FEELGROVE: A CONCEPT FOR A DISCURSIVE SMARTPHONE APPLICATION FOR THE VISUALIZATION OF AFFECTIVE STATES POSITIONED AGAINST THE NEOLIBERAL PARADIGM

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To Raymond, for believing.

ABSTRACT

FeelGrove is a concept for a discursive smartphone application with game elements that acts as a response to the neoliberal framework and the values it propagates, such as competition, self-tracking and self-optimization. The app constitutes a tool meant to enable its users to visualize their emotions through the creation and keeping of digital fantastical plants which act as emotional representations. Aside from the concept for the app, the project includes interface design and accompanying artwork, including four distinct 3D plants depicting different emotional categories and 3D representations of physical settings related to these particular emotions. Additionally, this paper examines the roles that information technology, design and play assume in propagating neoliberal values.

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CHAPTER 1: INTRODUCTION

> Today, we do not deem ourselves subjugated subjects, but rather projects, always refashioning and reinventing ourselves.
>
> —Byung-Chul Han, *Psychopolitics: Neoliberalism and New Technologies of Power*

FeelGrove is an MFA thesis project consisting of a concept, 3D artwork and interface design for a discursive smartphone application with game elements. This body of work is intended to create discourse around possible modes of product design positioned against the currently prevalent self-optimizing nature of mental health and wellbeing apps. The application features a virtual garden where users can create, grow and cross-breed fantastical plants. The plants are designed to have the potential to act as embodiments of users' affect, moods or emotions, a possibility the app is explicit about but does not enforce. Users would be free to attach any other meaning to the plants they create or use the app without assigning any meaning to them. The four 3D plants I created for the project, named FeelPlants, are subjective visual representations of four emotion categories I have experienced over the last five years. Aside from being used to illustrate the app concept, these plants act as standalone emotion visualizations, inviting the audience to interpret them through a lens of their own.

This thesis work is situated during the *not-quite-post-covid* times in a world marked by uncertainty. During the COVID-19 pandemic, mental health has worsened globally due to illness, economic insecurity and isolation, with those belonging to vulnerable groups being most

disproportionately affected.[1] The hyper-digitalization of human lives that escalated in 2020 was marked by urgency and forcefulness as human relationships, learning, work and leisure became reliant on technology to an unprecedented extent.[2] Healthcare is one of the sectors that experienced a technological spurt during the pandemic, resulting in a greater focus on digital health.[3] Mental health and wellbeing are some of the spheres targeted by digital health interventions, with a large number of commercial smartphone apps readily available on the market. Such apps are designed to accomplish a variety of purposes: some offer their users features that are supposed to facilitate tracking or changing behaviours or feelings or provide them with access to questionnaires related to mental health or therapeutic interventions. Even though they are designed to target a variety of problems, the majority of such apps are similar in that they present their users with narratives about what being healthy or happy looks like. These narratives are created by individuals and companies that are not neutral actors but operate within specific ideological systems.

In *Psychopolitics: Neoliberalism and New Technologies of Power*, Byung-Chul Han notes how "neoliberalism, a further development - indeed, a mutated form - of capitalism, is not primarily concerned with 'the biological, the somatic, the corporal'. It has discovered the psyche as a productive force."[4] Thus, the point of contact between digital technology, including smartphone apps, and the psyche can become the point of tension between the neoliberal ideals

[1] "Mental Health | NIH COVID-19 Research," National Institutes of Health, last modified September 28, 2023, https://covid19.nih.gov/covid-19-topics/mental-health; "The Impact of COVID-19 on Mental Health Cannot Be Made Light Of," World Health Organization, last modified June 16, 2022, https://www.who.int/news-room/feature-stories/detail/the-impact-of-covid-19-on-mental-health-cannot-be-made-light-of.
[2] Yogesh K. Dwivedi et al., "Impact of COVID-19 Pandemic on Information Management Research and Practice: Transforming Education, Work and Life," *International Journal of Information Management*, 55 (December 2020): 2; Stuart J. Barnes, "Information Management Research and Practice in the Post-COVID-19 World," *International Journal of Information Management*, 55 (December 2020): 1. https://doi.org/10.1016/j.ijinfomgt.2020.102211.
[3] European Parliament, "The Rise of Digital Health Technologies During the Pandemic," April 14, 2021, 2, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2021)690548.
[4] Byung-Chul Han, *Psychopolitics: Neoliberalism and New Technologies of Power*, trans. Erik Butler (London: Verso, 2017), 25.

and the individual. In other words, the digital realm represents a playing field where complex and obscure narratives about normativity and value come to life.

I conceptualized *FeelGrove* as a discursive smartphone app imagined as allowing users to engage with their affect without subjecting them to the conventional neoliberal narratives found in mental health and wellbeing smartphone apps. The app does not facilitate the users' self-tracking or competition. *FeelGrove* also does not problematize differences in emotional processing, such as reduced awareness of one's emotional states, nor does it promise to improve its users' wellbeing. Instead, *FeelGrove* provokes its audience to consider their relationships with the messages prevalent in personal technology present in their daily lives and consider an alternative approach to utilizing smartphone apps to engage with their emotions. This approach situates my design practice against the neoliberal paradigm through intermittent cycles of research and creative work.

CHAPTER 2: PERSONAL BACKGROUND

I was born in a dying nation. I had less than a decade to call the Socialist Federal Republic of Yugoslavia my country before it shattered in a cloud of civil war in the early 1990s. For the generation growing up in the ashes of Yugoslavia, having feelings was not acknowledged or discussed, let alone encouraged. Quite often, the range of emotions the youth was exposed to in those times included fear, anger or dull desperation. Discounting emotional experiences was a learned skill for generations, a perk allowing detachment from circumstances a young person living in the Balkans could not control or leave behind. As for myself, the digital realm drew me in from an early age as a means of escaping the reality I was born into, which I could not comprehend or process. Video games were not only the first interactive digital technology I

engaged with, but the medium that has remained a constant presence throughout my life. I found myself especially drawn to complex storylines of narrative-rich adventure games such as *Kentucky Route Zero* (2013), *Firewatch* (2016) and *Night in the Woods* (2017).[5] The emotional experiences evoked in me by the intricate personal stories of the characters I enacted while playing these games left a mark on me for years to come.

While my fascination with video games was growing, it created a certain kind of familiarity regarding interacting with computers. Hence, video games were not the only digital products that piqued my interest. In the last decade, I have keenly engaged with a host of smartphone apps designed to promote or discourage different behaviours or habits in an attempt to optimize various aspects of my life. I have used habit-building tools that rewarded task completion and logging, focus apps that encouraged non-engagement with the smartphone, relaxation aids that guided me through breathing exercises, and mood-logging apps in an attempt to manage my feelings during stressful times. Admittedly, more often than not, the apps would provoke in me a joyful but short-lived sense of delight before an inevitable sense of boredom would set in. Regarding my attempts to better understand my affective states by means of digital technology, any engagement with apps designed for that purpose would taper off pretty quickly, as I found emotion and mood-tracking apps painfully boring and would lose any incentive to use them after several days, regardless of the numerous pings and flashing lights they would deploy in a bid for my attention.

It was only during the COVID-19 pandemic that smartphone apps played an immense role in my emotional experiences. My experience of the early stages of the COVID-19 pandemic was wrought with intense emotions. I contracted SARS-CoV-2 in late March of 2020, when the

[5] Cardboard Computer, *Kentucky Route Zero*, PC ed., (Cardboard Computer, 2013); Campo Santo, *Firewatch*, PC ed. (Campo Santo and Panic, 2016); Infinite Fall, *Night in the Woods*, PC ed., (Finji, 2017).

vaccine was still a distant hope, and fell gravely ill. Even though my body seemingly recovered after ten days, I stayed confined to my apartment, alone, for weeks after. A couple of hooded crows started visiting my terrace, with whom I forged a strong connection, but I was bereft of human company. Aside from grappling with the stress from the illness and the pervasive loneliness of my isolation, I had systemic factors to contend with, as the pandemic was met with oppressive measures in my country. One of them involved prolonged police curfews, which were enforced in Serbia for 50 consecutive days, from mid-March to early May of 2020, with the longest one keeping the citizens in their homes for a stretch of 83 hours.[6] While I was alone in my physical surroundings, digital tools for communication allowed me to assuage the pangs of solitude. My smartphone became a window, wide open and inviting, promising a life *after*.

With computers and affect being quite inextricably entangled in my life and finding myself enthralled by both areas of study, I wanted to explore the point of their intersection. As mentioned, I have sporadically used smartphone apps with relative success to achieve momentary goals such as the implementation or maintenance of habits and focus retention. Being that I have not had success with utilizing smartphone apps to better understand my own feelings, at the beginning of my graduate journey, I explored the possibility of proposing a design for an app that would act as a tool for engaging with one's affective states. For that reason, I needed to examine a number of concepts significant for such an endeavour, including affect and affect-related apps, which is the objective of the following chapter.

[6] Grujica Andric, "Kako je Srbija stala na 50 dana - dve godine kasnije," [How Serbia Halted for 50 Days, Two Years Later] *BBC News in Serbian*, March 16, 2022, https://www.bbc.com/serbian/lat/srbija-60733573.

CHAPTER 3: RELEVANT CONCEPTS

The first step of my inquiry was disentangling several concepts, such as affect, feeling, emotion and mood, which, albeit different, all describe an individual's subjective experience. It is important to note that emotion, affect, and mood are often conflated in both quotidian speech and academic literature.[7] Entering the search term "emotion apps" in Google's Play Store largely returns apps described as mood trackers. Academic studies examining those same apps include *feeling*, *emotion* and *mood* in their own search terminology and analysis.[8] *Encyclopedia of Behavioral Medicine* defines moods and emotions as distinct "feeling states" encompassed under the term *affect*.[9] Thus, affect designates "the experiential state of feeling."[10] Furthermore, an emotion is a strong and short-lasting state in reaction to something an individual experiences or thinks about.[11] On the other hand, a mood could have a less defined causation and persist for a longer period of time.[12]

Narrowing my lens to focus on emotion in particular, an intense and immediate feeling, it is notable that this state can be further atomized. Agnes Moors defines an emotional episode as "anything starting from the stimulus to the later components or the immediate consequences of the emotion."[13] The components are the building blocks of an emotional episode and can be cognitive, feeling, motivational, somatic and motor.[14] Each component serves a specific purpose:

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[7] Karen Niven, "Affect," in *Encyclopedia of Behavioral Medicine*, ed. by Marc D. Gellman and J. Rick Turner, (New York, NY: Springer New York, 2013), 49; Panteleimon Ekkekakis, *The Measurement of Affect, Mood, and Emotion: A Guide for Health-Behavioral Research* (Cambridge, UK; New York, NY: Cambridge University Press, 2013), 14.
[8] Clara Caldeira et al., "Mobile Apps for Mood Tracking: An Analysis of Features and User Reviews," *AMIA. Annual Symposium Proceedings* (April 2018): 496, PMID: 29854114, PMCID: PMC5977660.
[9] Niven, "Affect," in *Encyclopedia of Behavioral Medicine*, 49.
[10] Niven, 49.
[11] Niven, 49.
[12] Niven, 49.
[13] Agnes Moors, "Theories of Emotion Causation: A Review," in *Cognition and Emotion*, eds. Jan de Houwer and Dirk Hermans, (New York, NY: Psychology Press, 2010), 1.
[14] Moors, "Theories of Emotion Causation: A Review," 1.

cognitive appraises the stimulus, *feeling* surveys the experience, *motivational* and *somatic* ready the individual for action in terms of preparedness and a physiological reaction, while *motor* creates action in response to the stimulus.[15]

Emotions serve different functions depending on whether they occur in an individual, a dyad, a group or a culture, explain Dacher Keltner and Jonathan Haidt after synthesizing findings of many emotion theorists in their 1999 paper.[16] Emotions, thus, perform a variety of roles. Keltner and Haidt explain that, while for one individual, emotion might act as information about and a catalyst for a reaction to an occurrence, in a cultural context, emotions can be seen as playing a role in actualizing the structures of power and ideology.[17] Differences in how humans perceive and process their own emotions have been described and problematized in the medical field. Alexithymia is a concept described in 1972 by psychiatrist Peter Sifneos, which denotes an individual's difficulty in identifying, interpreting or expressing their emotions.[18]

There are a number of apps targeting affective states that are available to smartphone users. A 2017 study analyzed user reviews and features of 32 affect-tracking apps.[19] The researchers examined the apps' features, which matched the tracking steps of "Preparation, Collection, Reflection, and Action."[20] Only a quarter of the reviewed apps offered a significant preparation step, which involves providing the users with information on affect tracking or reasoning for doing it.[21] The action step, which might provide the users with strategies for improving how they feel or contact information for relevant support services, was also present in

[15] Moors, 1.
[16] Dacher Keltner and Jonathan Haidt, "Social Functions of Emotions at Four Levels of Analysis," *Cognition & Emotion* 13, no. 5 (September 1999): 506, https://doi.org/10.1080/026999399379168.
[17] Keltner and Haidt, "Social Functions of Emotions at Four Levels of Analysis," 509–10, 514.
[18] Brittany Greenbaum et al., "Alexithymia," in *The SAGE Encyclopedia of Abnormal and Clinical Psychology*, ed. by Amy Wenzel, vol. 1. (Thousand Oaks, CA: SAGE Publications, Inc., 2017), 137.
[19] Caldeira et al., "Mobile Apps for Mood Tracking: An Analysis of Features and User Reviews," 496–497.
[20] Caldeira et al., 498.
[21] Caldeira et al., 498.

