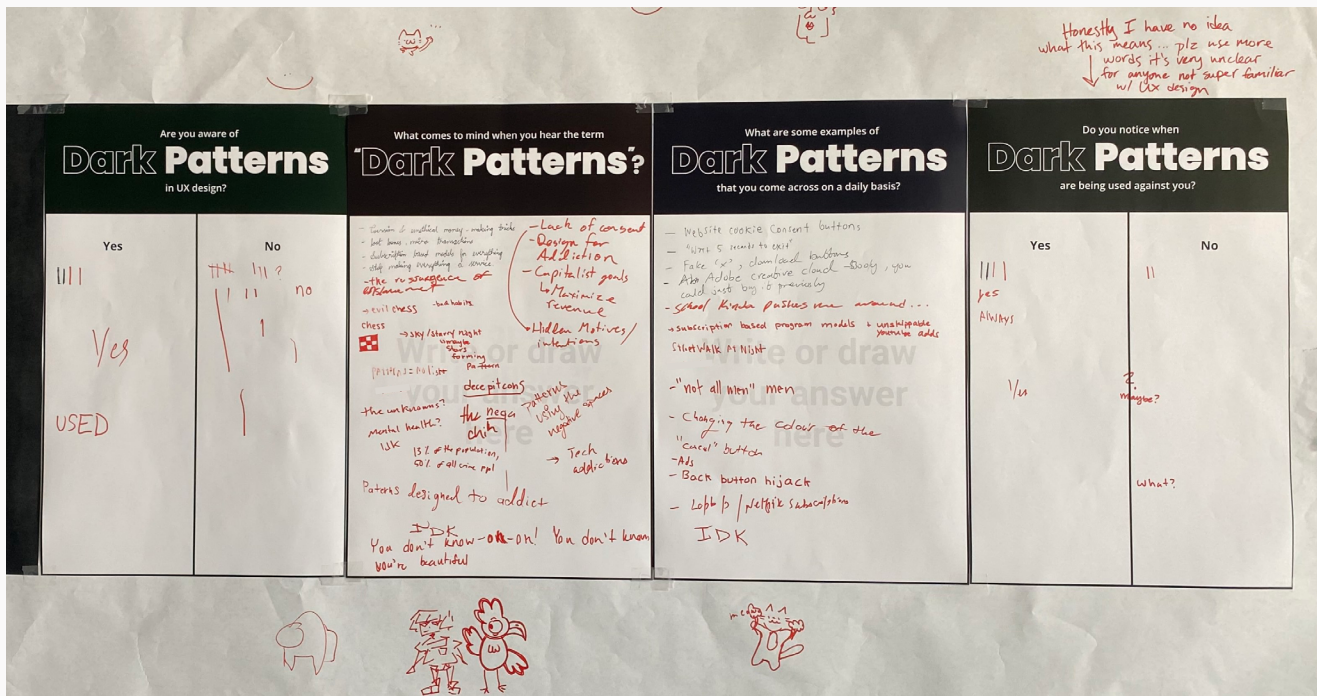


Fig 6: Picture of a survey done in Emily Carr university filled by interdepartmental art and design students.

they consider as harm in deceptive designs and test their awareness of common official terms such as “dark patterns”. The survey received 23 anonymous responses. The undergraduate students knew that they are being manipulated in digital media as they were able to provide examples of deceptive practices but did not necessarily know that an official term¹ for it existed or that there were conversations happening around it.

I conducted a second quantitative survey to see what art and design students considered as deception. Transparency and harm are factors for which I created a graph. The Y axis showed a harmful vs harmless scale and the X axis showed hidden vs transparency scale. I took three examples of deceptive design into consideration namely:

- Facebook’s privacy settings (blue dot) - The user has to turn off each toggle individually in multiple sections so as to make their information private from default public mode.
- YouTube’s premium ads (red dot) - YouTube markets their premium ads on mobile phones and browsers in an interruptive way and uses cognitive bias to get the user to

¹ Some of them defined dark patterns as literal patterns such as a chess board.

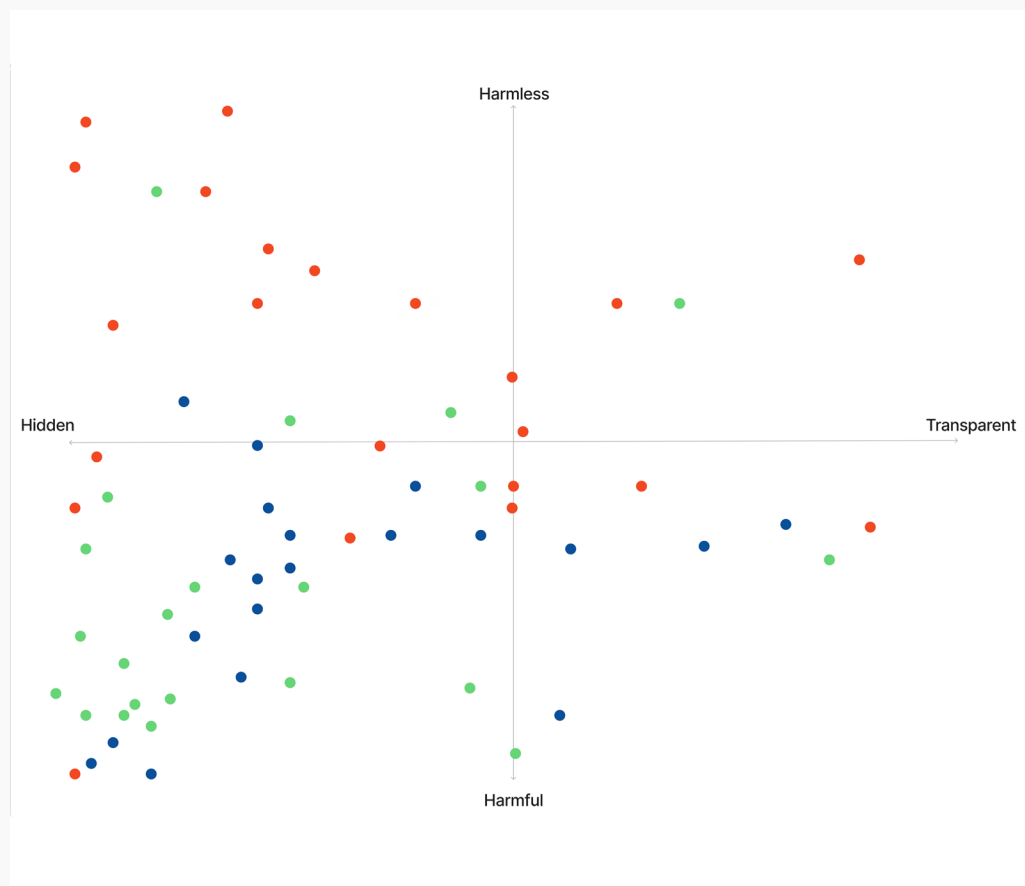
subscribe. Subscribers on Reddit¹ were also claiming that YouTube allegedly pushed ads on them even though they were subscribers of premium.

- Google Assistant's terms and conditions (green dot) - During onboarding of the Google Assistant app, the user has multiple action buttons to be able to see the data that they are allowing google to take and use.

The three examples are intentionally different in the way that they deceive the user. The Facebook example places a direct emphasis on privacy, YouTube on money and Google on attention and consent. All resources that can be exploited and are equally harmful to the user, or at least that was my hypothesis.

¹ Reddit. (2023, March 7). Getting ads in premium? Reddit. https://www.reddit.com/r/youtube/comments/1hn77ma/getting_ads_in_premium/

Fig 7: Digitalized survey results of Emily Carr students plotting three deceptive design examples on a graph.



The results of the survey varied from my hypothesis. This survey recieved 20 anonymous responses. Facebook and Google mostly made it to the harmful/ hidden quadrant but YouTube was mostly in the hidden/ harmless quadrant. This goes to show that users may not necessarily consider the same things deceptive universally. When asked about why they chose so, many of them mentioned that they either user ad blockers or just ignore the premium ads as they are aware of the fact that they don't want it and would rather watch the ads than pay money. Users becoming desensitized to certain deceptive designs almost makes the deceptiveness of the design itself go unnoticeable or considered harmless.

Chapter



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Chapter 4

Prototypes And Feedback Loops

Candy Box Experiment

After initial secondary research, as an interaction designer, I began exploring deceptive designs by visualising them within physical spaces and tangible interactions in products. I began looking into the topic deceptive patterns in October 2023. I explored this space through making and learning of how physical designs can create false expectations within users and mislead them, just as digital mediums do. I illustrated common digital deception techniques such as misdirection, forced actions and obstructions with tangible interactions.

This project is an experiment where my peers tested an intentional overengineered misleading prototype. I tested it with a class of eight interaction design masters students in Emily Carr University. Everyone loves candy right? But what do you do when the candy is hard to get to as a reward where you'll have to navigate a maze of misleading directions and non-intuitive physical designs? The box appears see-through, enticing the user to open it and take the candy, but the lid is actually a hidden puzzle. The user has to navigate a lengthy tutorial, filled with irrelevant steps like watching a fifteen second ad, before being guided to the puzzle's solution. When I tested out this prototype with my peers with the instructions of "feel free to take some candy", they tried opening it for about five mins before they realized it was a puzzle. The frustration slowly crept in. After multiple tries to no avail, they became frustrated to the point that they ended up breaking the box to get to the candy.

Feedback Loop 1 - Everyone worked together to solve the puzzle and they were able to figure out that it was a sham only after they saw the tutorial and saw that it did not help. The collective frustration built up to the point of rebellion against the box which led them to break it. They were able to get to the candy collectively as a group. This made me want to intentionally include community engagement with future work. This experiment pushed me to consider community engagement in the thesis.