a small number of apps, only seven of them.[22] In turn, all apps allowed their users to log their moods, and most of them had features pertaining to the reflection stage and allowing them to visualize the sum of their logs.[23] The researchers further analyzed 1000 user reviews, revealing that the principal motivations for the apps' use included the users' need to understand their affective states better in order to ameliorate them or manage stressors or mental illness.[24]

Smartphone apps targeting affect can be further positioned as pertaining to several categories, namely *mental health apps*, *Quantified Self* and *persuasive technology*. Starting with the first category, it is important to note that affect tracking was found to be one of the most prevalent features in a sample of 278 commercially available mental health apps analyzed by one 2021 study.[25] Mental health apps are a segment of digital health and are a phenomenon which ought not be ignored, even though the use of apps for mental health and wellbeing is a relatively novel field. The market value of mental health apps was assessed at 6.2 billion USD in 2023 globally, with a projected annual rate of growth of 15.2% during this decade.[26] Interestingly, it is not known how many mental health apps exist, as this category could also include apps targeting users' wellness and not just distinct issues.[27]

In *The Quantified Self: A Sociology of Self-Tracking* Deborah Lupton categorizes the apps designed to track affective states such as moods and emotions as belonging to the category of the

[22] Caldeira et al., 499.
[23] Caldeira et al., 498.
[24] Caldeira et al., 500.
[25] Sarah Lagan et al., "Assessing Mental Health Apps Marketplaces with Objective Metrics from 29,190 Data Points from 278 Apps," *Acta Psychiatrica Scandinavica* 144, no. 2 (August 2021): 207, https://doi.org/10.1111/acps.13306.
[26] "Mental Health Apps Market Size And Share Report, 2030," Grand View Research, accessed June 13, 2024, https://www.grandviewresearch.com/industry-analysis/mental-health-apps-market-report.
[27] Stephen M. Schueller, et al., "Discovery of and Interest in Health Apps Among Those With Mental Health Needs: Survey and Focus Group Study," *Journal of Medical Internet Research* 20, no. 6 (June 2018): 1, https://doi.org/10.2196/10141.

Quantified Self tools.[28] She explains how the term *quantified self*, which came into use in 2007, describes a variety of self-tracking practices.[29] After this idea was first described in a *Wired* article, the practice of recording various biological and social aspects of human life grew into a movement.[30] One 2021 systematic review found that the number of academic articles on this topic in relation to wellbeing and health has been steadily increasing from one article in 2013 to 17 in 2019.[31]

Lastly, because smartphone affect trackers influence the behaviour of their users, they represent a category of persuasive technology. In his book *Persuasive Technology: Using Computers to Change What We Think and Do*, Brian Jeffrey Fogg presents a thorough analysis of the area of intersection between persuasion and computers, naming it *captology* and relating it to "the design, research, and analysis of interactive computing products created for the purpose of changing people's attitudes or behaviours."[32] Fogg designates captology as occurring in human-computer interaction (HCI), where a human communicates with a computer and not with another human by means of a computer.[33] Additionally, persuasion must be the intended outcome by those who designed the computer system, not coincidental, regardless of whether it is successful or not.[34] Lastly, according to Fogg's framework, persuasion denotes an effort to modify someone's behaviour or attitude without deceiving or coercing them to achieve this goal.[35]

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[28] Deborah Lupton, *The Quantified Self: A Sociology of Self-Tracking*, (Cambridge, UK: Polity, 2016), 16.
[29] Lupton, *The Quantified Self*, 3.
[30] Lupton, 13.
[31] Shan Feng et al., "How Self-Tracking and the Quantified Self Promote Health and Well-Being: Systematic Review," *Journal of Medical Internet Research* 23, no. 9 (September 21, 2021): 6, https://doi.org/10.2196/25171.
[32] Brian Jeffrey Fogg, *Persuasive Technology: Using Computers to Change What We Think and Do*, (Amsterdam; Boston: Morgan Kaufmann Publishers, 2003), 5.
[33] Fogg, *Persuasive Technology*, 16.
[34] Fogg, 17.
[35] Fogg, 20.

Gamification is one mechanic which has been used as a tool of persuasion in the context of computer technologies. This term denotes the use of game features outside of game settings for engagement, problem-resolving, or affecting user behaviour.[36] Even though gamification is not a principal feature of affect tracking apps, a number of such apps do include it in some measure.[37] A 2019 systematic review surveying this practice in wellbeing and mental health apps states that gamification has not been studied extensively in mental health interventions.[38] However, the researchers found evidence that the use of gamification in these areas has been on the rise.[39] The same study indicated that in the analyzed apps, the most frequently seen gamification aspects included progressing through levels, being awarded points or scores and winning rewards.[40] In turn, the mechanics involving social cooperation were notedly underused in the apps, especially compared to mechanics relying on rivalry or comparison.[41]

My inquiry into the characteristics of smartphone apps used to engage with affective states, and more broadly, wellbeing and mental health apps overall, revealed a tunnel vision in how these digital products were conceptualized and designed. Quantification, self-tracking and competition seem rather counter-intuitive as mechanisms in the striving toward human wellbeing; however, they are abundant in mental health apps, as demonstrated by the cited studies. As demonstrated, even the apps for engagement with emotions and moods largely rely on the quantification mechanics. This realization started changing the course of my research and my project. I turned my attention from the individual toward the systemic concerns. The subsequent

[36] Gabe Zichermann and Christopher Cunningham, *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*, 1st. ed (Sebastopol, CA: O'Reilly Media, 2011), xiv.
[37] "Discover Top Gamification Apps to Achieve Your Goals," Gamify List, accessed July 18, 2024, https://gamifylist.com/.
[38] Vanessa Wan Sze Cheng et al., "Gamification in Apps and Technologies for Improving Mental Health and Well-Being: Systematic Review," *JMIR Mental Health* 6, no. 6 (June 2019): 1. https://doi.org/10.2196/13717.
[39] Cheng et al., "Gamification in Apps and Technologies for Improving Mental Health and Well-Being: Systematic Review," 11.
[40] Cheng et al., 5.
[41] Cheng et al., 9.

chapter offers a critique of the broader societal climate in which these apps are created and considers how information technology, design and play, along with medicalization, reinforce the narratives propagated by the currently dominant neoliberal ideology.

CHAPTER 4: THEORETICAL FRAMEWORK

4.1 The Ills of Neoliberalism

In *A Brief History of Neoliberalism*, David Harvey explains how shifts in economic policies took place across the globe in the 1970s and 80s, leading to the global spread of a paradigm that espoused the belief that human progress and flourishing were dependent on the unrestricted proliferation of personal enterprise and ability, the existence of free markets and accumulation of private property.[42] He further delineates that, aside from valuing the notion of freedom of enterprise, this economic and political theoretical framework, termed *neoliberalism*, positioned competition at every level as inherently virtuous.[43] Neoliberal ideas proclaimed that markets should be largely unfettered by the state, which was deemed corruptible and lacking expertise in intervening in economic matters.[44] Hence, Harvey writes, the state's role should be limited to creating and maintaining the free market framework.[45] With time, the proliferation of this ideology resulted both in the lack of government regulation of labour and welfare and a change in how we think about the world and ourselves.[46] Harvey explains how "neoliberalism has, in short, become hegemonic as a mode of discourse," which resulted in it being "incorporated into the common-sense way many of us interpret, live in, and understand the

[42] David Harvey, *A Brief History of Neoliberalism* (Oxford; New York: Oxford University Press, 2005), 1–2, 7, 15.
[43] Harvey, *A Brief History of Neoliberalism*, 64.
[44] Harvey, 2.
[45] Harvey, 2.
[46] Harvey, 3.

world."[47] Consequently, everything we are and do is assessed through the lens of market value, he concludes.[48]

It is quite problematic that this new way of seeing prevailed, as the concept of freedom of enterprise became conflated with the concept of freedom itself. We are born into a society that values competition and the right to it beyond anything else. Still, the vast majority of individuals cannot afford to opt out of this modality of being without suffering dire consequences. Thus, the freedom to compete without constraint or regulation is not freeing for most. Han notes that freedom is a fleeting feeling, as in the current neoliberal society, the individual is placed in the role of a "project" that is under perpetual construction.[49] However, Han asserts that "the I is now subjugating itself to internal limitations and self-constraints, which are taking the form of compulsive achievement and optimization."[50] While Han is here predominantly concerned with the individual, Harvey comments on the broader implications of neoliberal thinking as he sees a possible conflict between the ideals of social equity and personal freedom, as achieving the first requires some restraint of the latter.[51] However, neoliberalism, a patriarchal and colonial construct, works in favour of those already benefitting from these systems of power and deepens already existing inequalities.

To maintain its hegemony and propagate incessant production, the unyielding neoliberal system employs a number of tools. Among them are information technology, which supports the commercialization of user data, design and play. These concepts are relevant to my inquiry as they are all featured in greater or lesser measure in digital products made to engage with their

[47] Harvey, 3.
[48] Harvey, 3.
[49] Han, *Psychopolitics*, 1.
[50] Han, 1.
[51] Harvey, *A Brief History of Neoliberalism*, 41.

users' mental health and wellbeing, a category that emotion and mood-targeting apps pertain to. In the following sections of this chapter, I further examine the functions of information technology, design and play with the neoliberal framework.

4.2 Information Technology in the Service of Capital

Harvey underscores the importance of information technology in managing enormous troves of data necessary for large economic actors to participate in today's large-scale markets.[52] The data, bringing massive wealth to corporations and a relatively small number of individuals, is frequently produced by the rest of us and submitted unknowingly, often in exchange for digital products or services.

Mental health and wellbeing applications available to smartphone users are largely commercial products. The data users are prompted to input while using the apps can include sensitive health information. Hence, it is very problematic that multiple studies found wide gaps in the apps' implementation of data security and privacy. One 2022 study assessing 578 mental health apps found that 23% did not have a policy regarding their users' privacy and that 44% shared the users' personal data, including that pertaining to their health, with other entities.[53] Another 2023 empirical study on the privacy of users' data in 27 highly-rated mental health apps for Android devices found multiple threats.[54] The apps' coding was largely not secure enough to protect the users' data, some apps allowed access to third parties, and even though all of the included apps featured privacy policies, these were not easily readable.[55] A study published in

[52] Harvey, 3.
[53] Erica Camacho et al., "Assessment of Mental Health Services Available Through Smartphone Apps," *JAMA Network Open* 5 no. 12 (December 2022): 4. https://doi.org/10.1001/jamanetworkopen.2022.48784.
[54] Leonardo Horn Iwaya et al., "On the Privacy of Mental Health Apps: An Empirical Investigation and Its Implications for App Development," *Empirical Software Engineering* 28, no. 2 (January 2023):16, https://doi.org/10.1007/s10664-022-10236-0.
[55] Iwaya et al., "On the Privacy of Mental Health Apps: An Empirical Investigation and Its Implications for App Development," 34.

2018 examined the security of 64 mobile health apps with features enabling self-tracking, including mood-tracking apps.[56] The researchers found that most apps scored poorly regarding the privacy of users' data.[57] Additionally, good ratings on the app stores and large download numbers did not correspond to better privacy scores, while those apps that tracked health-related data, including mood, had more privacy issues than apps tracking other data types.[58] These findings point to widespread issues regarding the privacy of the apps' users.

In conclusion, regardless of the promises of wellbeing made by the apps, by engaging with them, we run the risk of having our lives, habits and desires, intricate as they might seem, combusted into neat data points by the invisible and intangible algorithmic guts of nameless servers, only to be regurgitated as fuel for the machinery of unstoppable accumulation of capital.

4.3 Promises of Design

Guy Julier opines in *Economies of Design* that the relationship between design and neoliberalism has not been studied sufficiently.[59] He goes on to delineate how design acts in accord with neoliberalism both as a production tool, creating marketable artifacts which further bolsters the free market activity, and as a symbolic tool by hinting at the possibility of transformation.[60] Julier exemplifies this second role of design by describing how refurbishing a neighbourhood might attract market actors, such as businesses, to move in as the beautification raises the area's symbolic value.[61]

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[56] Luke Hutton et al., "Assessing the Privacy of mHealth Apps for Self-Tracking: Heuristic Evaluation Approach," *JMIR mHealth and uHealth* 6, no. 10 (October 2018): 10, https://doi.org/10.2196/mhealth.9217.
[57] Hutton et al., "Assessing the Privacy of mHealth Apps for Self-Tracking: Heuristic Evaluation Approach," 10.
[58] Hutton et al., 10.
[59] Guy Julier, *Economies of Design* (Los Angeles, CA: Sage, 2017), 3.
[60] Julier, *Economies of Design*, 3.
[61] Julier, 3.

Accordingly, the apps targeting mental health or wellbeing in general engage in similar symbolic signalling, offering promises of a good life, which is to be achieved by engaging with them. These promises are implied by the meaning of the text seen on their websites and its often playful tone. The website for *Headspace*, an app branded as "Your everyday mental health app," features lines of text such as "Everything your mind needs," "Have more good days" and "Get the sleep of your dreams" on its homepage, which serve as headlines to brief paragraphs of text describing the app's features.[62] The homepage for *Habits Garden*, a productivity app, includes headlines such as "Beat procrastination," "Become a productivity superhero" and "Master habits building in no time."[63]

Positioning happiness or habit-building as easily achievable by using apps could induce *cruel optimism* in some users of such products. This term, coined by Lauren Berlant, denotes an attachment to something in hopes of achieving a goal, where the attachment ultimately acts as a barrier to achieving that particular goal.[64] Among examples of cruel optimism, Berlant includes "a new habit that promises to induce in you an improved way of being."[65] However, just like Berlant does not deem every hopeful endeavour as cruel, this critique is not meant to dismiss every use of apps for activities such as habit-building or breathing exercises.[66] What I am drawing attention to is the positioning of smartphone apps or the quantification of life as stepping stones to the elusive concept of happiness. Even though this messaging might seem harmless superficially, it constitutes a part of a wider neoliberal narrative touting that engaging in certain activities will result in achieving wellbeing, while disregarding the external, systemic deterrents

[62] "Meditation and Sleep Made Simple," Headspace, accessed July 18, 2024, https://www.headspace.com/.
[63] "Beat Procrastination with a Gamified Habit Tracker - Habits Garden," accessed July 19, 2024, https://habitsgarden.com/.
[64] Lauren Gail Berlant, *Cruel Optimism*, (Durham, NC: Duke University Press, 2011), 1.
[65] Berlant, *Cruel Optimism*, 1.
[66] Berlant, 1.

to accomplishing such a goal. Furthermore, the manner in which the mental health and wellbeing apps are frequently designed plays a part in propagating technological solutionism, a construct explored by Evgeny Morozov in *To Save Everything, Click Here: The Folly of Technological Solutionism*, which is framing intricate issues plaguing current societies as solvable "if only the right algorithms are in place."[67]

Another way in which design acts in complicity with neoliberal ideals is mirrored in the currently widespread methodology of design thinking. The website of the consultancy and design company IDEO describes this framework as aiming to aid designers in creating products that are simultaneously desirable, meaning they fulfill a need of a certain user group, can be made by employing the current technology and holding commercial value.[68] Even though the methods now pertaining to design thinking have been around since the 1970s, the practice was popularized by IDEO in the early 1990s.[69]

How does design thinking operate within the neoliberal worldview? "Design thinking promises to make innovation continuous and replicable," Lilly Irani explains in her paper titled *"*Design Thinking: Defending Silicon Valley at the Apex of Global Labor Hierarchies."[70] The questions that I ask are: To what aim do we push for innovation in design? Could it be claimed that the end goal of such perpetual innovation is, more often than not, market disruption leading to profit? Irani describes how IDEO altered its focus from material and tangible product design to ephemeral design thinking, including its applications in strategy and management, in order to

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[67] Evgeny Morozov, *To Save Everything, Click Here: The Folly of Technological Solutionism*, (New York, NY: PublicAffairs, 2014), 5.
[68] "IDEO Design Thinking," IDEO | Design Thinking, accessed April 15, 2024, https://designthinking.ideo.com.
[69] Rikke Friis Dam and Teo Yu Siang, "The History of Design Thinking," Interaction Design Foundation - IxDF, published May 20, 2022, https://www.interaction-design.org/literature/article/design-thinking-get-a-quick-overview-of-the-history.
[70] Lily Irani, "'Design Thinking': Defending Silicon Valley at the Apex of Global Labor Hierarchies," *Catalyst: Feminism, Theory, Technoscience*, 4, no.1 (May 2018): 3. https://doi.org/10.28968/cftt.v4i1.29638.

maintain primacy in the increasingly globalized product design market.[71] However, I feel compelled to add that this particular explanation of design thinking's popularization can easily remain unseen and unconsidered in the popular design culture due to myth-building around the practice. The Interaction Design Foundation website describes it as a tool of "all great innovators."[72] Design thinking is also the basis of a number of curriculums offered by schools, online courses and bootcamps.[73]

Not only is the origin of design thinking obscured and hidden behind the narratives surrounding it, but upon taking a closer look at the desired aspects of the product resulting from this process, a possible conflict between its defining aspects is apparent. Monetary value is explicitly included as an integral consideration in design thinking, but so is catering to users' needs. Attempting to reconcile the two aspects by means of design is not inherently malignant. However, the user needs and the product's viability are not always necessarily aligned, and in a society prioritizing competition and capital, the latter often takes primacy.

One example of competing user and business needs can be seen in dating apps relying on the freemium subscription model, which thrives on users staying active and hopefully paying for the perks the subscription offers. The user keeps swiping, expecting a possible match to happen after every swipe. Prolonged engagement with the app is encouraged by the app's design, which uses the variable-ratio reinforcement schedule.[74] This type of behaviour reinforcement involves

[71] Irani, "'Design Thinking': Defending Silicon Valley at the Apex of Global Labor Hierarchies," 4–6.
[72] Rikke Friis Dam and Teo Yu Siang, "What Is Design Thinking and Why Is It So Popular?" Interaction Design Foundation - IxDF, published February 21, 2024, https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular.
[73] Rebecca Ackermann, "Design Thinking Was Supposed to Fix the World. Where Did It Go Wrong?" *MIT Technology Review*, published February 9, 2023, https://www.technologyreview.com/2023/02/09/1067821/design-thinking-retrospective-what-went-wrong/.
[74] Rob Haisfield, "What's Appening? How Tinder Influences You," *UX Planet*, published June 12, 2018, https://uxplanet.org/whats-appening-how-tinder-influences-you-adb0c0e0c917.

rewarding a behaviour after a varying number of times a person engages in it.[75] Sporadic rewards are used in gambling, including slot machines, and can produce an addictive effect in regard to engaging in a behaviour that is being reinforced by them.[76]

4.4 Play as an Ideological Tool

Engaging in play, as innocuous and ideologically neutral as it might seem, can easily veer into performing neoliberal narratives. In *Experimental Games: Critique, Play, and Design in the Age of Gamification*, Patrick Jagoda describes how video games such as *Stardew Valley*, a bestselling indie farming and life simulator, engage players in a "neoliberal lifestyle."[77] In doing so, he details how the mechanics of Stardew Valley act in dissonance with the game's story.[78] Even though the player is exchanging their corporate and empty lifestyle for life on a small family farm in search of connection with community and nature, the game requires and emphasizes continuous self-optimization and expansion of production to progress through it.[79] Yet, the in-game days are quite short, with the time that can be spent awake each day lasting a little more than 14 minutes of real-life time.[80] The progress-driven mechanics require the player to assume a utilitarian approach to how they spend their time during gameplay. For that reason, it is mostly work that dominates their constant attention.

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[75] Rose M. Spielman et al., *Psychology 2e* (Houston, TX: OpenStax, 2020): 199–200.
[76] Fogg, *Persuasive Technology*, 51.
[77] Patrick Jagoda, *Experimental Games: Critique, Play, and Design in the Age of Gamification* (Chicago, IL; London, UK: University of Chicago Press, 2020), 67.
[78] Jagoda, *Experimental Games*, 68.
[79] Jagoda, 68-69.
[80] Stardew Valley Wiki, "Time," Fandom, accessed July 10, 2024. https://stardewvalley.fandom.com/wiki/Time.

Even so, *Stardew Valley* is frequently described as a *cozy game* in the media.[81] It could be proposed that in the current times of uncertain and precarious real-life labour and callous competition, a digitized and more structured environment allows for the enactment of success within the neoliberal system, which might be out of reach in real life. Furthermore, performing work through play points to a distortion of the perceptions of leisure and labour in the collective consciousness. Han explains how play, which should be an activity in opposition to work, has been overtaken by capitalism and turned into a tool for production by gamification of labour and life as a whole.[82]

Habitica, a productivity app which features elements of role-playing games, could serve as an example of this phenomenon, with its homepage featuring the following text: "Habitica is a free habit-building and productivity app that treats your real life like a game. With in-game rewards and punishments to motivate you and a strong social network to inspire you, Habitica can help you achieve your goals to become healthy, hard-working, and happy."[83] The proximity of the concept of hard work to the concepts of health and happiness in this claim could act as a gesture signalling that those three terms act in harmony. Although largely in line with neoliberal beliefs, such interpretation could be problematic, as, in the current times of precarious and often exploitative labour, hard work is frequently at odds with good health.

In *Digital Health and the Gamification of Life*, Antonio Maturo and Veronica Moretti describe gamification as "a strong (infra)structure of neoliberalism" due to its role as a proponent

[81] Cass Marshall et al., "The Best Cozy Games to Play Right Now," *Polygon*, Last modified June 28, 2024, https://www.polygon.com/what-to-play/24151983/best-cozy-games-play-nintendo-switch-steam-playstation-xbox-pc; Louryn Strampe, "13 Best Cozy Games (2024) for Switch, PlayStation, Steam, Xbox," *Wired*, published January 23, 2024, https://www.wired.com/gallery/best-cozy-games/.
[82] Han, *Psychopolitics*, 49.
[83] "Habitica - Gamify Your Life," Habitica, accessed July 8, 2024, https://habitica.com/static/home.

of quantification, which they deem a "capitalist tendency."[84] They explain the effect constant self-tracking has on the individual: "The numbers do not punish us if we do not reach the required standard; we punish ourselves, because we measure our loss."[85] This view is in line with Han's previously delineated understanding of the individual as a self-managing neoliberal project.

4.5 Medicalizing Zeitgeist

The preceding sections of this chapter demonstrate how information technology, design and play promote the neoliberal doctrine and encourage individuals to participate in constant production. The ever-present process of self-optimization keeps the individual painfully aware of their imperfections, which extend to both their mind and body. Regarding this process in terms of mental health and wellbeing, the purported deficit is often framed as something that could and should be fixed to better fit with the current societal mores. Han expresses how the term *healing* today comes to represent self-advancement meant to enhance an individual's functionality and productive output.[86]

Given the means to self-track and self-correct, the individual attempts to rectify the ever-growing catalogue of ills, with undesired emotions or moods being one of them. It seems that those aspects of mental health that cannot be precisely measured in the context of affirming or discrediting faulty biology at their root are especially vulnerable to being highjacked by the medicalizing zeitgeist. Medicalization is a process Peter Conrad describes as explaining the

[84] Antonio Maturo and Veronica Moretti, *Digital Health and the Gamification of Life: How Apps Can Promote a Positive Medicalization*, 1st ed. (Bingley, UK: Emerald Publishing, 2018), 40.
[85] Maturo and Moretti, *Digital Health and the Gamification of Life*, 40.
[86] Han, 30.

negative phenomena humans experience as medical issues.[87] In *Mental Health is Political*, a 2022 New York Times opinion piece, Dr. Danielle Carr explains how systemic problems are depicted as medical, dependent on the individual and their biology, and not external or systemic factors the individual is influenced by, citing as an example how "the effects of unregulated tech oligopolies become 'social media addiction.'"[88] Carr is quick to clarify that claims of medicalization are not being made as an effort to disprove the existence of mental health issues or their biological aspects but to examine the roles our societies and politics have in causing them.[89]

Even though often pathologized in the West, unpleasant feelings, such as anxiety that many experience today, are not necessarily always byproducts of the imperfect biological self in need of improvement. Instead, psychological discomfort can easily be spurred by the uncertain times we live in. The 2021/2022 United Nations Development Programme report titled "Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World" describes how an amalgamate of different destabilizing factors such as the COVID-19 pandemic, tensions and shifts in the international affairs, wars and climate change intertwine to create "chronic, layered, interacting uncertainties at a global scale, painting a picture of uncertain times and unsettled lives."[90] The report shows that globally, the human development index (HDI), a statistical measure describing health and longevity, accessibility of knowledge and the quality of life standards, has been decreasing in the two years preceding the report to the extent that nullified

[87] Peter Conrad, *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders* (Baltimore, MD: Johns Hopkins university press, 2007), 4.
[88] Danielle Carr, "Mental Health Is Political," *The New York Times*, sec. Opinion, September 20, 2022, https://www.nytimes.com/2022/09/20/opinion/us-mental-health-politics.html.
[89] Carr, "Mental Health Is Political."
[90] United Nations Development Programme, "Human Development Report 2021-22: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World," *Human Development Reports* (New York, NY: United Nations Development Programme, September 8, 2022), 3, https://hdr.undp.org/content/human-development-report-2021-22.

the growth achieved in the previous five years.[91] Although the value of HDI in 2023 is projected as having the highest recorded value, less than half of the most vulnerable countries have recovered from the drop noted in the years 2020 and 2021, per the latest UNDP report.[92]

However, the stern reality we inhabit is frequently not communicated by the smartphone apps we use in attempts to feel better. In 2016, a team of multidisciplinary researchers conducted a qualitative study which examined the messages propagated by advertisements for 61 commercially available mental health apps.[93] They found that the two principal messages communicated to the users were that mental health issues are universal and can be fixed with ease by using the apps.[94] Even if the messages implied universality, the researchers noted that the people portrayed in the advertising materials were white and had a job and a family, while the scientific proof of the apps' efficacy was largely scarce.[95] The majority of the surveyed advertisements portrayed the cause of mental health issues as stemming from "abnormal neurophysiology" or "unhelpful psychological habits," with only a small amount proposing that mental health difficulties could be a natural response to outside pressures and stressors.[96]

In one 2021 conference paper, a group of researchers from the University of Nottingham analyzed the descriptions of 69 apps focusing on mental health self-care and available on

[91] United Nations Development Programme, "Human Development Index (HDI)," Human Development Reports, accessed July 12, 2024, https://hdr.undp.org/data-center/human-development-index#/indicies/HDI; United Nations Development Programme, "Human Development Report 2021-22," 4.
[92] United Nations, "Human Development Report 2023-24: Breaking the Gridlock: Reimagining Cooperation in a Polarized World," *Human Development Reports* (New York, NY: United Nations Development Programme, March 13, 2024),3–4, https://hdr.undp.org/content/human-development-report-2023-24.
[93] Lisa Parker et al., "Mental Health Messages in Prominent Mental Health Apps," *The Annals of Family Medicine* 16, no. 4 (July 2018): 338, https://doi.org/10.1370/afm.2260.
[94] Parker et al., "Mental Health Messages in Prominent Mental Health Apps," 340.
[95] Parker et al., 340.
[96] Parker et al., 340.