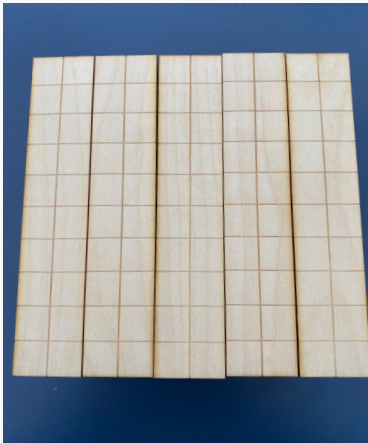


Fig 8: Top view of the candy box



Fig 9: Side view of the candy box



Fig 10: Misleading tutorial label on the candy box



Fig 11: My peers trying to solve the hidden puzzle on the candy box



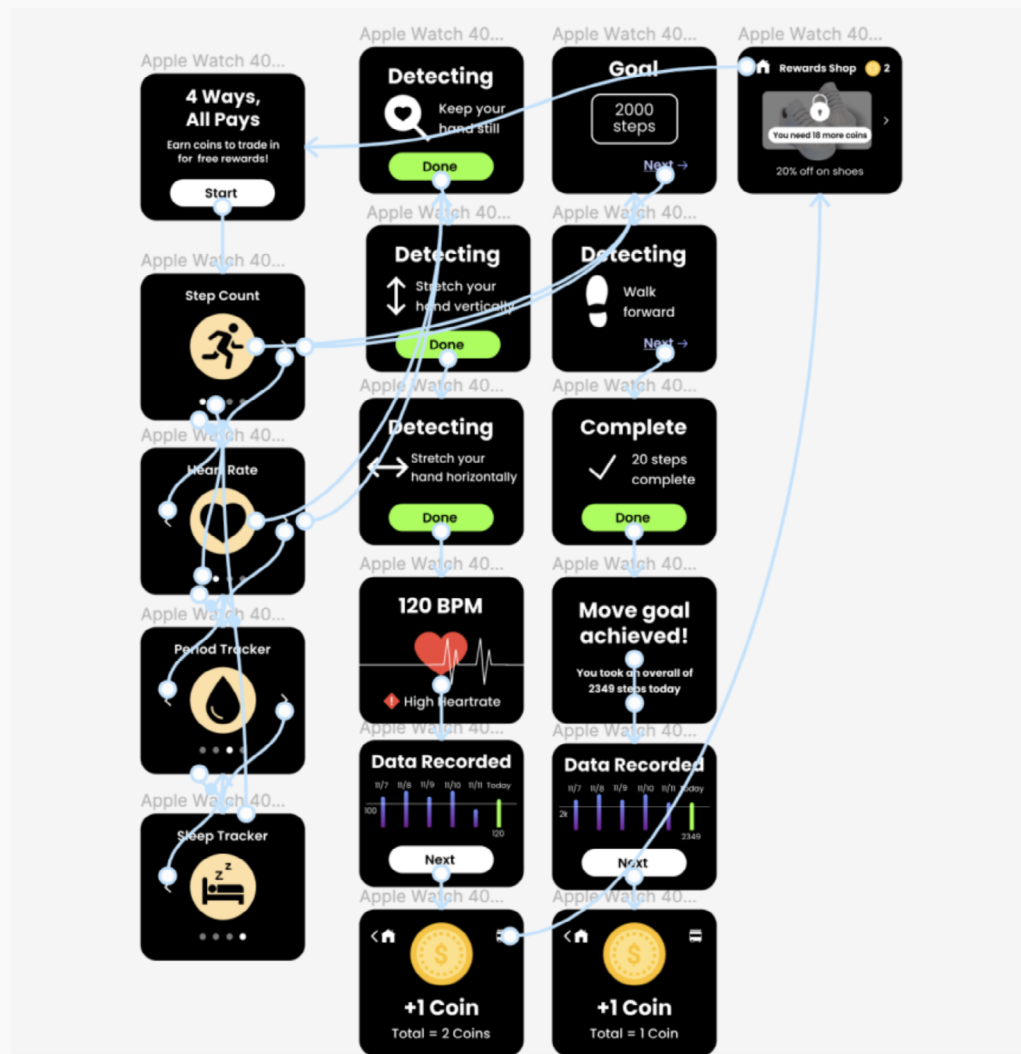
Fig 12: The broken candy box after multiple attempts to solve the puzzle

Four Ways, All Pays Smartwatch Application

This experiment made me consider critical analysis as an important factor in my thesis.

I continued exploring the space of user control through deceptive design in tangible interactions for the rest of 2023 (see Appendix B). I investigated how design choices combined with business goals can be unintentionally harmful to the users. When deceptive designs are supposedly deployed for the right reasons, does that excuse the deceptive nature of it? The project was where I developed a gamified health tracking smartwatch app using the metrics of heart rate and step count in which the user had to do ridiculous tasks for them to reach a certain goal and collect points.

Fig 13: Prototype connections of the smartwatch application on Figma



I prototyped the smartwatch app and tested it with the same peers in Emily Carr University. It has different health factors for which their data is recorded and stored. Once the user collected the required amount of points, they could trade it in the online store to buy an item in the store as motivation for them to be able to reach their goal. After testing the prototype, the user was left feeling confused and underwhelmed as they felt that they had to work a lot, putting in extreme effort with the hope of gaining something more than reaching the goal that they set for themselves. Since that did not happen, they were not motivated enough to use the app again.



Fig 14: My peers testing the prototype on an Apple watch - pt 1



Fig 15: My peers testing the prototype on an Apple watch - pt 2

Feedback Loop 2 - From this experiment, I concluded that deceptive tactics are effective at only achieving immediate goals. Behavioral psychology tactics in deceptive design achieve results but at the cost of emotions running high. The tactics get the user to complete a goal but using something like gamified methods as motivation persuasively might not necessarily contain factors such as loyalty or returnability, that the employer of the designs need to sustain a business. Deceptive tactics are efficient at getting the user to complete short term goals rather than long term goals, even if the product is beneficial to the users. This made me consider critical reflection for my thesis outcome.

Digital Simulations

In November 2024, after conducting different interviews and surveys to get students' perspectives on deceptive design, I created a workshop to get understand perspectives through participatory methods and community engagement. The workshop took place for three hours. Six interaction design master's students from Emily Carr University participated. Three groups of two people each were formed. A hypothetical roleplaying scenario is simulated where the participants are working for a company that gives them business objectives such as "retain users through UI optimization" or "upsell premium subscription to consumers" so that the company is able to make profits. The participants sketch and create paper prototypes of the UI with the ideas that they came up with.

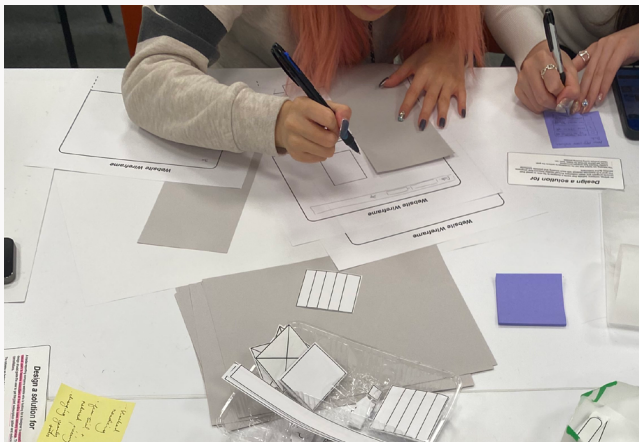


Fig 16: Participants creating paper prototypes in the digital simulation workshop

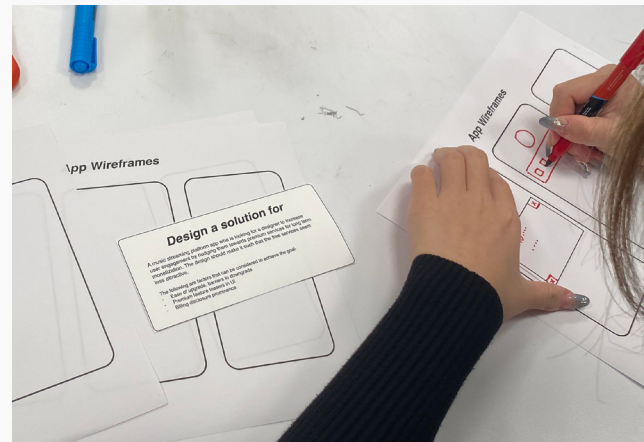


Fig 17: Participant sketching their idea for the design brief in the digital simulation workshop

The designs that were produced were filled with an array of deceptive designs. They contained hidden costs, hidden subscription conditions, etc. The brief never mentioned that they had to use deceptive design tactics to achieve the goals. We got into dialogue and reflected on the designs. We were able to create conversations about the way that the companies go about doing it and they began bringing up lot more designs that are frequently used and that don't go unnoticed when the topic is brought up. This is also the case for designers working in the context of their first job after graduating from a design

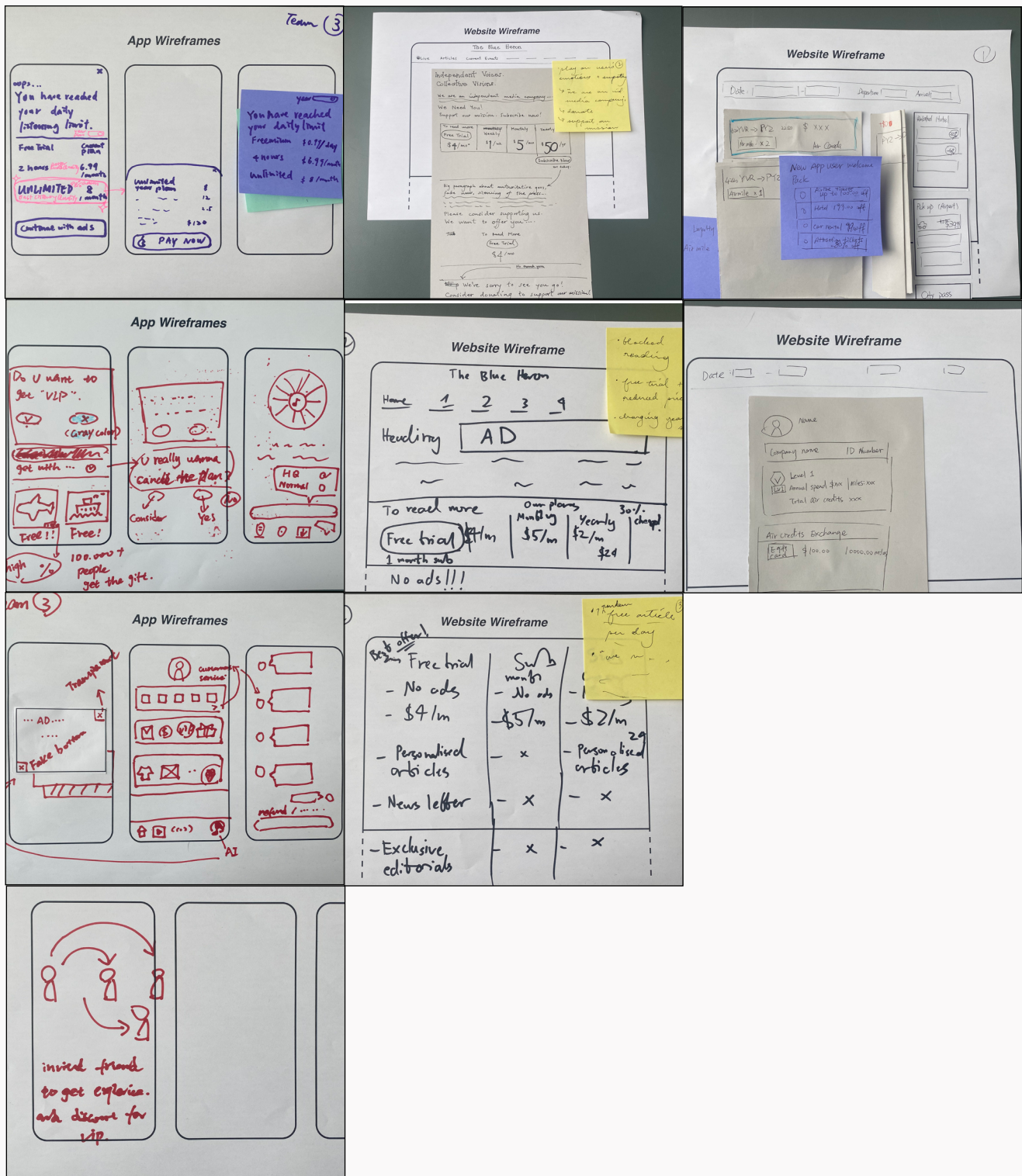


Fig 18: Compilation of paper prototypes of the digital simulation

degree or retaining jobs which cannot be ignored by standing on a high moral ground. Since these deceptive designs are used so frequently, they recognise that it is normalized and almost a template for them to follow to fulfil the business objectives.

Course Structure Prototype

After the inputs I received from previous prototype testings, I created a workshop to prototype the structure of the course curriculum for community engagement on a bigger scale. A three hour workshop was conducted as a part of a behavioral psychology class with 19 first year interaction design students from Emily Carr University (see Appendix A). I collaborated with the professor of the class, Ben Unterman, who wanted to talk to the students about deceptive design. The class is conducted during the fourth week of the four-month course where the students have a basic understanding of UX designs but have little to no experience of working in the industry. It aims to provide them a comprehensive understanding of deceptive design practices and reinforces the importance of responsible design as they move forward in their careers. This workshop is a test of a structure that is later expanded into a full three to four month course outline.