Google's Play Store.[97] They found that the descriptions promoted self-care through the apps "as a practise that creates universally happier, better futures for us."[98] Additionally, the researchers explain, self-care is described "as an easy, almost superficial practise that is aimed to stamp out 'stress' without engaging in any form of sense-making beyond the individual person themselves."[99] The findings from the two discussed studies point to possibly harmful narratives about mental health, self-care and normativity that are being dissipated by the apps in question.

As demonstrated in this chapter, information technology, design and play can easily be armed in service of a neoliberal worldview. By entering relationships with digital products created within this system, we enter relationships not only with companies and individuals that are making the products, but also with the wider cultural narratives these actors operate within, and, even more importantly, the stories they tell. In developing the concept for *FeelGrove*, I aim to create discourse around these stories and imagine a digital product that would act in opposition to narratives of self-optimizing, self-tracking and competition, whether intra- or interpersonal.

CHAPTER 5: METHODOLOGY

5.1 Determining My Positionality

Maturo and Moretti describe the ideological divide in the discipline of digital health by delineating "two opposite currents, generally divided into technoenthusiasts and critical thinkers," while noting that the discipline's impact involves both positive and negative

[97] Velvet Spors et al., "Selling Glossy, Easy Futures: A Feminist Exploration of Commercial Mental-Health-Focused Self-Care Apps' Descriptions in the Google Play Store" in Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21: CHI Conference on Human Factors in Computing Systems, Yokohama Japan: ACM, 2021), 2, https://doi.org/10.1145/3411764.3445500.
[98] Spors et al., "Selling Glossy, Easy Futures: A Feminist Exploration of Commercial Mental-Health-Focused Self-Care Apps' Descriptions in the Google Play Store," 2.
[99] Spors et al., "Selling Glossy, Easy Futures: A Feminist Exploration of Commercial Mental-Health-Focused Self-Care Apps' Descriptions in the Google Play Store," 2.

outcomes.[100] My own position is firmly grounded in the support of critical thought. Regarding smartphone apps in service of mental health and wellbeing specifically, I maintain that critical thought and illumination of the ideological narratives and biases that might be encapsulated within these digital products should be an obligatory method in both designing and using them. Technology and design do not materialize in a vacuum, and the narratives digital products house parallel the prevalent zeitgeist of the society in which they are produced.

5.2 Discursive Design

With numerous cycles of research and creation came a profound reexamination of my stance as a designer, artist and researcher. After engaging with literature, I decided to position my work as problem-interrogation. To do so, through the making of *FeelGrove*, I have engaged in the practice of discursive design. Stephanie and Bruce Tharp position discursive design as one of four design fields, with the other three being experimental, responsible and commercial.[101] They describe this design discipline as one that "engages with ideas, arguments, counterarguments, and questions so as to meaningfully contribute to a topic or debate of sociocultural relevance."[102] As such, discursive design is not concerned with resolving issues or having a marketable functionality; instead, it is intentional in attributing to discourse; "discourse is why it exists," the Tharps conclude.[103]

Discursive design, in the realm of digital product design, allows for creating commentary and implementing functionalities that can serve as societal critique. *Upbraid*, an app concept developed by the designer Stephanie Gamble, is one such digital object illuminating and

[100] Maturo and Moretti, *Digital Health and the Gamification of Life*, 2.
[101] Bruce M. Tharp and Stephanie M. Tharp, *Discursive Design: Critical, Speculative, and Alternative Things*, (Cambridge, MA: The MIT Press, 2018), 76.
[102] Tharp and Tharp, *Discursive Design*, 76.
[103] Tharp and Tharp, *Discursive Design*, 74, 77.

reproaching the ways in which men exhibit hostility and dismissiveness towards women in the work setting by speaking over or interrupting them.[104] The app is imagined as a corporate tool, with each employee creating a profile upon joining the company. During a meeting, *Upbraid* would record and analyze audio and generate a report highlighting men who behave in a disruptive manner, including interrupting others or raising their voices.[105] The men who would repeat the offences would lose a portion of their wages to the women they were speaking over.[106]

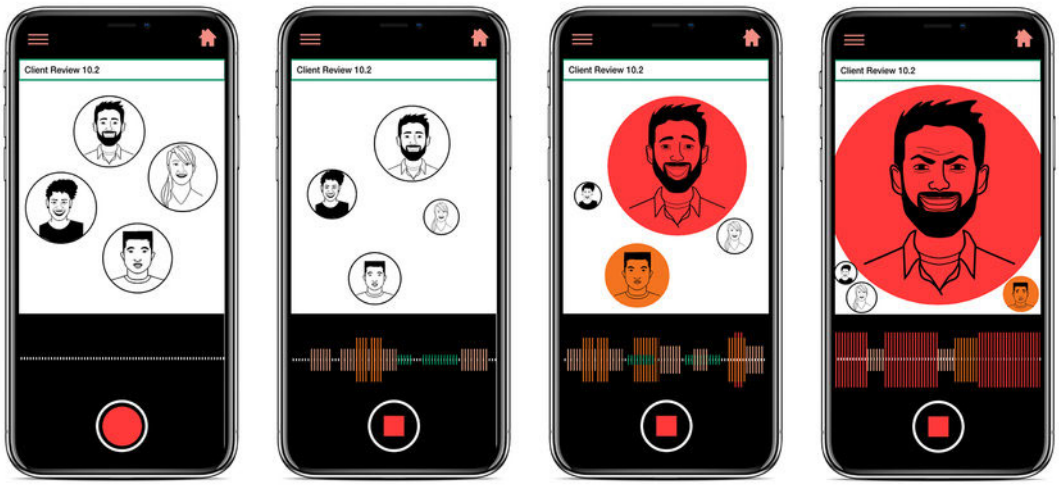

Figure 1: *Upbraid* app concept screenshots. Design by Stephanie Gamble. Core 77, accessed July 27, 2024, https://www.core77.com/posts/100533/This-Speculative-App-Concept-Aims-to-Highlight-Gender-Coded-Verbal-Silencing-in-the-Workplace.

Discursive apps can also be found in popular culture, where they depict our possible future relationship with technology. "Nosedive," the first episode of the third season of the dystopic science fiction series *Black Mirror* (2011), features a dystopian world where people rate

[104] Core77 Design Awards, "This Speculative App Concept Aims to Highlight Gender-Coded Verbal Silencing in the Workplace," Core77, published July 8, 2020, https://www.core77.com/posts/100533/This-Speculative-App-Concept-Aims-to-Highlight-Gender-Coded-Verbal-Silencing-in-the-Workplace.
[105] Core77 Design Awards, "This Speculative App Concept Aims to Highlight Gender-Coded Verbal Silencing in the Workplace."
[106] Core77 Design Awards, "This Speculative App Concept Aims to Highlight Gender-Coded Verbal Silencing in the Workplace."

each other on a social media app after every interaction.[107] A cumulative score a person accrues determines what is afforded to them in society, including the ability to get a loan or purchase airfare, as well as how they are perceived and treated by others, as everyone's cumulative scores are publicly available.

In my methodology, I assume a combination of *suggestive* and *inquisitive* approaches, ways of engagement through discursive design proposed by the Tharps, differing from the mindset methodologies seen in commercial design and propagated by entities such as IDEO and Stanford University Institute of Design.[108] The mixture of the two aforementioned approaches allows me to create my design while having a stance on issues delineated in the previous chapter but also allowing myself to retain a certain level of openness and questioning; I feel *I might have a response, but I also want to ask questions and explore*.[109] The seed of uncertainty makes me ponder questions such as: Is there any place for smartphone apps in the realm of engaging with our affective states? Can including play as a tool for engagement ever be ethical?

As a discursive design artifact, *FeelGrove* opens inquiry into what a digital tool for embodying affective states could be without utilizing the mechanics of self-tracking or creating and storing detailed explicit reports on the users' affect. It is thus essential to note that *FeelGrove* is not a mental health or wellbeing app concept, as it does not deliver a mental health intervention or promise improved wellbeing to those using it. Lastly, it does not pertain to the category of traditional video games, as there are no concrete goals to be achieved. I am currently unsure if *FeelGrove* will or should ever break out of its discursive shell and become anything more than what it is presently.

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[107] *Black Mirror*, season 3, episode 1, "Nosedive," directed by Joe Wright, premiered October 21, 2016, on Netflix, https://www.netflix.com/ca/title/70264888.
[108] Tharp and Tharp, *Discursive Design*. 138–139.
[109] Tharp and Tharp, *Discursive Design*. 139.

5.3 Guiding Design Questions

By creating the concept for *FeelGrove*, I engage with the following questions:

1. What *persuasive techniques* will exist in an app allowing certain behaviour (in this particular case, the users creating representations of their emotions), but not presenting it as the only mode of use?
2. Which features could the app include, and which should it omit to avoid promoting *competition* and *capital accumulation*?
3. How does the app oppose the concepts of *self-tracking* and *self-optimization* regarding the mechanics of its design?
4. Could including engaging mechanics result in such mechanics being deemed unethical?

I offer responses to these questions in the section *Decisions and Answers to the Design Questions* of Chapter 6.

CHAPTER 6: PROJECT DESCRIPTION

6.1 App Concept

As previously described in the Introduction chapter, *FeelGrove* is a thesis project involving a concept for a smartphone app with game elements, as well as its artwork and interface design. The app acts as a virtual garden where users can create, grow and cross-breed fantastical plants. Using plants to embody emotions is an optional capability of the app, enabled by its design and suggested by the app but not imposed on the user. In the following subsections, I outline the app's mechanics and features, and in the last subsection, I justify particular choices I made regarding the app's design and relate how they answer the questions I posed at the end of Chapter 5: Methodology.

6.1.1 App Architecture

There are two main areas in the app: the user's *home garden* (*home* in the app) and the *community garden* (*community* in the app). Other areas for user activity are the *create seed* screen and the plant examine screen (*examine* in the app). The app also features three other screens: the title screen, the inventory and the settings. After opening the app for the first time and going through a brief onboarding session, the user starts their experience in their empty home garden. The community garden can be accessed by placing at least one completely mature plant in it.

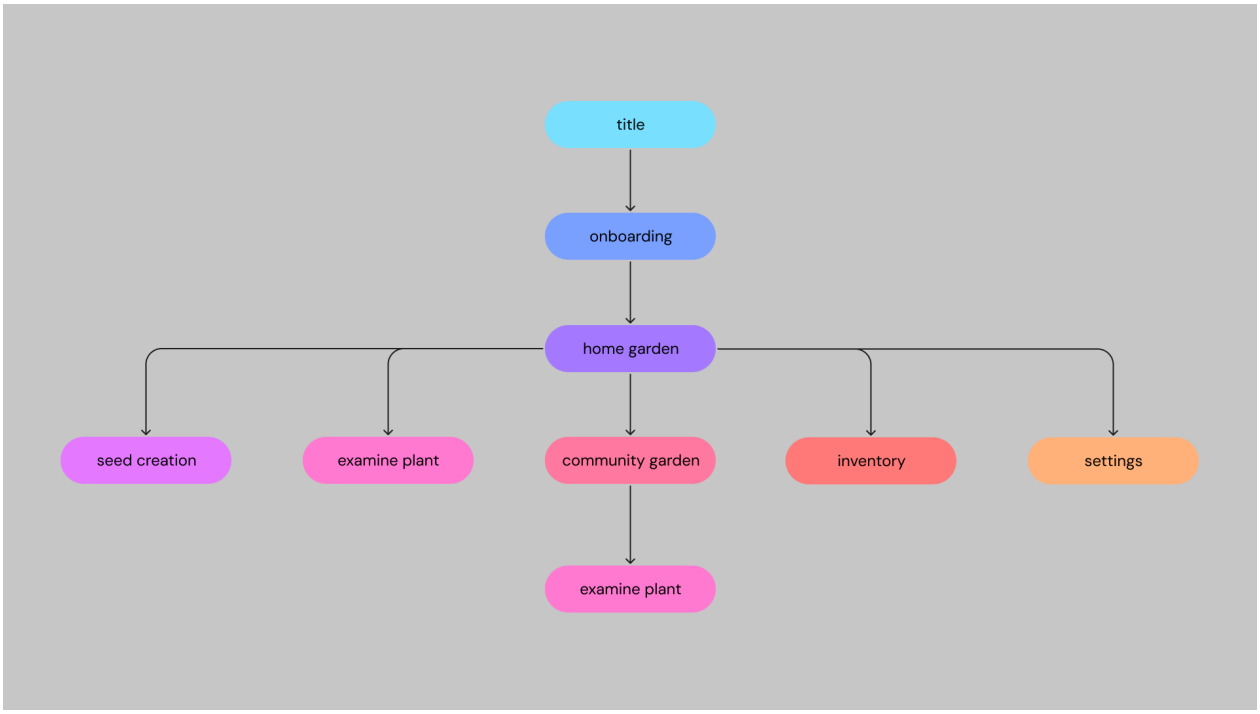

Figure 2: Lidija Sijacic. *FeelGrove* app content map.