The workshop with first year undergraduate students contains the following steps-

- *Problem Identification* - The participants work on making an app as their major project for the class. This required them to establish a problem area in which they could implement their app as a solution. For example, one participant came up with "finding inspiration for outfits everyday". There were various other similar problem spaces that other participants wanted to create an app for.
- *Solution Development* - The participants would come up with a solution for their specific problem area. For example, the participant's solution is "working on a fashion retail app

that can customize outfits and create OOTD¹ inspirations using AI". They ideate features that would be suitable to create a working prototype of an app where they incorporate UI and UX principles.

- *Product Research* - The participants do their research for the product, figure out user groups, create personas and come up with a set of features for their respective products. The steps so far were conducted before the workshop took place in class.
- *Introduction to Deceptive Design* - The workshop was conducted in the class at this stage. The participants were introduced to the concept of deceptive design, what it is, why it exists, why it's relevant and popular case studies. There is also a brief explanation about the grey space that exists between deceptive design and responsible design as well as what counts as an ethical design practice.
- *Zine* - A zine containing the categories of deceptive design is distributed to the students (see Appendix C). It is a supporting resource for the workshop where the participants choose three types of deceptive designs from the zine, which contains seven categories and fifteen types of deceptive designs, and use those designs to create a more deceptive version of their product app. They ideate and make low fidelity wireframes for a deceptive version of their original product.

The zines contain the following seven categories and fifteen types of patterns from the Mathur taxonomy (Mathur et al., 2019)². They are as follows:

1. Sneaking - Sneak Into Basket, Hidden Cost, Hidden Subscription
2. Urgency - Countdown Timer, Limited- Time Message
3. Misdirection - Confirmshaming, Visual Interference, Trick Wording, Pressured Selling
4. Social Proof - Activity Messages, Testimonials
5. Scarcity - Low Stock Message, High Demand Message

¹ OOTD - Outfit Of The Day

² (Brignull, 2024) The taxonomy by Arunesh Mathur is referenced and used in the new deceptive design education resource pdf that Harry Brignull created for educators and facilitators.

- 6. Obstruction - Hard To Cancel
- 7. Forced Action - Forced Enrollment



Fig 19: The cover page of the zine



Fig 20: The layout of the Sneaking category in the zine

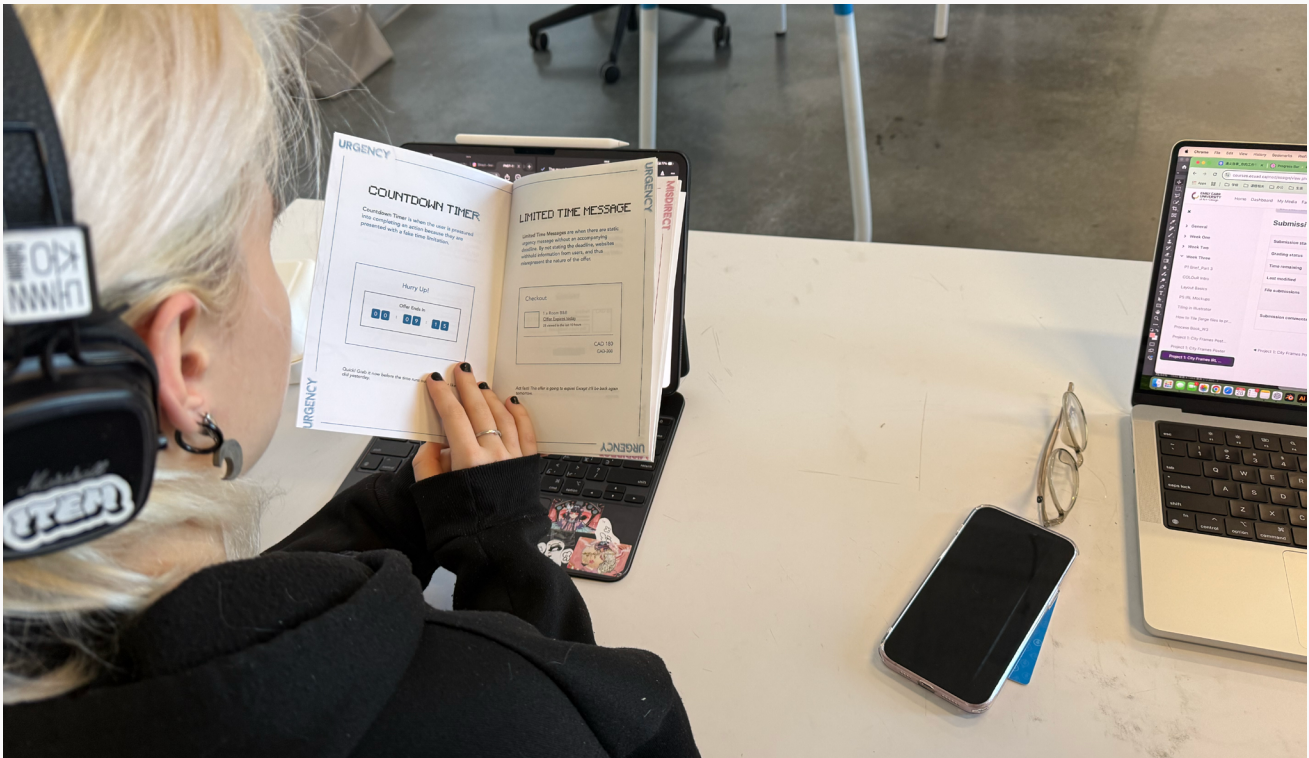


Fig 21: A student from the workshop reading the urgency category types with descriptions and examples in the zine

- **Card Sorting Activity** - Participants are handed out post-its where they write down their ideas surrounding one driving question “what factors make you consider something as a deceptive design?”. The participants worked together to group similar ideas together, create categories and name them. The categories that were most common were scarcity, lack of transparency, urgency, financial loss, attention grabbing, malicious intent and causing user distrust.
- **Reflection and Evaluation** - Participants use the deceptive version of their product to put themselves in the shoes of a designer with the intentions of achieving business objectives through deceptive design. A framework of responsible design practices is created from the shared understanding of what responsible design means to them from the card sorting. They use their learnings to redesign the deceptive version of the product using the framework they created together.

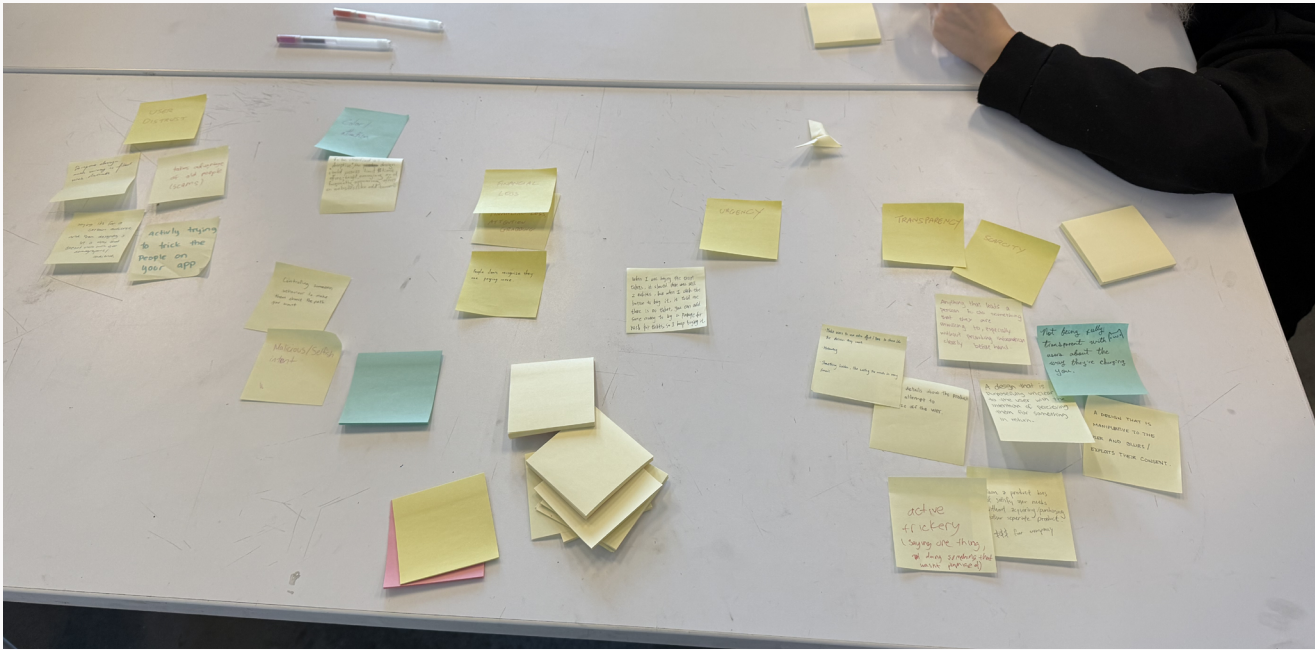


Fig 22: Card sorting activity from the workshop

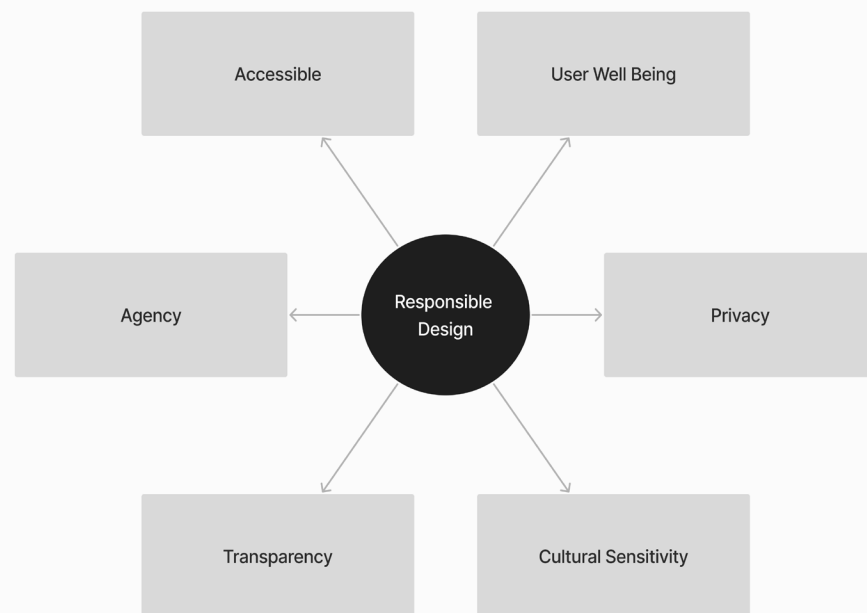
There were many conversations about how they are affected by deceptive designs as well as their frequency and prominence in the modern world where we are becoming increasingly dependent on screens to lead our daily lives. Some of them had ideas that were deceptive to begin with and the workshop helped them reflect and become aware of it. Whether they want to proceed with the idea or not is a choice that lies with them but making them see the ways in which it affects users was the workshop's goal. They became more engaged as they saw examples such as deceptive design in Candy Crush which uses money for the player to proceed to the next level since it is a free source game (Sapieha, 2013).

Emerging Themes

From the research methods so far, a pattern emerged in what people consider are responsible design for them. The workshop had one driving question to it which is “what does responsible design mean to you?”

The following are the factors or common themes emerging from the interviews, surveys and an initial framework that participants can add to with their own perspectives.

Fig 23: Emerging themes from the research methods conducted



- **Accessibility** - Adhering to accessible design standards is something that is considered to be a legal obligation (Web Content Accessibility Guidelines 2.2, 2021) for most designers and architects who work with creating spaces both digitally and physically. It allows designers towards working towards an equitable digital ecosystem with considerations of wider groups of audience and participation.
- **User Well Being** - Services and products that prioritise the user's best interest also contribute to a greater user

experience and business sustainability. There are direct impacts on how people interact and experience a product through the way that it is designed. Keeping user well being in mind while designing helps in creating a positive and responsible user experience.

- **Agency** - When a designer allows the user to be in control of how they use the product or service, the user is treated with respect and they have the confidence to continue using it. Building user trust and loyalty is through building user empowerment which lies in the fact that the user is in control of decisions and options that are available to them.
 - **Privacy** - As the world grows increasingly dependant on digital mediums to get simple daily tasks done (hi there, manipulative tech giants), users should be able to use a product without a constant fear of exploitation or surveillance. There are many infamous cases of data leaks, misuse and identity theft, which we know is not a joke. Making sure that the user feels safe in using a product, needless to say, counts for a decent user experience in using a product.
 - **Transparency** - When organisations communicate their intentions clearly, the user feels respected and makes informed decisions based on the choices that are presented in front of them instead of feeling wary about being pushed towards a certain decision that might or might not benefit them. Confidence in interacting with products helps the user feel secure and protected while using them. It shows the honesty in the way a product is designed as well which increases user trust in the business.
 - **Cultural Sensitivity** - Considerations of designs that are created and communicated should respect diverse backgrounds, beliefs and values that the user group shares. Misrepresentation, exclusion or problematic themes are often seen in the way businesses function that are seen as ignorant and tone deaf. This damages the reputation and erases user trust in the company or it might just end up becoming a viral meme.
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Chapter 5

Search Results

Results And Discussions



Chapter 5

Findings And Analysis

By learning through making with tangible interactions, this is my reflection. Initial research questions that I had were surrounding how deceptive designs can be visualized and explored through the methods of learning through making projects that were inherently intended to be deceptive to its users. Testing out prototypes led users to feel frustrated and they were not very pleased with the amount of effort they were putting in, that yielded minimum to no results.

After testing prototypes with my peers who are all from a range of different countries and cultures, I discovered that there were vastly different outlooks on privacy. Some of my peers, who spent most of their lives in China, mentioned that information is not something that they go out of their way to protect as it is normalized where they are from. They wouldn't necessarily click on the "Cookies preferences" and individually switch off every single toggle that allows them to take your information apart from what's essential. They would click on the big bright "Accept all cookies" button instead, even though they're aware of the fact that they're taking their information. Force of habit or normalization of surveillance leads them to do this but since I started testing out my prototypes and them having conversations constantly about deceptive design, it made them rethink and look at it from a different perspective. Knowledge sharing and dissemination of information played a huge role in the same.

The digital simulations and the course prototype workshop were conducted successfully. The result of working with students for the workshop which contained a three hour lecture covering the course topics very briefly followed by a week-long assignment of making their designs deceptive and rethinking how they can implement the same ideas in a responsible way in a condensed intensive workshop format proved to be quite effective. However, there were some improvements to be made in the specificity of the questions that were put across to the participants. The students were interested and engaged in learning more about the topic by the end of the workshop.

Chapter 6

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Design



Chapter 6

Design Outcome



Chapter 6

Design Outcome

Chapter 6

Educational Framework Development

A course curriculum is developed from all the data collected so far as the outcome of this project. This course implements all the information learned and addresses the gaps faced within literacies of deceptive design in undergraduate interaction design education. The course includes modules, lesson plans, activities, assessments, and grading criteria. The structure is inspired by the BOPPPS¹ lesson plan (Zheng, 2023) and is modified to fit each subtopic's learning goals. BOPPPS stands for Bridge-in, Objective, Pre-assessment, Participatory Learning, Post-assessment, and Summary. The BOPPPS model is used in implementing each lesson in the course module as well. The aspects of the course are as follows:

- **Learner's Profile - Pre Assessment**

Undergraduate students studying interaction design with basic knowledge and understanding of UX and UI principles would be a learner's profile for the course. Goals would be for the course participants to be introduced to the concept of deceptive design, understand the importance of responsible design practices. Designers often enter the industry without prior knowledge about deceptive design practices in educational institutions which leave them susceptible to implementing these practices knowingly or unknowingly with their own work. The workshop creates potential to understand spaces for designers to make change, the responsibility that designers hold and influences they can empower and realize where to push back against clients when asked to implement these designs through the importance of responsible design.

The course introduces participants to the concept by understanding their knowledge of deceptive design practices by showing commonly used deceptive design practices and know if they are able to spot anything in common between the examples. It includes them ideating for a business goal as mentioned earlier, reflecting on their work and discussing it

¹ The BOPPPS model was developed in Canada during the 1970s and has undergone various stages of refinement, demonstrating its effectiveness in promoting active student participation in the classroom.

in terms of how deceptive their designs are, how they affect users and in what ways.

● Objectives

1. Dialogue and debate about current deceptive and ethical design applications and how we can work towards user benefitting design.
2. Community engagement and awareness of diverse perspectives on what factors cause harm and identifying them in their own work.
3. Create literacy in educational contexts with current influential case studies and taxonomy of deceptive designs.
4. Understanding gaps of current ethical models and what we can do as a community with possible solutions to fill them.
5. Create strategies for responsible design practices with evolving technology and social values.
6. Facilitate development of critical thinking in beginner designers and accountability towards users through design solutions.

● Sessions Breakdown - Modules

Each subtopic is a different class amounting to twelve classes with lectures, activities, assignments with additional critique and 1:1 feedback sessions potentially amounting to sixteen classes becoming approximately a four month course. The topics are as follows:

Main Topic 1: Introduction to Deceptive Design¹

Subtopic 1: What is deceptive design?

Subtopic 2: Case studies and types of deceptive design

Subtopic 3: Understanding why deceptive designs work

Main Topic 2: Empathy Studies and Reflective Work²

Subtopic 1: Understanding responsibility as a designer

1 Learning outcomes - Define and contextualize deceptive design practices, Research and discover deceptive design practices using case studies, Critically evaluate how different deceptive designs function to deceive

2 Learning outcomes - Internalise social responsibilities that designers hold, Create empathy maps based on user goals, Evaluate and contextualize their work with regards to deceptive practices

Subtopic 2: Empathy mapping

Subtopic 3: Learning about reflective practices

Main Topic 3: Responsible Design Practices¹

Subtopic 1: Understanding existing responsible design frameworks

Subtopic 2: Creating own responsible design strategy

Subtopic 3: Implementation of responsible design practices

● **Interactivity**

Participants are expected to work on an in-class activity for every subtopic.

Main Topic 1:

I. Self Reflection - Participants come up with a problem area and solution for an app or website and discuss it with each other.

II. Case Study Examples - After being introduced to the concept of deceptive design, participants work to find examples on their own by using their own devices from applications and websites that they use daily. They discuss why it is effective on them and why they are susceptible to them.

III. Evil Product Design - Participants choose three different commonly used deceptive design types from the zine to incorporate into their own idea of a product and discuss why they are a good fit for their idea.

Main Topic 2:

I. Regret Test - Participants imagine that their users are in the room while they are making design decisions. They discuss if they will still pick the choice that they are nudging them towards.

II. Black Mirror Test - The participants' designs of the deceptive version is the new norm in the world

¹ Learning outcomes - Discover and critically analyse ethical design frameworks, Create a responsible design strategy and understand its implications, Use the strategy in their own work

(hypothetically of course). They storyboard how the world would look if everyone made the same choices that they did. They discuss if the world would be better off or worse with their proposed “solutions.”

III. IRL¹ Test - Participants imagine their product to be an extension of themselves and discuss if they would be comfortable with themselves or and discuss if they would endorse the same to a friend.

Main Topic 3:

I. Card Sorting Activity - Participants write down that responsible design means to them individually and discuss as a group on common factors, giving them categories and names.

II. Parameters - Participants use the responsible design framework that they created to work on their product ideas and begin creating low fidelity wireframes.

● Knowledge Checkpoints

1. Topic 1 Assignment - Selecting a previous work of theirs or a new case study with a clear problem area and solution with features, redesigning it with deceptive designs.
2. Topic 2 Assignment - Incorporating all the empathy tests and submitting an empathy map of each test that they have done.
3. Topic 3 Assignment² - Participants submit low fidelity wireframes with the responsible design framework incorporated into their original product ideas with reasoning behind their design decisions.

¹ IRL - In Real Life

² Assignment 3 is meant to be the Major Assignment for the semester for this course curriculum.

Criteria	No Development	Low	Moderate	High
Main Topic 1: Introduction to Deceptive Design- Assignment 1	Shows no understanding of deceptive design concepts; minimal engagement with own work or problem space.	Demonstrates limited understanding of deceptive design concepts; redesigning with key concepts of deceptive design missing.	Shows general understanding of deceptive design; underdeveloped or unclear ideas of problem space or own work.	Comprehensive, well- supported and clear insights on deceptive design concepts; shows it in the selection of deceptive designs with regards to problem space.
Understanding of Main Topic 2: Empathy Studies and Reflective Work- Assignment 2	No grasp of the topic; empathy map lacks coherence or relevance.	Weak understanding with minimal explanation or analysis of empathy map and tests.	Empathy map provides a reasonable explanation but lacks depth or detail.	Well-developed empathy map and understanding of tests with clear, relevant connections.
Understanding of Main Topic 3: Responsible Design Practices- Assignment 3	Wireframes are off-topic or missing responsible design framework.	Wireframes with incomplete and vague design decisions which incorporate the framework.	Developed wireframes with design decisions that demonstrates a basic understanding of the framework but could be clearer.	Thoughtful wireframes with a structured and logical reasoning of design decisions that reflect an understanding of the framework.
Class Participation and Dialogue	Does not participate in discussions; disengaged from activities.	Rarely contributes; responses are minimal or off-topic.	Participates occasionally with relevant insights but lacks consistency.	Actively participates with meaningful contributions, encouraging discussion.
Time Management and Studying/ Research Skills	Fails to complete assignments on time; no evidence of research or preparation.	Struggles with deadlines; minimal research or preparation.	Completes most tasks on time with some research effort.	Well-organized, meets deadlines, and demonstrates strong research skills.
Critical Thinking and Articulation	Underdeveloped or copied ideas about deceptive design.	Basic understanding of deceptive design with lack of depth.	Demonstrates competent ideas with partially developed arguments.	Strong, clear, logical and well- supported ideas.

Fig 24: Iteration one of the grading rubric for the course

Analysis - Challenges

This course can be implemented in many ways. The course structure is a potential direction that educational organisations can begin implementing in their interaction design, UX, HCI and interdisciplinary design programs. However, it comes with its set of challenges.

This is the first iteration of the course structure. Thinking about how this course can be optimised within the four months where they can think critically about deceptive design was a challenge that might be improved in further iterations and with further research on topics. Keeping the workshop relevant to current trends, UX workplace practices and deceptive topics is another space where there can be improvements. The course has to be flexible and contain updated information when it is implemented.

Having said all of this, the course is created with considerations of a Canadian digital landscape, audience and, laws. But the course would look very different in an Indian context, for example. Something like data privacy for an Indian person means a different thing than to a Canadian person where differences may arise with regards to things like media literacy and information literacy. The course would need to adapt the structure, modules and topics to reflect the same.

In general, implementation of courses are not the easiest in any educational organisation. Certain factors are outside the control of instructors such as funding and administrative issues. This is an institutional challenge where the course should be pitched in a way where the administrators are convinced as to why a course like this matters.