6.1.2 General Rules

The days in the app change in real-time through the system of a global rollover, which happens at a designated hour each day and varies for users depending on their time zone. The users do not interact amongst themselves directly. Each user can simultaneously keep up to eight plants at one time, with the ability to keep four of them in the community garden. When using the

app for the first time, the user has immediate access to their home garden, the plant creation screen, their inventory, and settings. Once they have at least one plant, the examine plant button appears above it. This action opens the plant's screen, allowing for further interaction with it.

6.1.3 Onboarding

The user encounters several onboarding screens when they first open the app. Additionally, a more detailed onboarding regarding different features is triggered when the user interacts with them for the first time. The onboarding openly expresses that the app can be used to embody emotions through the FeelPlants, as well as that any other meaning or no meaning at all can be attached to the plants.

Figure 3: Lidija Sijacic. *FeelGrove* app onboarding screens.

6.1.4 Home Garden

The user starts their experience in their home garden. The home garden houses up to eight plants at any time and cannot contain two or more plants that are entirely identical.

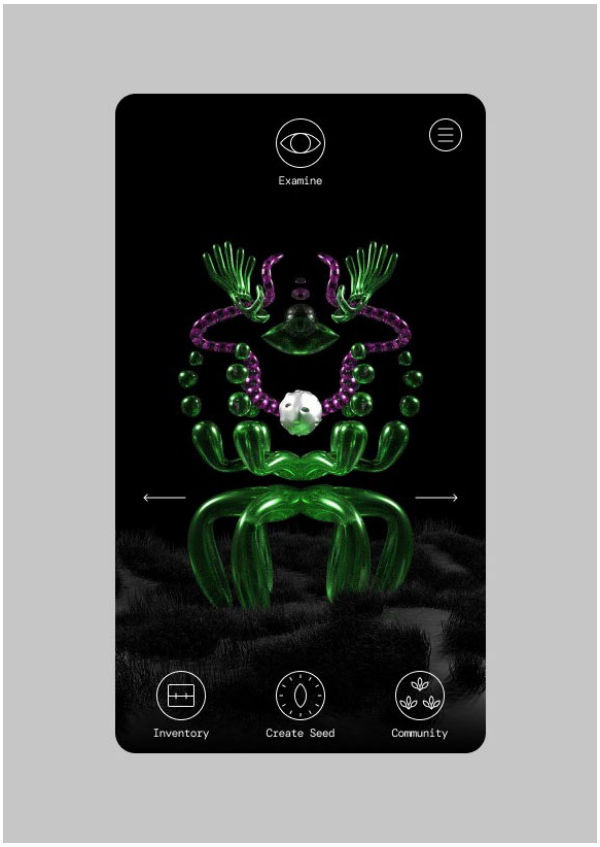

Figure 4: Lidija Sijacic. *FeelGrove* wireframes, home garden screen.

6.1.5 Community Garden

The community garden is divided into a large number of instances. The app can create new instances once all existing instances are full. Each instance can keep up to 16 plants. Each user can simultaneously keep in the community garden up to four completely mature, flowering plants, one plant per instance. The user can access each community garden instance, where they have a plant, every four days. The user gains access to a community garden instance by placing their plant in it. While a plant stays in the community garden, other users who have plants in that

same instance can see the plant or cross-pollinate it with pollen from their inventory but cannot collect its seeds or pollen. If no one cross-pollinates the plant, it will be cross-pollinated by the app with pollen of a random plant from that instance. If there are no other plants in the instance, the app will pollinate the plant with the pollen from a plant from a different instance. A plant stays in the community garden for a total of eight days. At the end of that period, it is automatically returned to the user's home garden, where the user can collect the hybrid seed. As is the case with the home garden, one community garden instance cannot simultaneously house multiple plants that are exact copies regarding their traits.

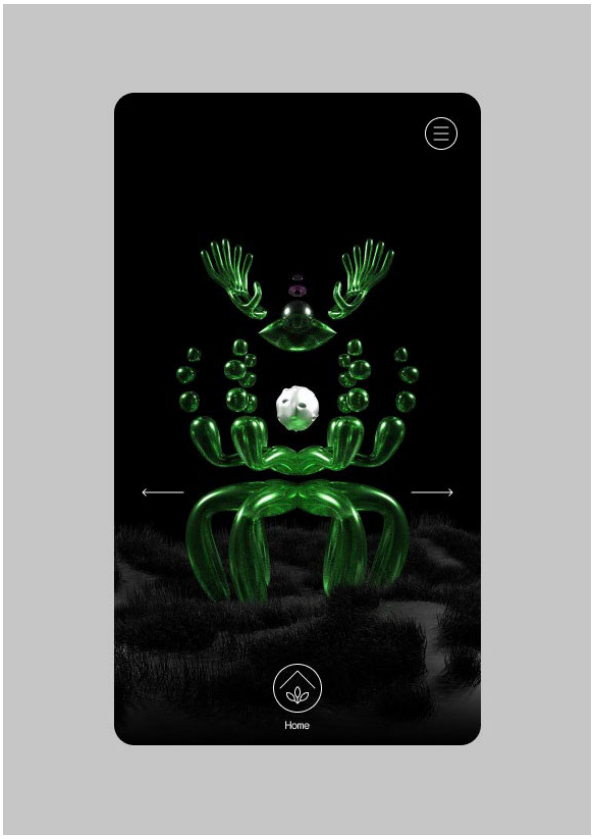

Figure 5: Lidija Sijacic. *FeelGrove* wireframes, community garden screen.

6.1.6 Examine Plant Screen

The user accesses this screen by tapping the examine icon located above the plant. This action opens a screen showing the plant zoomed-in and allows the user to see a small legend listing its traits. From here, the user can compost (delete) their plant. After confirming that they want the plant deleted, the user cannot retrieve the plant. If the plant is completely mature (flowering), the user can also lend it to the community garden.

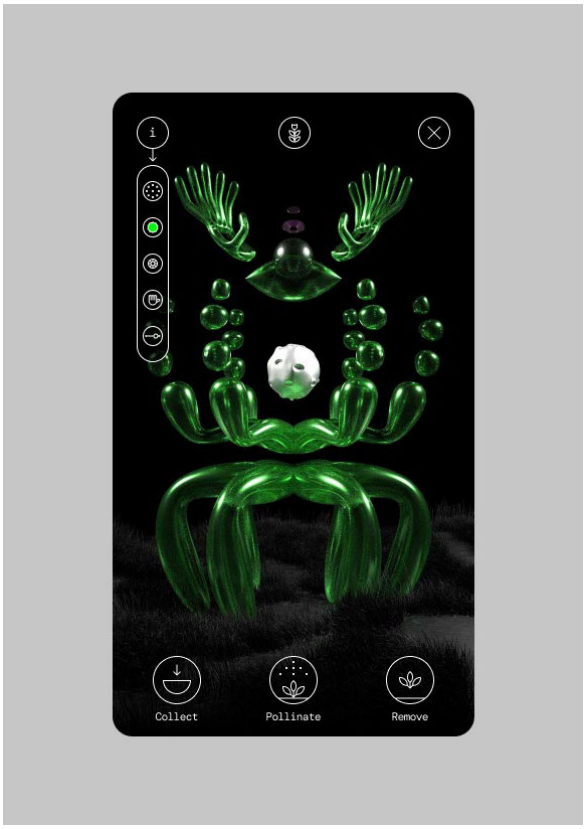

Figure 6: Lidija Sijacic. *FeelGrove* wireframes, examine plant screen.

6.1.7 Create Seed Screen

The user creates their plants by designing and planting a seed. The seed creation screen is accessed by tapping on the *create seed* icon in their home garden navigation bar, which opens a submenu containing the seed creation screen. The app will not allow for the creation of seeds

which have exactly the same varieties of all traits as a plant the user already owns at that moment. When creating a seed, the users will be asked to select among varieties of the four traits. The traits in question are shape, colour, anthropomorphic body parts and intensity. The pollen is created in a similar manner, as both the seeds and pollen share all varieties of traits.

The plants' properties include:

- prevalent shape (27 planned/four included currently)
- colour (11 planned/four included)
- anthropomorphic body parts (five planned/two included currently)
- intensity of features (two)

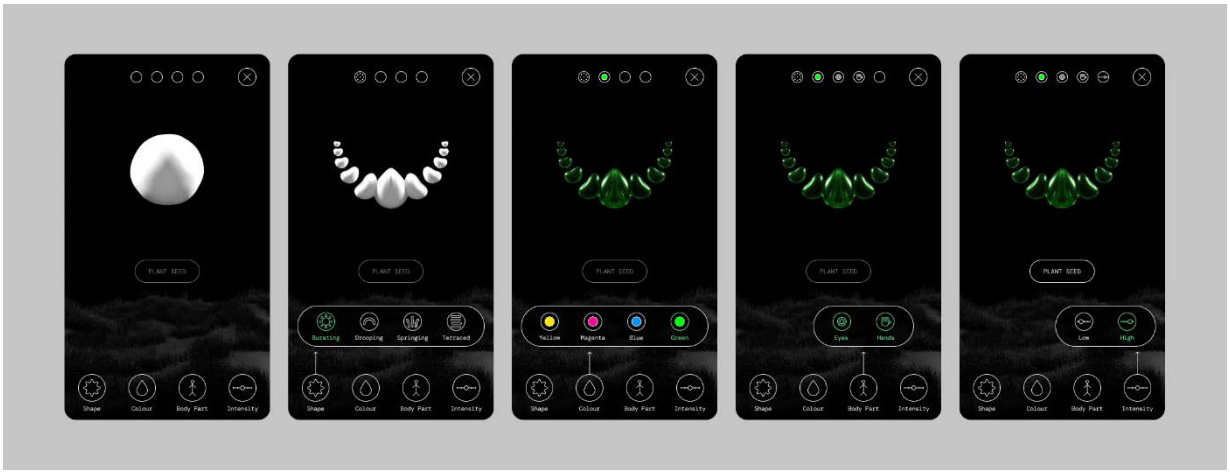

Figure 7: Lidija Sijacic. *FeelGrove* wireframes, create seed screens.

6.1.8 Plant Life Cycle and Propagation

Once the seed is planted, the plant emerges as a seedling the following day, a fully grown plant without any flowers or fruits on day two, and a fully mature, flowering plant on day three. If the player then cross-pollinates it with the pollen from a plant with at least one differing trait, the plant will bear a fruit containing a seed after one day. It is then that the user can harvest the fruit,

which results in the seed being placed in the inventory. The plants cannot self-pollinate, nor can they be pollinated with the pollen from its exact copy. The user can cross-pollinate a plant with pollen they collected from another plant they created, or they can lend the plant to the community garden, where it will be pollinated by other users or, if that does not occur, by random pollen. The seeds that are collected from cross-pollinated plants are always hybrids. I created a set of seven icons which designate the different plant life stages: planted, seedling, growing, flowering, pollinated and fruiting.

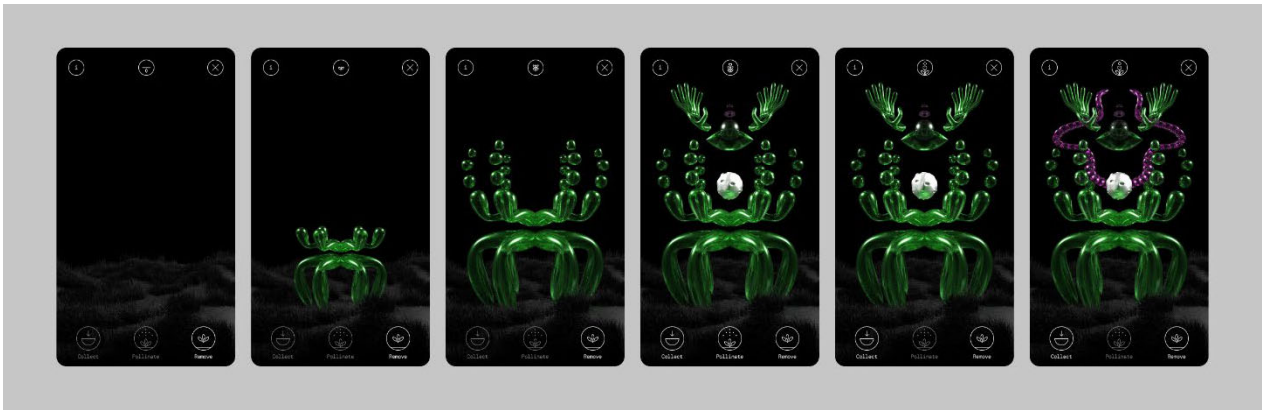

Figure 8: Lidija Sijacic. *FeelGrove* wireframes, FeelPlant life stages.

Figure 9: Lidija Sijacic. *FeelGrove* icons, FeelPlant life stages.

6.1.9 Hybrid Plants

Hybrid plants develop all features of a mature plant, including flower and fruit, except for seeds and pollen, as they are infertile.

6.1.10 Plant Genetics and Phenotypes

I have encountered various breeding and trait inheritance mechanics in multiplayer online browser creature collection games such as *Flight Rising* and *Lioden*.[110] In *Flight Rising*, players keep a flight of dragons, and in *Lioden*, a lion pride. Both games feature robust genetics and breeding systems, which allow the players to breed the creatures for specific traits in their offspring.

Figure 10: Possible offspring from two dragons in the creature collection browser game *Flight Rising*. Developed by Stormlight Workshop, LLC. Flight Rising, accessed July 27, 2024, https://www1.flightrising.com/wiki/wiki/article/genes.

[110] Darren Hill et al., *Flight Rising*, browser game (Stormlight Workshop, LLC., 2013), https://www1.flightrising.com/; Abbey Howard et al., *Lioden*, browser game (Lioden Ltd., 2012), https://www.lioden.com/.

Figure 11: Possible offspring from two lions in creature collection browser game *Lioden*. Developed by Lioden LTD. Lioden Wiki, accessed July 27, 2024, https://www.lioden.wiki/scrying-stone.

FeelPlants are similar to the creatures of *Flight Rising* and *Lioden* in that the users can cross-breed the plants to obtain a hybrid with specific traits and in that the plant design is not confined by bounds of realism, a feature also seen in the browser games' creatures. This approach gave me quite a bit of liberty concerning the plants' design. However, some of the FeelPlants' features are influenced by real-life plant biology. As each plant is bisexual, it produces flowers, fruit, pollen and, once cross-pollinated, seeds. As mentioned, every plant has four traits. Both seed and pollen carry the information that designates what variety of a trait a plant will have.

The traits and their variants included at this stage are:

- prevalent shape (bursting, drooping, springing, terraced)
- colour (blue, green, yellow, magenta)
- anthropomorphic body parts (eye, hands)
- intensity of features (low, high)

The intensity acts as a modifier trait which influences the expression of other traits. If two plants with high-intensity traits are hybridized, the resulting hybrid will feature traits from both parents. If the two plants have low intensity, their hybrid will exhibit a mixture of their traits. If one plant is of high intensity and the other of low, the resulting hybrid will feature the majority of the high-intensity plant's traits, with only one trait being a mix of the parents' traits.

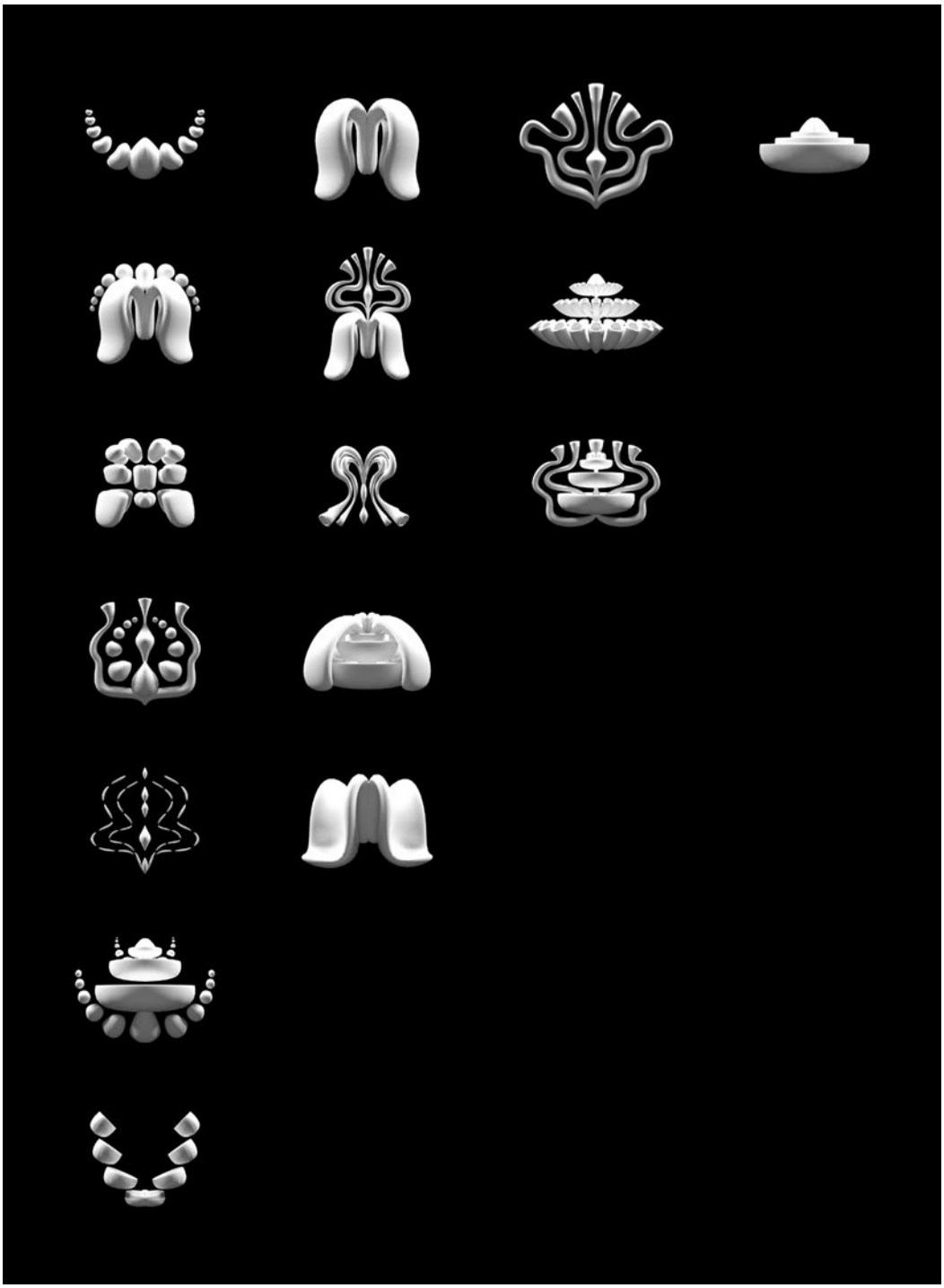

Figure 12: Lidija Sijacic. Seeds and their possible hybrids.

6.1.11 Decisions and Answers to the Design Questions

Outlined below are the answers to the questions I initially posed:

1. What *persuasive techniques* will exist in an app allowing certain behaviour (in this particular case, the users creating representations of their emotions), but not presenting it as the only mode of use?

In the context of the intended use of the app as an emotional engagement tool, *FeelGrove* is not prescriptive, but it employs persuasive mechanisms. Even though users are notified by the app that they can create plants to depict their emotions, the app can be used without doing so, which the app also expresses. However, while the possibility of describing emotions through the plants is only mentioned during the onboarding, this mere reference to the possibility constitutes "suggestion technology," an instrument of persuasion which, in Fogg's terms, "suggests a behavior at the most opportune moment."[111] Because the onboarding announcing this possibility occurs right before the user creates a seed, it might influence them to depict their emotions.[112] These conclusions demonstrate that persuasion does occur in *FeelGrove* and that persuasion can be integrated into a digital product without being obvious or overt.

2. Which features could the app include, and which should it omit to avoid promoting *competition* and *capital accumulation*?

FeelGrove inhibits competition between the users. There is no manner of comparison between the users in terms of the number or diversity of plants they have. This goal is achieved as the users themselves are not visible to each other in the community garden instances. The user also cannot compete against themselves or the app, as there are no collectable achievements for

[111] Fogg, *Persuasive Technology*, 41.
[112] Fogg, 41.

collecting plants with different features or obtaining a certain number of plants. Additionally, no capital exists in the form of currency or points. Plants can be considered a form of capital, but the user cannot mark them as their own while exhibiting them in the community garden to achieve a high social standing. They also cannot accumulate a large number of plants in their home garden as space is limited both in the garden and in their inventory. Furthermore, each user can keep only four plants in the community garden at one time.

3. How does the app oppose the concepts of *self-tracking* and *self-optimization* regarding the mechanics of its design?

The app does not afford self-tracking per se. Plants are meant to be deleted with relative frequency, which discourages the users from analyzing the plants they created over time. Deleting the plants is encouraged by the limited number of plants the user can keep at one time. No statistics or graphs describe the plants the user created over time. Furthermore, the app will not provide the users with the opportunity to attach any words to the plants which would describe the emotions they are thinking of when creating the plants. This purposeful omission would result in the meaning remaining known only to them. The app also does not feature any tags similar to those seen in commercial emotion and mood trackers. Such tags allow users to attach different qualifiers like their current setting, activity and company of others, which might influence the affective state which they are logging. Should the user choose to engage in self-tracking, they would have to do so outside of the app. Concerning *self-optimization*, *FeelGrove* does not propagate the idea that any change in how the user feels or behaves is necessary or desirable.

4. Could including engaging mechanics result in such mechanics being deemed unethical?

The possibility of variable ratio reinforcement in creating the hybrid plants, which sometimes exhibit randomized traits, could be seen as mimicking gambling mechanics. This feature and its possible impact on frequent engagement with the app is somewhat curbed by the users being limited in the number of plants they can grow, how often they can access the community garden, and the multiple-day growth cycle of FeelPlants. However, the question of the ethics of implementation of such mechanics, even in such a manner, is open to discussion.

6.2 Embodying Emotions With Plants – Parallels Between Plants and Emotions

Considering the possible ways of embodying emotions, plants became my preferred choice quickly and with ease. The lives of humans are intertwined with those of plants in diverse and intricate ways that deeply impact both. Whether for sustenance or medicine, people rely on plant life to preserve their own. Thus, plants play a significant role in the survival of the human species, as do emotions. FeelPlants further mimic emotions in several ways. Our experience of emotion is limited in everyday life, as an individual does not experience a limitless number of emotions at one time. Accordingly, the user can keep a limited number of FeelPlants at once. The pollination of plants by the pollen of other users or one they created parallels the changes in the emotional experiences of an individual by means of encounters with others or their own thoughts or actions.

6.3 On Slowness

Slowness is yet another quality shared by real-life plants and FeelPlants. Drawing from plant life imposing a pause and instructing stillness, *FeelGrove* aims to replicate this pause by omitting mechanics that would instill in the user a pressing sense of urgency to complete tasks quickly. Every plant in the application takes three days to mature, and there are no mechanics that

could allow the users to skip the waiting time. One video game which resists the modern-day urge of haste is the interactive fiction video game *Mutazione* (2019), which features the tending of community gardens as a mechanic. In stark contrast to the market-driven mechanics of *Stardew Valley*, *Mutazione* does not feature any market activity.[113]

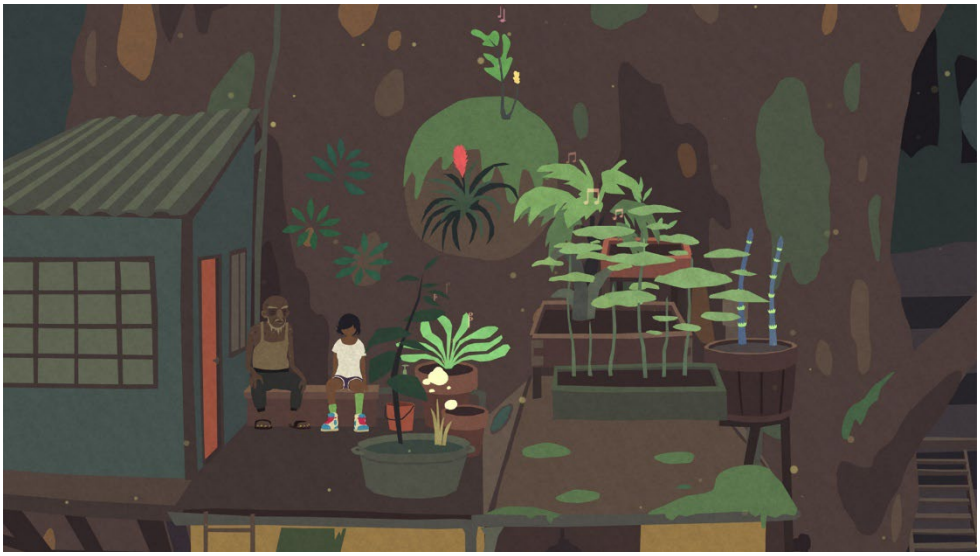

Figure 13: *Mutazione* video game screenshot. Developed by Die Gute Fabrik. Steam, accessed July 27, 2024, https://store.steampowered.com/app/1080750/Mutazione/.

FeelGrove, like *Mutazione*, does not feature any mechanics related to commerce, in addition to assuming a hard stance against urgency. The user will not lose anything if they decide not to engage with the app for prolonged periods of time. However, the app does not advertise slowness as a source of wellbeing, as not everyone can afford it.