Interpretation of the Results in Relation to Research Question

The course creates community engagement through making

and dialogue to employ responsible design practices. The students found that the workshop prototypes were able to bridge the gap between theoretical concepts and real world practical knowledge. Traditional interaction design¹ education is focused on teaching design principles, case studies and is often theory heavy which builds foundational knowledge but lacks engagement with industry applications (Dunford, 2018). But the course creates a space for discussion and reflection where students can navigate the complex spaces of social responsibilities of a designer, business objectives and user prioritisation. By engaging in dialogue with a broader community of young designers in an pedagogical context, the students are able to develop their own practical strategies of combatting deceptive design in potential future professional settings.

Addressing deceptive design requires action to be taken from a community and not just individually. It brings together facilitators, education systems, students and young professionals alike to collaborate in exploring ethical challenges and predominant issues faced by the industry today. This brings momentum in creating systemic positive responsible changes. The course creates a culture where ethical considerations are embedded in the community's design practices from the ground up.

The course equips students with skillsets to resist deceptive design. As deceptive designs become increasingly sophisticated with growing technology, design education must also accommodate students with the necessary skillsets to be able to combat them with responsible design practices. Educational frameworks in upcoming courses or educational systems must incorporate critical thinking of responsible design practices in design curricula as a core subject. Collaborations with other related and relevant fields such as psychology, law and business ethics can help designers with broader perspectives as well as wider knowledge which can help them combat deceptive design issues in better ways.

¹ This gap between academic instruction and practical industry needs has been a topic of discussion among educators and professionals. (Dunford, 2018)

It is now safe to turn
off your computer

Conclusion

Summary Of Findings

Deceptive design is a widespread issue that requires education and intervention. Behavioral psychology methods are used as tools in creating deceptive designs such as nudging, creating an attention economy and hiding options. Learning about them helps us understand deceptive design better. This results in users intentionally being coerced into making uninformed choices.

Existing ethical frameworks and case studies help in creating a strong foundation to combat deceptive designs but they lack in universal implementation due to different social values influenced by region, culture and enforcement policies. Regulatory bodies are working on creating anti-deceptive design policies but fall short regarding their enforcement.

Designers carry a social responsibility to implement their work ethically due to the way technology is used today. From the research methods of visualising deceptive designs, simulating workplace scenarios and workshopping a course structure, common themes for a responsible design framework emerged from them namely - accessibility, user well being, agency, transparency, privacy, and cultural sensitivity. Using this framework and adapting it to their own views of what responsibility means to the designer is a start to designing ethically.

A course curriculum is created due to the importance of critical awareness and community engagement in combatting deceptive design. It is used as a proactive way of raising awareness and equipping designers with tools to recognise and resist deceptive patterns. By engaging in participatory activities, diving into types of deceptive designs and having ethical design dialogue, participants gain a deeper understanding on deceptive design and its implications. The course pushes for analysis of one's own work such that students can reflect through critical engagements and make more responsible design decisions in the future.

In conclusion, this project starts by creating conversation

around deceptive design, helps create strategies for responsible design , and it provides a resource in the form of a course curriculum for disseminating this knowledge to students.

Contributions To The Field Of Design

Surveys and interviews were done after which it was found that there was a gap in terms of awareness of deceptive design within the design community. There was also a lack of critical engagement with the topic amongst young designers. A new way of teaching ethical and responsible design practices in design programs was explored. The pedagogical approach in interaction design and UX education pushed the students to go beyond conventional standards and discuss the complexities of responsible design.

Through the participatory workshops, it was found that the construction and examination of deceptive design led to a deeper understanding of the topic within the community of young designers. This is explored with a pedagogical approach with undergraduate students in an art and design school. This led to a deeper comprehension of deceptive designs along with their consequences and impact. This approach empowered students to recognise, question and resist deceptive designs and advocate for a responsible design practice, driving home the social responsibility that designers hold.

The course outline intends to bridge the gap between theory and practice while providing students and young designers to engage with their own work meaningfully along with developing critical perspectives on it.

Future Work

The future impact is to create a community of responsible designers, the development of research within that space, ensure ongoing conversations, advocacy and dialogue along with new frameworks, best practices and courses.

Improvement in policies and regulations are also a way for a comprehensive course, customised to fit the needs and work of professional designers, to be implemented as an industry standard¹ in companies as a certification in collaboration with policymakers. There could be scaling of the course across different industries such as e-commerce, health tech, IT, etc, each with their own versions and goals in combating prevalent deceptive design practices internally.

Community engagement with responsible design on a larger scale contributes to combating deceptive design. In order to reduce the usage of deceptive design, there needs to be an industry wide culture shift, one that values and adapts ethical design practices, where decisions are made bridging design strategies and ethics. Through community dialogue and education, designers play an important role in creating a safer and responsible digital ecosystem.

¹ Compliance methods are ways for legal regulations to be implemented in as a company standard which is the case for HR laws and operational policies. Making this course as a part of a compliance standard in a company is a starting point in awareness, self- reflection and implementation of responsible design in real world projects. It also opens up opportunities for the businesses to see how deceptive designs don't retain customers ethically and can also cause bad reputation and user distrust in them and their products.

Ariely, D. (2014). *Payoff: The Hidden Logic That Shapes Our Motivations*.

Arseven, A. (2014). The Reggio Emilia approach and curriculum development process. *International Journal of Academic Research*, 6, 166-171. <https://doi.org/10.7813/2075-4124.2014/6-1/B.23>

Baumann, O. (2024, September 15). Study reveals bizarre brain hack. *News.com.au*. <https://www.news.com.au/lifestyle/health/wellbeing/profoundly-positive-influence-study-reveals-brain-hack-to-instantly-lift-your-mood/news-story/fc7e5a380bf0e6518595dc5f58fdfaa1>

Bianchin, M., & Heylighen, A. (2018). Ethics in design: Pluralism and the case for justice in inclusive design. In C. Storni, K. Leahy, M. McMahon, P. Lloyd, & E. Bohemia (Eds.), *Design as a catalyst for change - DRS International Conference 2018*, 25-28 June, Limerick, Ireland (pp. 183-192). Design Research Society. <https://doi.org/10.21606/drs.2018.221>

Blatchford, A. (2018, April 4). Facebook says Cambridge Analytica breach affected over 600,000 Canadians. *Canada's National Observer*. <https://www.nationalobserver.com/2018/04/04/news/facebook-says-more-600000-canadians-were-affected-cambridge-analytica-data-scandal>

Burnham, R., & Wallis, L. (2017). Learning by making: Long-term collaborations and socially productive outcomes. *The Journal of Public Space*, 2(3), 73-84. <https://doi.org/10.5204/jps.v2i3.116>

Brignull, H. (2010). *Dark Patterns*. Retrieved from <https://darkpatterns.org>.

Brignull, H. (2023). *Deceptive patterns: Exposing the tricks tech companies use to control you*.

Brignull, H. (2011, November 1). Dark patterns: Deception vs. honesty in UI design. *A List Apart*. <https://alistapart.com/article/dark-patterns-deception-vs-honesty-in-ui-design/>

Carpenter, J. (Director). (1988). *They live* [Film]. Universal Pictures.

- Çelişik, F. (2024). A Holistic Approach to Creating Ethical Sensitivity and Awareness in Landscape Design Education. *Journal of Architectural Sciences & Applications (JASA)*, 9(1), 634–651. <https://doi.org/10.30785/mbud.1453612>
- Clear, J. (2018). *Atomic habits: An easy & proven way to build good habits & break bad ones*. Avery.
- Cialdini, R. B. (2006). *Influence: The psychology of persuasion* (Rev. ed.). HarperBusiness.
- Dunne, A., & Raby, F. (2001). *Design noir: The secret life of electronic objects*. Birkhäuser.
- Dunne, A., & Raby, F. (2013). *Speculative everything: Design, fiction, and social dreaming*. MIT Press.
- Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business*. Random House.
- Dunford, A. (2018, March 9). There is no such thing as an interaction design degree. Interaction Design Association. <https://ixda.org/there-is-no-such-thing-as-an-interaction-design-degree/>
- European Parliament, & Council of the European Union. (2016). Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation) (GDPR). *Official Journal of the European Union*, L 119/1–88. Retrieved from <https://eur-lex.europa.eu>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford University Press.
- Gal, M. S. (2022). Algorithmic challenges to autonomous choice. *Michigan Technology Law Review*, 25(1), 1-25. Retrieved from <https://repository.law.umich.edu/mtlr/vol25/iss1/3>
- Geidner, N., & Cameron, J. (2017). Readers perceive deceptive graphics as less credible. *Newspaper Research Journal*, 38(4), 1-15. <https://doi.org/10.1177/0739532917739878>

Ghosh, D. (2020). *Terms of Disservice: How Silicon Valley is Destructive by Design* (1st ed.). Brookings Institution Press.

Gray, C., Kou, Y., Battles, B., Hoggatt, J., & Toombs, A. (2021). End user accounts of dark patterns as felt manipulation. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCWI), 1-25. <https://doi.org/10.1145/3449148>

Ihde, D. (1990). *Technology and the lifeworld: From garden to earth*. Indiana University Press.

Jameson, F. (1992). *Postmodernism, or, the cultural logic of late capitalism*. Duke University Press.

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

Kayanadath, T. (2021). Dark Potentials in Smart Environments. doi:10.35010/ecuad:16940

Kshirsagar, M., Mathur, A., & Mayer, J. (2021). What makes a dark pattern... dark? Design attributes, normative considerations, and measurement methods. *ACM Conference on Human Factors in Computing Systems (CHI)*. Retrieved from Princeton

Li, P., Lan, X., Ren, L., Xie, X., Xie, H., & Liu, S. (2023). Research and practice of the BOPPPS teaching model based on the OBE concept in clinical basic laboratory experiment teaching. *BMC Med Educ*, 23(1), 882. <https://doi.org/10.1186/s12909-023-04822-z>

Mayer, R. E. (2020). Designing for responsible digital experiences: Ethical practices and guidelines for digital interaction. *Journal of Digital Ethics*, 22(3), 45-60. <https://doi.org/10.1234/jde.2020.00456>

Mathur, A., Acar, G., Friedman, M., Lucherini, E., Mayer, J., Chetty, M., & Narayanan, A. (2019). Dark patterns at scale: Findings from a crawl of 11K shopping websites. *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCWI), 1-32. <https://doi.org/10.1145/3359183>

Mildner, T., Inkoom, A., Malaka, R., & Niess, J. (2024). Hell is paved with good intentions: The intricate relationship between cognitive biases and dark patterns. *arXiv*. <https://doi.org/10.48550/arXiv.2401.12345>

org/10.48550/arXiv.2405.07378

Monteiro, M. (2019). Ruined by design: How designers destroyed the world, and what we can do to fix it. Mule Design Studio.

Mozilla. (2020). The little book of privacy. Mozilla Foundation. Retrieved from <https://www.mozilla.org>

Nynke Tromp, P., Hekkert, P., & Verbeek, P.-P. (2011). Design for socially responsible behavior: A classification of influence based on intended user experience. *Design Issues*, 27(3), 3-19. https://doi.org/10.1162/DESI_a_00087

O'Neil, C. (2017). Weapons of math destruction: How big data increases inequality and threatens democracy. Penguin Books.

Orlowski, J. (Director). (2020). The social dilemma [Film]. Exposure Labs.

Rosenberg, M., Confessore, N., & Cadwalladr, C. (2018, March 17). How Trump consultants exploited the Facebook data of millions. *The New York Times*. <https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html>

Sapieha, C. (2013, July 30). Candy Crush Saga: Why You Play And You Pay. *Financial Post* <https://financialpost.com/technology/gaming/candy-crush-saga-why-you-play-and-why-you-pay>

Schwartz, C. (2016). Critical making: Exploring the use of making as a generative tool. *Journal of Curriculum and Pedagogy*, 13(3), 227–248. <https://doi.org/10.1080/15505170.2016.1200168>

Thaler, R. H., & Sunstein, C. R. (2009). Nudge: Improving decisions about health, wealth, and happiness. Penguin Books.

Tharp, B. M., & Tharp, S. (2018). Discursive design: Critical, speculative, and alternative things. The MIT Press.

Verbeek, P.-P. (2006). Morality in design: Design ethics and the morality of technological artifacts. In *The moral status of technical artefacts* (pp. 91–103). Springer.

Weir, P. (Director). (1998). *The Truman Show* [Film]. Paramount Pictures.

Warner, M. R., et al. (2023). Deceptive Experiences To Online Users Reduction Act (DETOUR Act), S.2708, 118th Congress, 2023. Available at Congress.gov <https://www.congress.gov/bill/118th-congress/senate-bill/2708>

Wu, T. (2016). *The attention merchants: The epic scramble to get inside our heads*. Alfred A. Knopf.

Zanfir-Fortuna, G., & Bae, M. (2018, November 28). CCPA, face to face with the GDPR: An in-depth comparative analysis. Future of Privacy Forum. Retrieved from <https://fpf.org/blog/fpf-and-dataguidance-comparison-guide-gdpr-vs-ccpa>

Zheng, C. (2023). The BOPPPS instructional model: Development and implications for secondary science instruction. *Frontiers in Educational Research*, 6(19), 35-41. <https://doi.org/10.25236/FER.2023.061907>

Appendix A

Emily Carr University - Research Ethics Board Application

Application for Human Research Ethics - REVISED 2017, 2022, 2024

Project Info.

File No: 100581

Project Title: Navigating Coercive Practices in Digital Media and Technology

Principal Investigator: Dr. Garnet Hertz (Faculty of Design + Dynamic Media)

Start Date: 2024/10/15

End Date: 2024/12/20

Keywords: Design, Interaction design, Product design, Process-based research, Community Engagement, digital media, Psychology, Manipulative Practices, Dark Patterns, Ethical Design

Project Team Info.

Principal Investigator

Prefix: Dr.

Last Name: Hertz

First Name: Garnet

Affiliation: Faculty of Design + Dynamic Media

Position: Associate Professor

Email: ghertz@ecuad.ca

Other Project Team Members

Prefix: Ms.

Last Name: Nagaraj

First Name: Joshita

Affiliation: Faculty of Graduate Studies

Role In Project: Co-Investigator

Email: jnagaraj@ecuad.ca

1. Project Ethics Details

#	Question	Answer
1.1	Anticipated date that work with participants will begin.	2024/10/15
1.2	Anticipated date that work with participants will end.	2024/11/15
1.3	Type of Project	Graduate Thesis Project or Dissertation
1.4	If you have chosen "Other" in the selection above, please describe here	
1.5	Does the research fall within the jurisdiction of another research ethics board or body?	No
1.6	If you answer 'Yes' to question 1.5, please list the names of all of the Research Ethics Board(s) to which you have applied for this project. Include the approval date(s). These dates must match the dates in the certification documents that you attach to this application. Please follow this format: UBC GREB January 15, 2017 to January 15, 2018	
1.7	Are you a student (graduate or undergraduate) applying for ethics approval for a thesis project?	Yes
1.8	Have all of the named researchers completed the TCPS2: CORE (Course on Research Ethics)? If yes, upload each of the certificates using the attachments tab of this application. No application will be processed until all of these certificates are supplied. If you have comparable certification from another site, please upload the certification with an explanation.	Yes
1.9	If you have uploaded comparable certification from a source other	

2. Risk & Review

#	Question	Answer
2.1	(Optional) Would you like to determine the level of risk and review required for this project?	Yes, I have completed the ECU-REB Risk & Review Assessment. (Select and move to next question.)
2.2	From the 'Risk and Review' assessment, the proposed research project is expected to require the following (choose one). Do not attach the 'Risk and Review' assessment	Level 2 - Low Risk

3. Summary of Proposed Research

#	Question	Answer
3.1	Summary of Proposed Research: Describe the purpose of the proposed research project in non-technical language (200 words max, please see info button for details)	The purpose of this research study is to gain information on public and professional perception on targeted marketing, pressure tactics and practices that disclose information in digital media and technology. This study hopes to provide insight on how different geographies and different existing policies have identified them and highlight measures they take with regards to them. Do they give rise to newer and creative ways of creating them and do they play a role in implementing these practices? This research aims to understand the cultural significance of the consequences the practices have and the factors that designers consider when they are created. How can designers and users work together to form ethical design habits? The expected outcomes of this study are for designers to be able to navigate the space of fulfilling business goals ethically and for general users to be able to understand when they are encountering these tactics. The project manifests itself through participatory workshops, interactive experiences and qualitative studies.
3.2	Methods (200 words max): Describe this project's participant research activities. Include details on what will be expected of participants. Attach survey, interview questions and other documents related to the research methods. Include a	As a participant, they will be asked to participate in workshops to come up with ways in which ethical design can be encouraged. The research activities for users include being interviewed in person, as well as online, for designers and workshop

3. Summary of Proposed Research

#	Question	Answer
3.2	Methods (200 words max): Describe this project's participant research activities. Include details on what will be expected of participants. Attach survey, interview questions and other documents related to the research methods. Include a timetable for participant research activities.	As a participant, they will be asked to participate in workshops to come up with ways in which ethical design can be encouraged. The research activities for users include being interviewed in person, as well as online, for designers and workshop collectively to redesign a deceptive practice such as time sensitive call to action buttons or canceling a subscription model ethically once they are taken through an example of a deceptive pattern. Participation will include being recorded for the interviews as well as completing a post workshop survey. The purpose of collecting recordings during the research is to transcribe the interviews and analyse the results of the workshop through the survey. Through these methods, expected insight gained are perception of deceptive practices through the lens of their own lived experiences and how it could be approached ethically.
3.3	Professional Expertise / Qualifications: If any of the research activities require professional expertise or recognized qualifications (eg. first aid certification, registration as a clinical psychologist or counsellor, health practitioner qualifications or expertise, etc), describe them here. Optional - include any training or expertise that the research team brings to any of the methods that involve participants.	B. des - Interaction Design, studied UX, HCI, interactive and UI design

4. Research Participants and Recruitment

#	Question	Answer
4.1	Participants: Indicate the groups that will be recruited for the research project. Describe the inclusion or exclusion criteria (example: undergraduate students, specific age ranges, genders, etc)	Designers working in the field of interaction design, Human Computer interaction and product design with 1+ years of industry knowledge and experience. To reach participants from diverse cultural backgrounds the recruitment notices/letters will request input from designers in North American, Indian and European regions. These factors are considered since this is a study based around experienced young professionals who are familiar with the internet's trends and work with clients. No vulnerable communities will be approached, and no coercive methods will be used to encourage individuals to participate.
4.2	Number of Participants: What is the expected number of participants?	8-12 user experience designers with a design degree as well as industry knowledge and experience from the North American, Indian and European regions.
4.3	Recruitment: Describe how participants will be recruited, and by whom. Attach all recruitment materials(eg. email text, posters, fliers, advertisements, letters, telephone scripts).	Designers who have industry knowledge will be recruited through LinkedIn as well as personal connections through my undergraduate degree currently in the industry for volunteering in the research activities along with a formal written invitation and consent agreement.
4.4	Incentives: Will participants be offered incentives to encourage their participation?	No
4.5	If yes to above, describe the incentive plans and the rationale for using incentives.	

#	Question	Answer
4.6	Participants and vulnerability: Are there circumstances that cause the participants or participant group(s) to be vulnerable in the context of research?	No
4.7	If yes to above, describe the way participant vulnerability may be affected by the research and any measures that are planned to address potential risks associated with these vulnerabilities.	
4.8	Are people from First Nations, Inuit, Metis or other Indigenous backgrounds being specifically invited to participate in this research?	No
4.9	If yes to above, describe any additional reviews/approvals/consultations/cultural protocols required to complete this research. Ensure your rationale for engaging with specific individuals or communities is described in 3.1.	
4.10	Research Locations : Select all locations where participant research will occur.	Emily Carr University
4.11	Provide details of the locations listed above	Emily Carr University, Vancouver, BC, Canada – Masters' design studios. The interviews would be conducted on the ECU campus either in person or through ECU networking tools such as ECUAD Zoom, MS Teams, MS Office. The survey would be conducted online as well or the participants' preferred locations (public working space, cafe, etc.)
4.12	Participant Access to Research Results:	All the participants will be invited to the final thesis presentation through consent forms.

5. Risk vs Benefit

#	Question	Answer
5.1	Describe any known or anticipated direct or indirect benefits to the research community or society that may emerge from the proposed research.	Individuals will potentially benefit from this study indirectly. By assisting this research in identifying the current challenges; providing qualitative knowledge, lived experiences and insight, we will be able to further understand how the perception of deceptive patterns are in digital systems, the issues around the processes, different cultural outlooks on the consequences of these practices and figure out how to navigate it as a community.
5.2	Risks of Research: Check any that apply - list all risks likely to be faced by participants in the proposed research.	Social Risks (including privacy issues, economic position, status, relations with others)
5.3	Describe the risks identified and contextualize them related to risks faced by participants in every day activities. See info button for details.	The research study will not directly inquire confidential industry information, but it will inevitably involve questions about work environment and experiences that arise from commercial client related work.
5.4	Risk Mitigation: Describe how the researchers will mitigate the risks identified above. Describe whether the researchers have the skills to deal with identified risks or whether additional experts will be recruited. Describe any resources that will be made available to participants.	If the participants are under an NDA or if it is confidential, they have full authority to refuse disclosing information which will be made explicit through written and verbal formats. It will also be explicit that anonymity will be maintained during the entire interview, co creation workshop and surveys. If the participants exhibit discomfort or no longer wish to participate, the activity will be ended immediately.

6. Consent

#	Question	Answer
6.1	Consent Documents: Check all of the following consent and release documents that will be used in this project.	Combined Invitation, Consent Form and Media Release Form
6.2	Describe any special consent provisions selected above.	Combined invitation, consent form and media release form will be provided before the interviews, workshop and surveys.

7. Data Management: Confidentiality and Security

#	Question	Answer
7.1	Confidentiality: Indicate the level of confidentiality built into the research design.	Indirectly Identifiable - the research materials (data) can reasonably be expected to identify specific participants through a combination of indirect identifiers like place of residence or date of birth (describe)
7.2	Describe the rationale for the collection of identifiable research materials	Since part of this research takes place online where participants are from different locations, identifiers like place of residence, age demographic, occupation, contact information and years of experience in the industry are considered which contribute to being indirectly identifiable. Survey will be completely anonymous, data collected from the interviews and participatory workshops are for narrative reflections.
7.3	Storage & Destruction of Confidential Material:	The data will be collected and stored in a secured digital environment on local password protected hard drives which will be erased on completion of the project.

#	Question	Answer
7.4	Location of Data: Describe the location for long-term storage of confidential materials	If required by the university, research material will be submitted to the faculty instructor for secure storage on conclusion of the project. If not required, the materials will be erased on completion of the project.

8. Monitoring

#	Question	Answer
8.1	Once REB approval has been obtained, it is the responsibility of the PI to maintain the ethics file in up-to-date good standing and make appropriate reports (such as Adverse Event reporting) and amendments (please see Info button for more details). Is it expected that the proposed research will require additional monitoring beyond the minimum annual requirement?	No
8.2	If you answered yes to the above, please describe your plans for this.	
8.3	Is it expected that the proposed research will continue beyond the conclusion of this project?	No
8.4	If yes to above, describe in detail.	