Slowness is, along with other aspects of human life such as rest or food, political and tied to class, which renders it as not universally affordable. It is important to note that in *Psychopolitics*, Han does not attend to the problem of class thoroughly. He also does not discuss gender, race, differences in ability, immigration status or any other designators which might

[113] Die Gute Fabrik, *Mutazione*, PC ed., (Akupara Games, 2019); Eric Barone, *Stardew Valley*, PC ed., (Concerned Ape, 2016).

render an individual particularly vulnerable in relation to the neoliberal and *psychopolitical* paradigms.

6.4 FeelPlant Design

Due to the discursive nature of *FeelGrove*, I took the liberty to be subjective in designing the plants, and the plants created for the project are the embodiments of my own emotional states. The plants are also relevant separately from the app as an artistic inquiry in emotion visualization. In the app, the emotions that the plants are crafted after are not named, and the plants' meaning is left to the viewer's interpretation. Conceptualizing the plants as fantastical entities allowed me breadth in my creative approach to depicting the emotional states, as I was unconstrained by the bounds of realism concerning the visuals. The plants retained realistic characteristics to a small extent, such as partial inspiration from biology for the reproduction mechanics. For the purpose of the thesis project, I included fewer varieties of each plant feature, such as shape or colour, than would be available in a fully functional prototype of the app.

6.4.1 Shape

In the fully functioning app, users would start by choosing the seed's shape, as I found it to be the most visually defining and dominant property of a plant. As the design of each seed and plant shape corresponds to a distinct category of emotion, before creating those designs, I had to decide which emotions I would include. Emotion theorists have, over time, proposed differing numbers of human emotions. More recently, in 2017, Alan Cowen and Dacher Keltner, researchers at the Berkeley Social Interaction Laboratory, proposed that there are 27 categories of emotional experiences, which they recorded after showing 2,185 videos to 853 participants.[114] It

[114] Alan S. Cowen and Dacher Keltner, "Self-Report Captures 27 Distinct Categories of Emotion Bridged by Continuous Gradients," *Proceedings of the National Academy of Sciences* 114, no. 38 (September 2017): 7900, 7908, https://doi.org/10.1073/pnas.1702247114.

is important to note that the participants were located in the United States, participated in the study through Amazon's Mechanical Turk and spoke English.[115]

I decided to base the FeelPlants on the emotional categories from the Berkeley taxonomy due to its recency and the large number of emotional categories they included. Concerning the particular emotions I interpreted visually through the four plants, I chose two (entrancement, sadness) and picked another two in a random manner (interest, calmness). I modelled them by assigning each plant a shape I associated with a particular category of emotion. I interpreted entrancement as having a *bursting* quality, sadness as *drooping*, interest as *springing* and calmness as *terraced*.

Even though I have not based my plant designs on scientific research on the psychology of shapes, it is interesting to note that research has shown that different simple geometric forms are associated with particular affective states, specifically pleasant or related to threats.[116] In a 2012 study, researchers found that sharp downturned V shapes were associated with unpleasant feelings, while circles were seen as pleasant.[117] The upturned and rounded V shapes were not associated with unpleasantness.[118]

6.4.2 Colour

The following property the users would choose is the plant's colour, and the users would choose from 11 basic colours present in the English language.[119] As I am currently including only four colours in the app concept, I decided on green, blue, magenta and yellow, basing my choice

[115] Cowen and Keltner, 7908.
[116] Christine L. Larson et al., "Simple Geometric Shapes Are Implicitly Associated with Affective Value," *Motivation and Emotion* 36, no. 3 (September 2012): 411, https://doi.org/10.1007/s11031-011-9249-2.
[117] Larson et al., "Simple Geometric Shapes Are Implicitly Associated with Affective Value,"411.
[118] Larson et al., 411.
[119] Kimberly A. Jameson and Michael A. Webster, "Color and Culture: Innovations and Insights Since Basic Color Terms—Their Universality and Evolution (1969)," *Color Research & Application* 44, no. 6 (December 2019): 1038, https://doi.org/10.1002/col.22438.

on my subjective interpretation of emotions as colours. The universality of cross-cultural affective response to different colours has been studied extensively. A 2020 study examined how 4,598 participants from 30 countries assigned 20 emotions to 12 colours.[120] The researchers concluded that there was a significant accord between different nationalities, a finding that confirmed the claims made by previous studies, along with some differences.[121] Interestingly, the colours whose corresponding emotions differed the most from country to country were yellow and purple, while the most universally perceived across different cultures were black, pink, turquoise and green.[122]

6.4.3 Body Parts

Next, the user assigns to their plant anthropomorphic body parts, currently limited to eyes or hands. They can choose to add multiple body parts to each plant. This property can create an additional layer of meaning for the user, as the body part they choose might correspond to the body part where they feel a particular feeling.

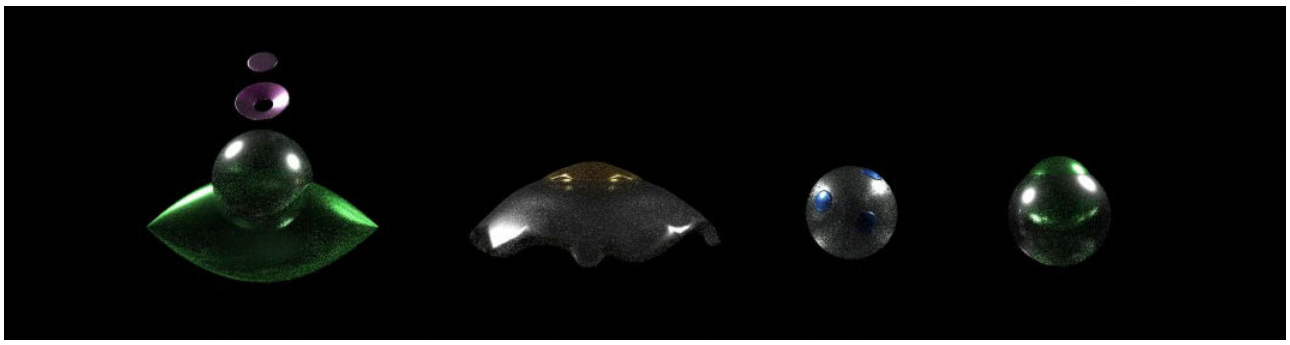

Figure 14: Lidija Sijacic. Designs for the plant eyes.

[120] Domicele Jonauskaite et al., "Universal Patterns in Color-Emotion Associations Are Further Shaped by Linguistic and Geographic Proximity," *Psychological Science* 31, no. 10 (October 2020): 1246, https://doi.org/10.1177/0956797620948810.
[121] Jonauskaite et al., "Universal Patterns in Color-Emotion Associations Are Further Shaped by Linguistic and Geographic Proximity," 1255.
[122] Jonauskaite et al., 1253.

6.4.4 Intensity

The final property the user assigns to their plant is the low or high intensity of the plant's features. As previously explained, this property acts as a modifier in regard to how the plant's features would be expressed in its hybrid. For the user, this property might signify the intensity of the emotion they embody in the plant.

6.4.5 FeelPlants

During my work on the *FeelGrove* plants, I have rendered several different versions of them while deciding on their final look and the software I would use to create them. The first versions of the plants represented entrancement, sadness and anger and were conceptualized as 2D vector art, which I made in Adobe Illustrator. Even at this stage, I was strongly drawn to the idea of assigning them bilateral symmetry. One reason for this was utilitarian, as the plants' features, being fairly complex, became unintelligible when placed in a more haphazard manner. Secondly, as I visualized the plants as sentient beings, giving them bilateral symmetry further emphasized this quality of theirs.

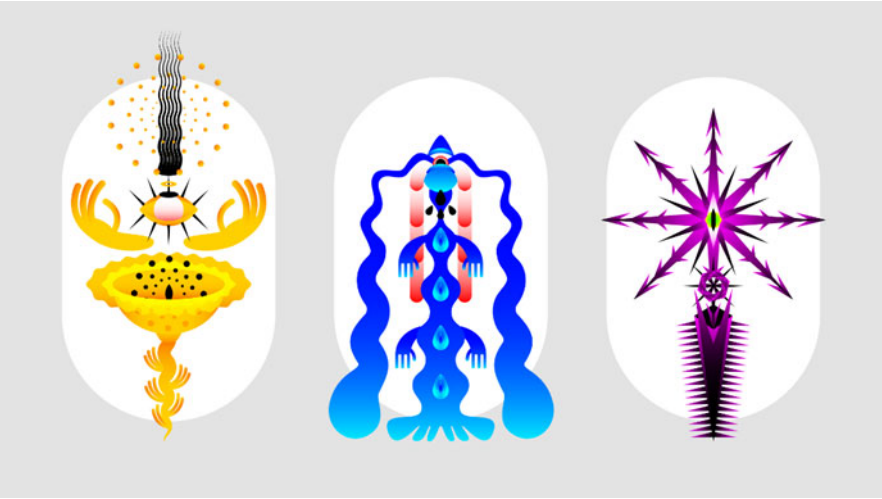

Figure 15: Lidija Sijacic. 2D concept art for FeelPlants created in Adobe Illustrator.

As I was experimenting with 3D illustration, I next aimed to recreate the three 2D plants as 3D objects. The next rendition of the plants was done in Spline, a relatively new 3D software featuring easy integration for the web. I changed some properties of the plants but otherwise reconstructed them relatively closely to the 2D illustrations.

Figure 16: Lidija Sijacic. 3D concept art for FeelPlants created in Spline.

I created the latest versions of the plants in Blender software, as I wanted to experiment with its robust modelling and shading capabilities, and the plants resulting from this exploration ended up being those I integrated into the *FeelGrove* app interfaces. I also decided to move away from the overtly cartoonish look of the initial plant versions and tone down their somewhat overt connection to the emotions they represented. The emotions I depicted also changed in part, becoming the four emotional categories previously noted in this paper: entrancement, sadness, interest and calmness. I decided on all the flowers being of a silvery colour in order to signal a level of cohesion between the plants and reduce the number of colours each plant would exhibit. The colours of the fruit are complementary to the colours of the plants' bodies, which enhances the visual harmony of the plants. This iterative process aided me in working out the growth

phases and features, as I understood better the interaction between different plant properties, which enabled me to design the final versions of the plants for the app.

The green bursting FeelPlant describes entrancement with a disjointed and discombobulated shape, striving to extend upwards. It is not planted firmly in the ground, as its roots are stretched out above it, with the rest of its body also untethered to the roots. The hands and the eye mimic the sentiment of disconnection, as they are not attached to the rest of the plant. The eyeball, its iris and pupil are all disconnected and floating up. Its flower is round and separate from the body, and the fruit is long and segmented.

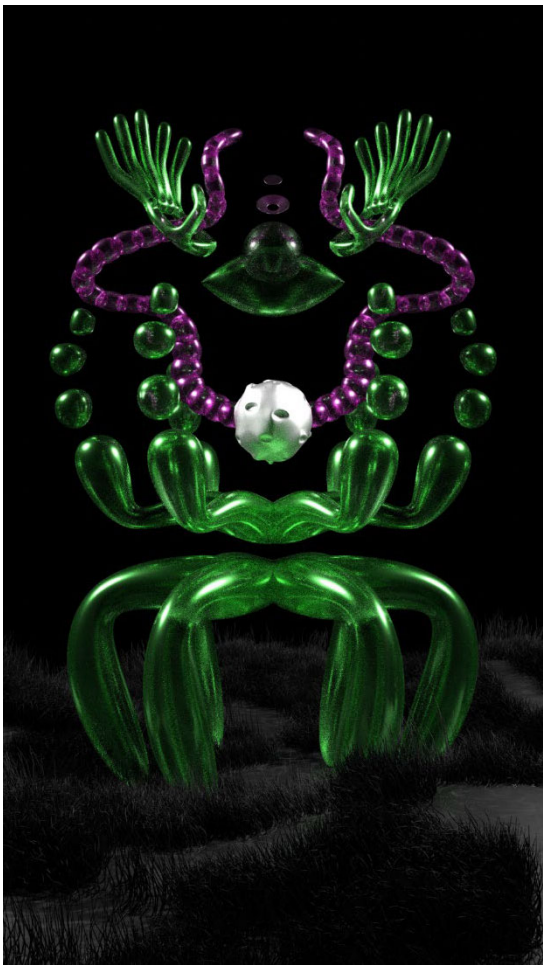

Figure 17: Lidija Sijacic. Bursting FeelPlant created in Blender.

The following plant I designed is the *drooping* one. This blue plant, which denotes sadness, is leaning on its three heavy, thick leaves extending to the ground and supporting its body, as its stalk is quite thin. The leaves somewhat resemble water streams, moving downwards. The heaviness of the plant's leaves is contrasted by its thin hands and stalk. The drooping plant's flower is a barred barrier, keeping the round fruit with its short protuberances entrapped among its lattices. There is only one eye, which is transparent, appearing as if it is melting, draped flatly over the flower.

Figure 18: Lidija Sijacic. Drooping FeelPlant created in Blender.

The *springing* plant signifies interest, which is depicted by its many yellow sprawling branches. It features a large number of eyes which mirror the expansive nature of the branches. This plant is firmly set in the ground, with its base wider than its body, signifying steadiness. Its flower is a spiral, at which end grows a small round fruit with several short projections.

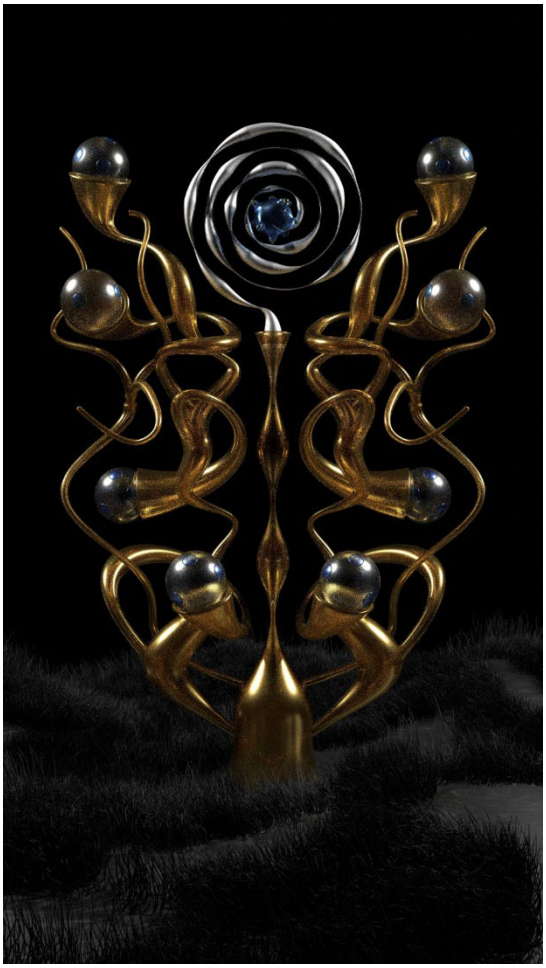

Figure 19: Lidija Sijacic. Springing FeelPlant created in Blender.

Lastly, the magenta *terraced* plant represents calmness, with its sturdy and stable cone-like body and wide but firmly attached plateaued leaves supported by its many hands. The eyes, two transparent globes, are free to move around the leaves but protected from falling by their elevated rims. This plant's wide fruit sits firmly atop its flower, shielded by its upturned lattices.

Figure 20: Lidija Sijacic. Terraced FeelPlant made in Blender.

The plants' designs are such that they, when displayed together, appear distinct and maintain their own temperaments and, at the same time, exhibit a stylistic cohesion between them, at least to a certain degree. This cohesion is achieved by implementing similar stylistic choices regarding their symmetry, size, and the manner in which their colours harmonize.

Figure 21: Lidija Sijacic. Four FeelPlants for the *FeelGrove* app.

6.5 Production

The creation of the app's concept involved creating sketches, mapping out the content units and designing wireframes and high-fidelity designs. The first rough sketches represented the structure of the app and included its core features. As my concept progressed and changed, the sketches became more detailed, and I outlined all of the content units, which I arranged into the screens that would house them.

6.6 Art Direction

Simultaneously, while working on the concept of *FeelGrove*, I was creating its visuals, including an extensive icon system. My intent was to create recognizable symbols and representations of the concepts the icons would depict. As the plants' designs are elaborate and busy, I wanted the interface to be as innocuous and minimalist as possible. In creating a visual style for the app, I drew inspiration from minimalist interface elements, seen in games like the plant growing simulation *Viridi* (2015), strategy *Desta: The Memories Between* (2023) and

adventure *Kentucky Route Zero* (2013).[123] The design work was done in Figma, software for designing user experience and user interfaces, including the icons, wireframes and high-fidelity designs.

Figure 22: Lidija Sijacic. *FeelGrove* app logo.

[123] Zoe Vartanian et al., *Viridi*, PC ed., (Ice Water Games, 2015); ustwo games, *Desta: The Memories Between*, Android ed., (ustwo games, 2023); Cardboard Computer, *Kentucky Route Zero*, PC ed.

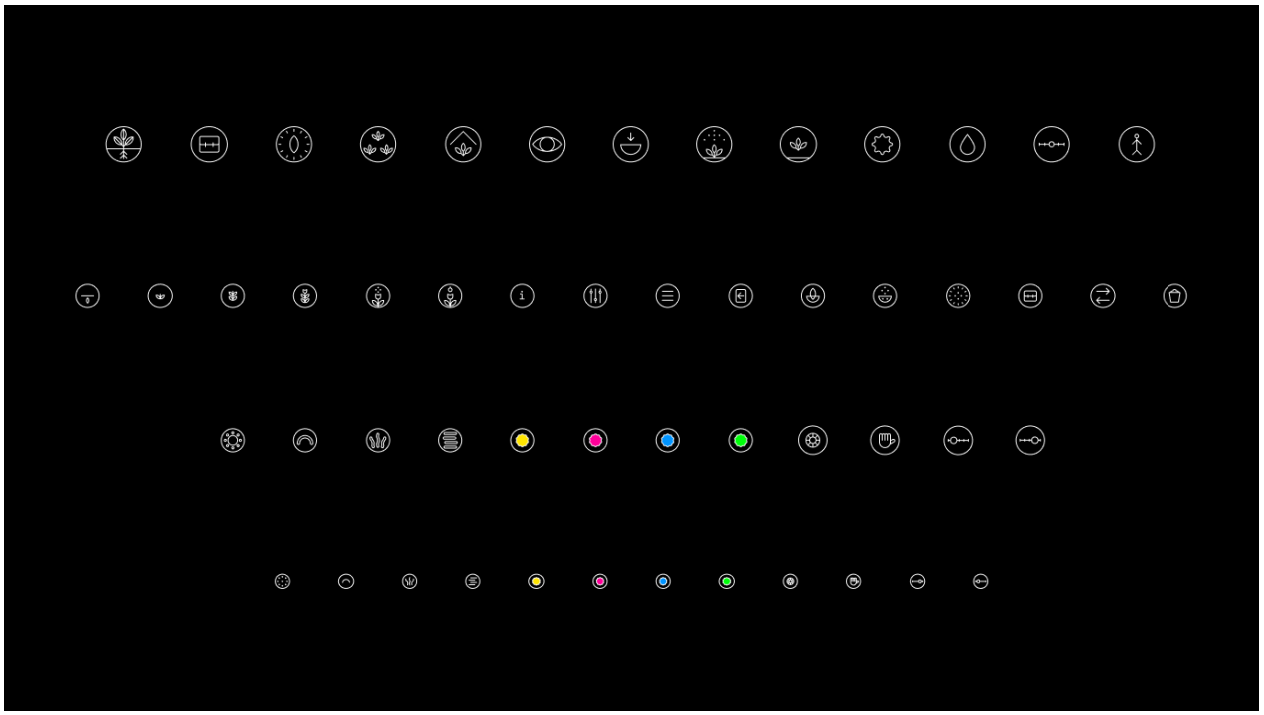

Figure 23: Lidija Sijacic. *FeelGrove* app icons.

6.7 Accessing Emotions

Aside from the app graphics and as a part of my creative process, I also created two complimentary 3D scenes during my work on the plant designs, which I modelled, shaded and rendered in 3D graphics software Blender as a method of recollecting and re-engaging with the events in my life that provoked emotional states that I was imbuing the plants with. The physical settings I found myself in while having the emotional experiences and the objects that surrounded me during those times dominate my recollections. I started creating both digital environments from memory, as my initial idea was to create scenes that would not resemble the physical places substantially. These digital settings would be altered by the emotions they were a backdrop for. However, in reliving my experiences while fleshing them out, which was the intended purpose of this method, the pull of the "real" was becoming too enticing not to push for. It strengthened my

emotional revisiting, and I felt compelled to start working with reference images later in the process.

The first of the two scenes features a fragment of my Belgrade apartment's bedroom and its adjoining terrace, where I experienced *entrancement* and *sadness*. The room is furnished minimally, as my real-life bedroom was. There is a mattress on the floor, illuminated only by a small lamp near it and a thread of shimmering fairy lights strewn across the windowsill. On the outer windowsill, there are two plastic containers full of water set up for the crows. It has been almost two years since I have inhabited this space, and even though I can revisit it by means of photographs I took or video calls to my friend who now lives there, the memories of my lived experiences there are now fragments. For this reason, the scene features three partially torn-down walls and a floor that is breaking off in places. The most complicated part of the scene to produce was the string of fairy lights, consisting of a large number of geometry nodes, which I created by following a detailed video tutorial.[124]

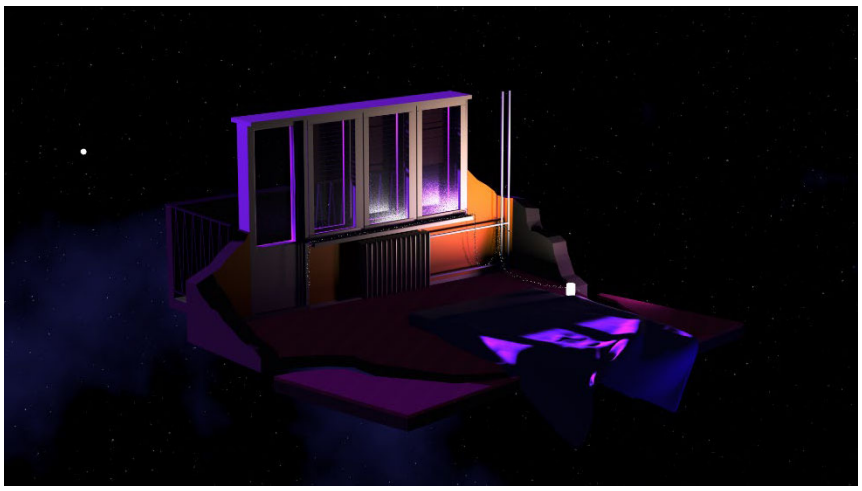

Figure 24: Lidija Sijacic. Apartment interior created in Blender.

[124] Ryan King, "Customizable Christmas Lights - Geometry Nodes (Blender Tutorial)," Ryan King Art, December 12, 2022, video tutorial, 1:08:22, https://www.youtube.com/watch?v=2Xwu8Rx-asw.

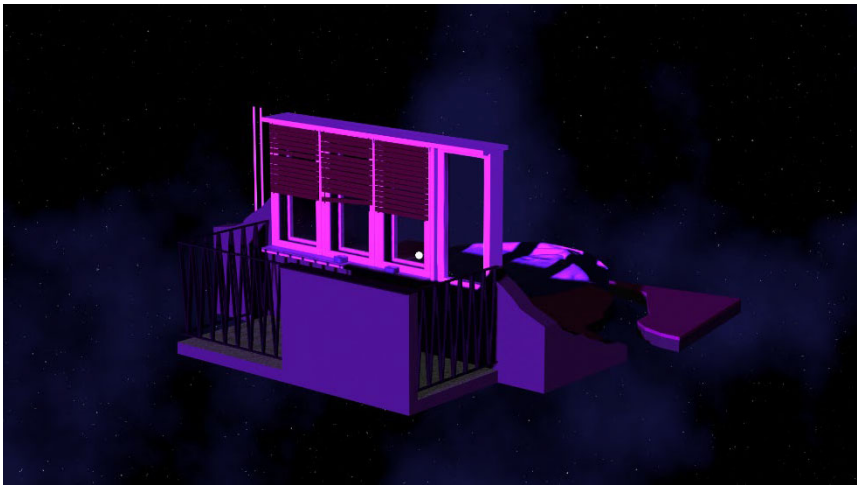

Figure 25: Lidija Sijacic. Apartment exterior created in Blender.

The second scene houses the two other emotional categories: *interest* and *calmness*. It features a ridge in a small Southern Alberta town at the prairie's edge. There is a solitary bench on a small hill among the undulating blades of grass, bright purple crocuses and yellow dandelions. The time of day is late afternoon, during the golden hour, and in this scene, the sunlight paints sharp shadows on the ground.

Figure 26: Lidija Sijacic. Prairie exterior created in Blender.

6.8 Limitations and Future Inquiries

FeelGrove primarily critiques the prevailing neoliberal narratives espoused by mental health and wellbeing apps and examines novel modes of human-computer interaction in the context of engaging with emotional experiences. However, its scope and available timeline do not afford it to presently examine or comment on how differences in privilege create vulnerability to neoliberal demands, a problem briefly discussed in the section *On Slowness* of Chapter 6. Future research could extend the inquiry started by *FeelGrove*, and comment on the apps for mental health and wellbeing in regard to their intersection with class, race or gender.

CHAPTER 7: CONCLUSION

In designing *FeelGrove*, I created a commentary on the hegemony of the neoliberal zeitgeist, characterized by the prioritization of capital and the imperative of assigning market value to the human experience. Because such positioning of human life demands that the individual engages in constant self-monitoring and self-optimizing, the smartphone applications advertised to improve the mental health or wellbeing of their users ultimately act as tools for such endeavours. This easily observable phenomenon represents only one facet of a more extensive web of narratives about health and wellbeing present in current times.

The tangible part of *FeelGrove* is a destination plotted on a much larger map of the research landscape I traversed during my study. What started as an inquiry into a largely individualized matter of emotional processing became a much more vigorous examination of the systemic failings that plague current societies. Turning my attention to such multifaceted and complex problems was by no means a pleasant ordeal. Even more so, the heaviness I felt was spurred by the dearth of possible resolutions. Thus, the journey I undertook during my research

has been wrought with sharp bends and seemingly inhospitable terrain. Discursive design surfaced as a modest but vital oasis in such a landscape. It holds no promises but offers a possibility of illuminating what needs to be brought into question.

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