Appendix B

AR Simulation

They Live is about a wanderer called Nada (Carpenter, 1998), a person without meaning in his life comes across a pair of sunglasses that shows the world for what it truly is. He sees subliminal messages in society that capitalism causes where the people in power take actions to keep the population subdued and under an influence.

I wanted to focus on a less scary version of it where we can imagine people having control over their decisions where they make their own informed choices. The way I imagined this to happen was through an imaginative pair of smart glasses with a filter that shows the user the ways that they are potentially being deceived into doing a particular task or making a specific decision, like Nada's pair of sunglasses.



Fig 25: AR simulation pops up of physical deceptive designs

When the user walks into a grocery store, they might go through a maze of candy aisles just before they reach the checkout counter. This is done intentionally by the space designer that place it there so that the user can impulsively grab some candy right before they checkout with the stuff that

they have. The intention of it is to make the user stop and think about the choice instead of cognitive biases taking over their decision making.



Fig 26: AR Animation - pt 1

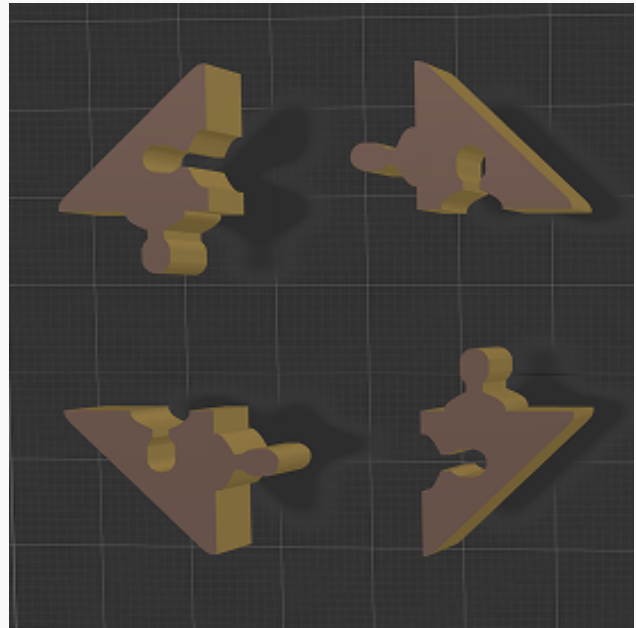


Fig 27: AR Animation - pt 2

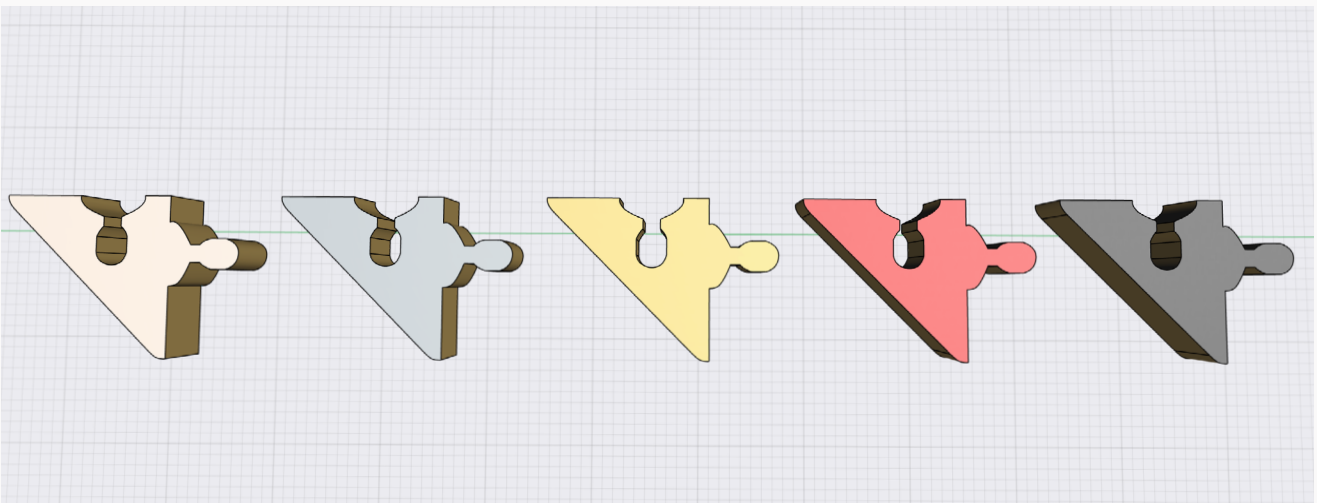


Fig 28: Colour coded puzzle pieces depicting different types of deceptive design for the AR animation

Appendix C

Zine Spreads

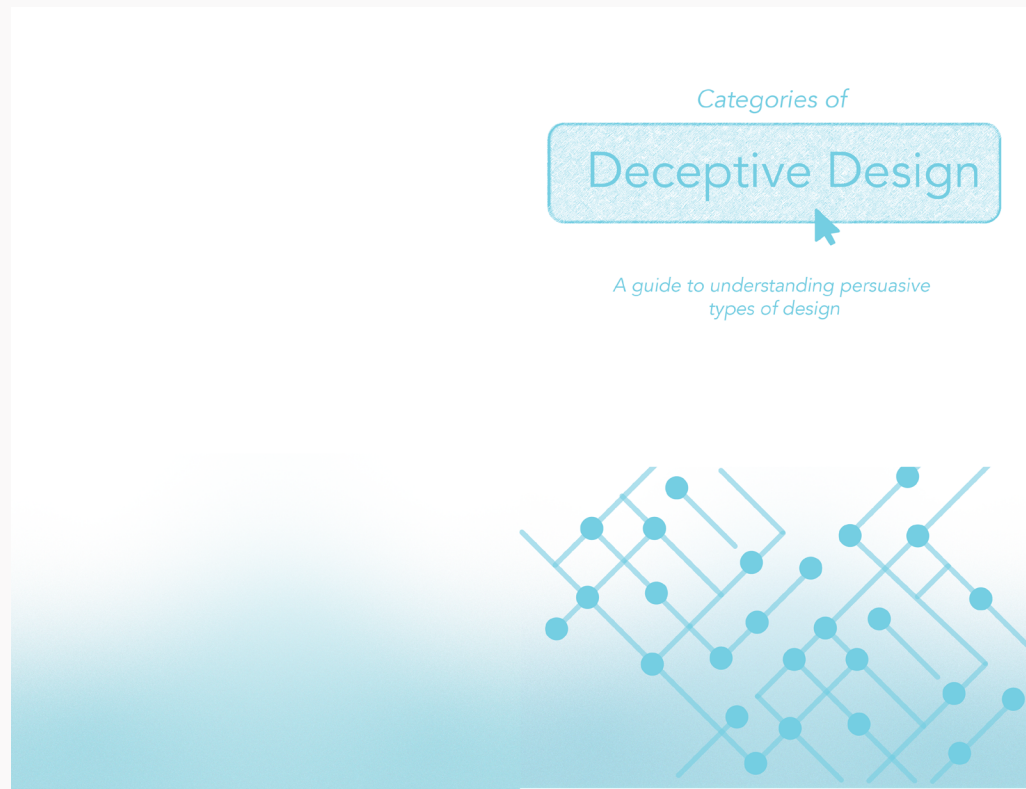


Fig 29: Cover Page of the zine

Fig 30: Page two of the zine



Fig 31: Second spread of the zine

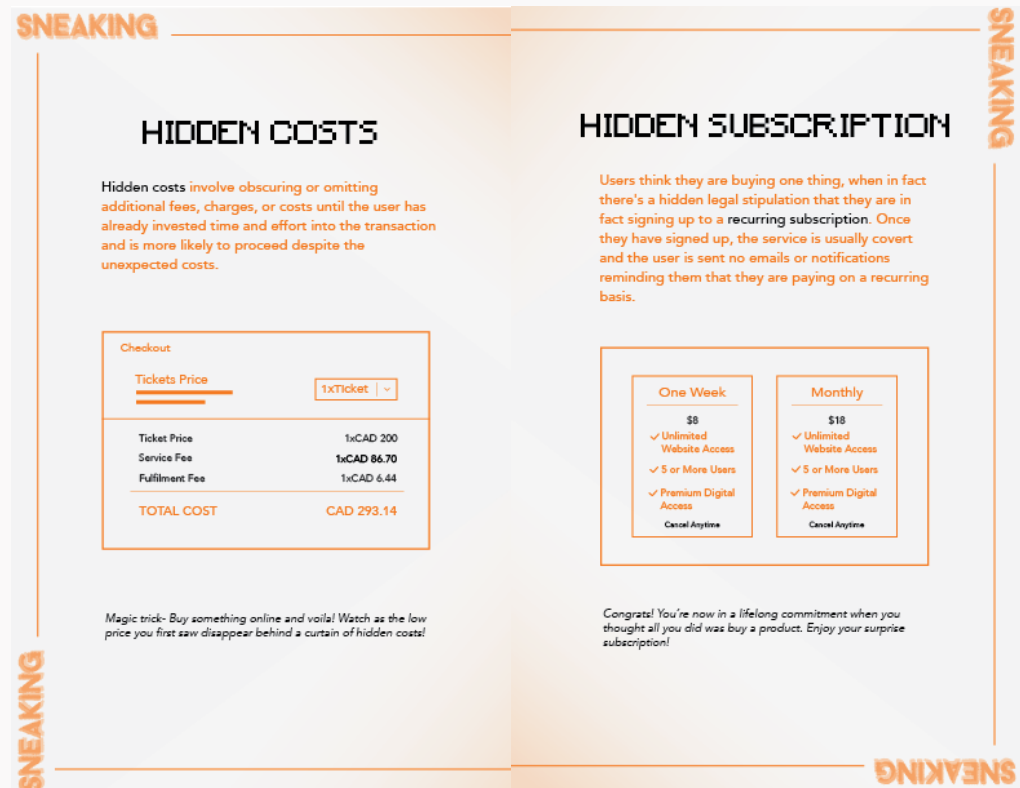


Fig 32: Third spread of the zine

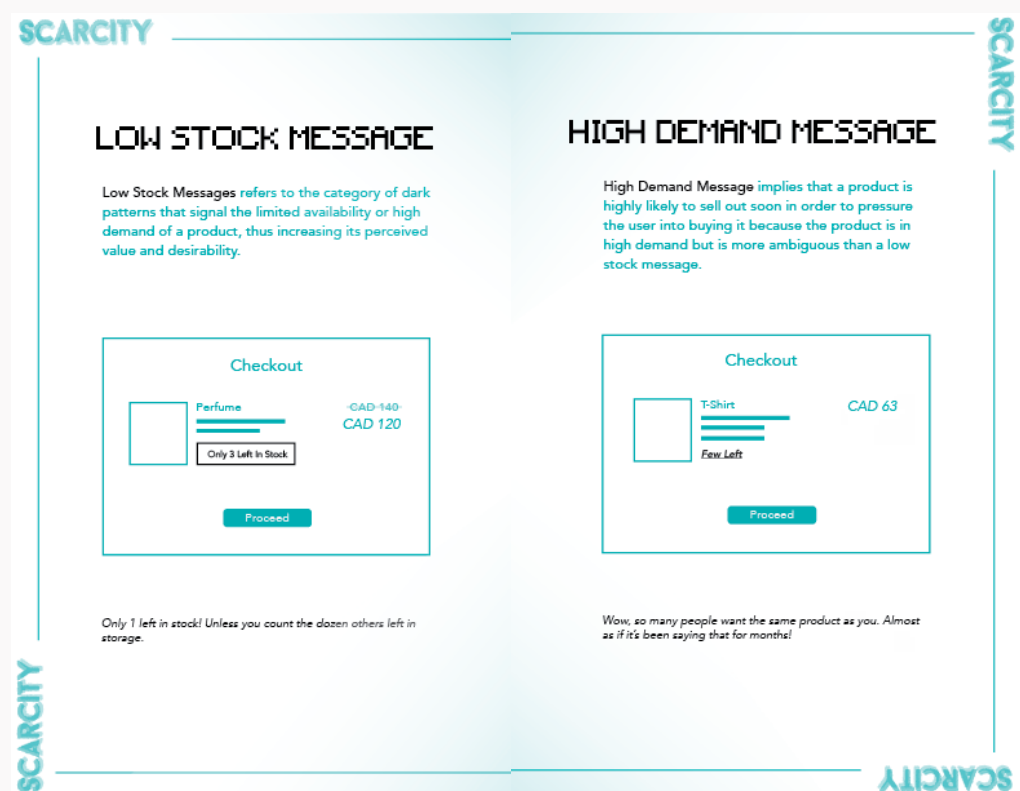


Fig 33: Fourth spread of the zine

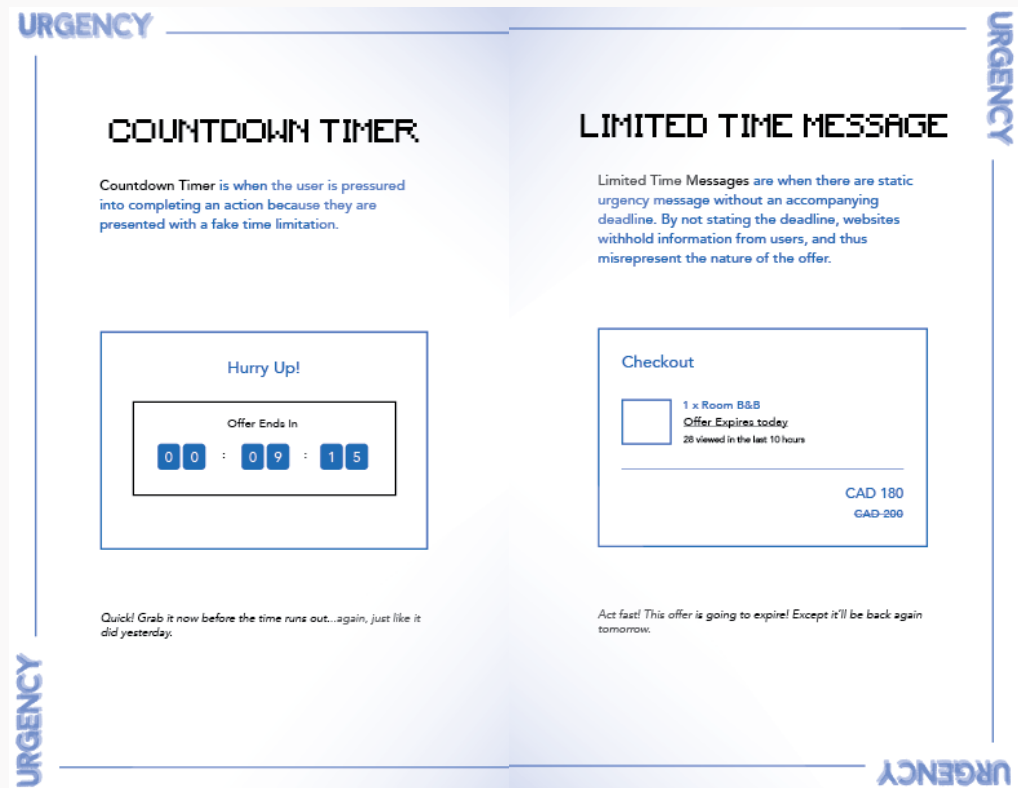


Fig 34: Fifth spread of the zine

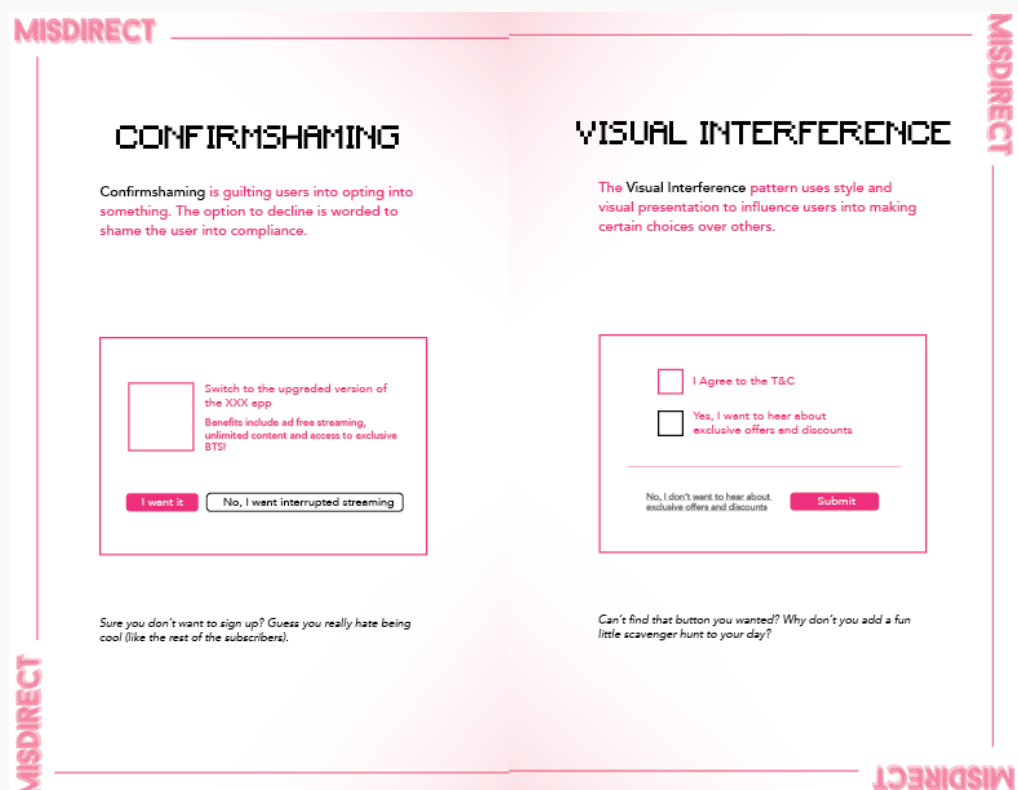


Fig 35: Sixth spread of the zine

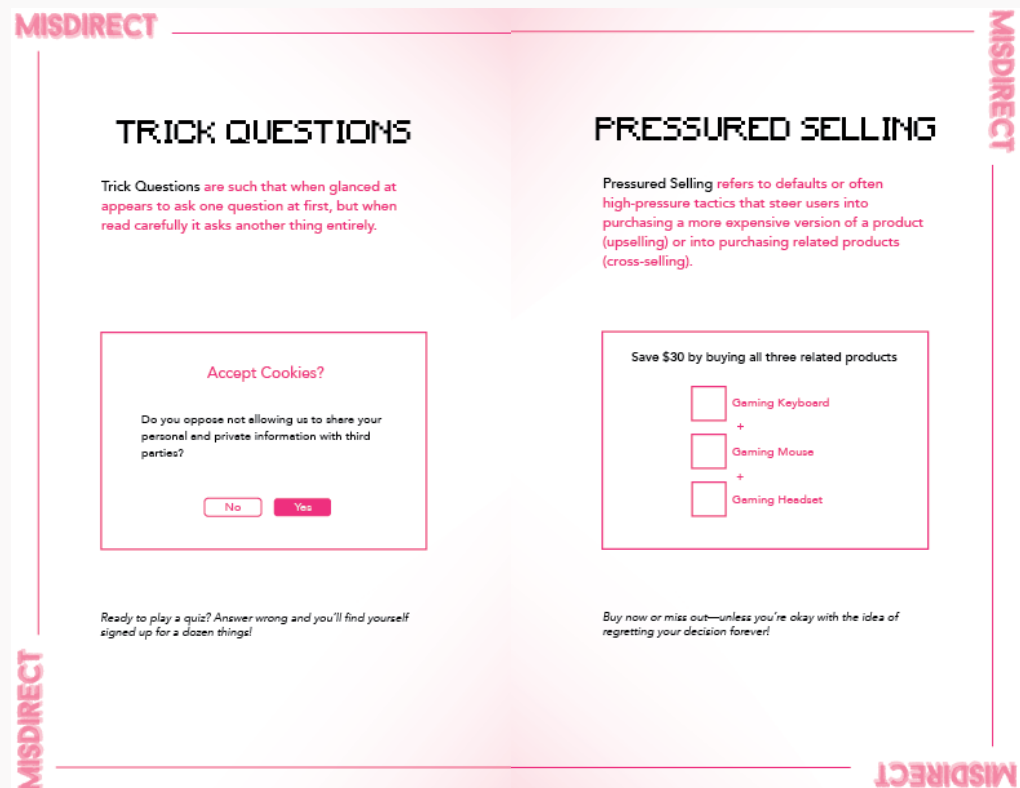


Fig 36: Seventh spread of the zine

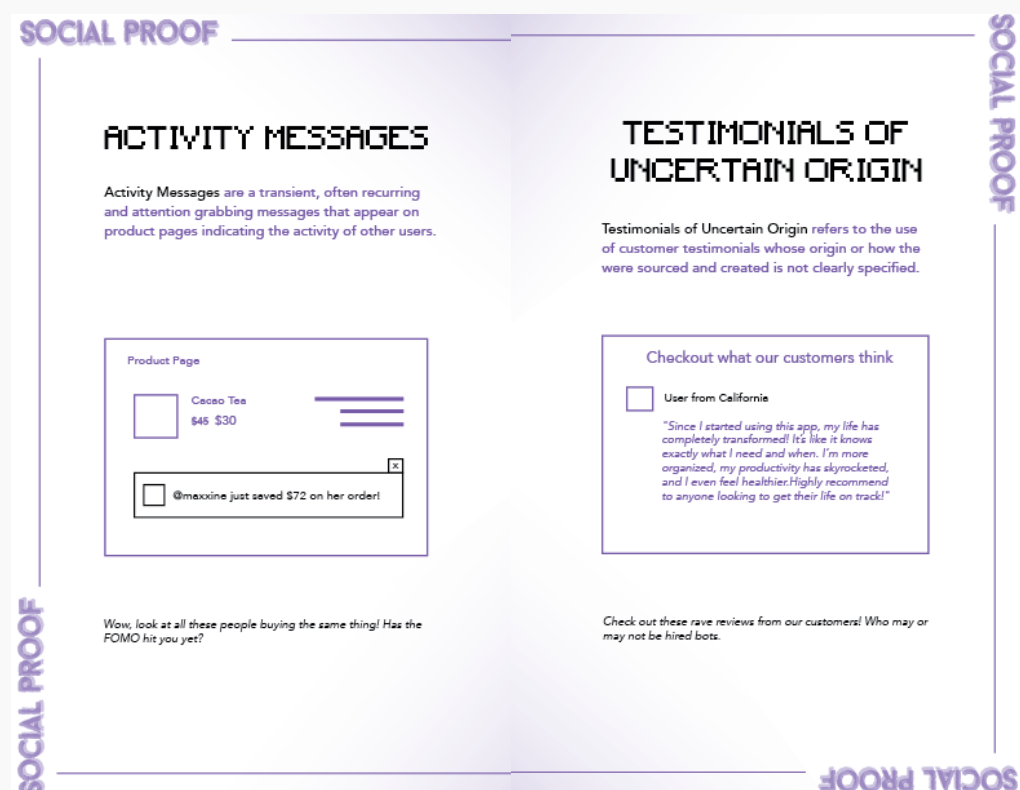


Fig 37: Eighth spread of the zine

