

Challenges of Designing Consent: Consent Mechanics in Video Games as Models for Interactive User Agency

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ABSTRACT

This paper argues for a conceptual framework that treats user consent in interactive technologies as a design challenge necessitating careful, culturally-informed consideration. We draw on recent work in HCI as well as queer and feminist theory that understands consent as rooted in negotiating agency in order to frame our exploration of unique difficulties and potential solutions to meaningful opportunities for user consent in the design of computational technologies. Through a critical analysis of three video games that offer different models of consent—each of which communicates different values through its design—we introduce the concept of consent mechanics. Consent mechanics describe designed interactions that allow players to consent to or opt out of in-game experiences, often those related to sexuality or intimacy. Here, we approach video games as windows onto design considerations surrounding interactive technologies more broadly, suggesting crucial questions and tactics for how to design user agency ethically into computational systems.

Author Keywords

consent; ethics; video games; design; critical approaches; sexuality; queerness

CSS Concepts

• **Human-centered computing~Human computer interaction (HCI)~HCI theory, concepts and models** • *Human-centered computing~Ubiquitous and mobile computing* • *Security and privacy~Human and societal aspects of security and privacy*

INTRODUCTION

Consent is an important issue in the design of digital technologies. This is because opportunities for consent in technological contexts allow individuals to opt into (or out of) potentially challenging experiences, as well as to

determine for themselves which technologically-mediated interactions they would like to participate in. Much existing research in HCI addresses concerns around informed user consent in areas such as ubiquitous computing [28, 31] and online data privacy [24, 25]. Existing research has shown that the question of how to design consent in the present technological moment is increasingly challenging across many different domains. As new challenges arise, new answers are needed, and finding these answers requires new ways of thinking about how to approach the problems at hand. Designing technologies across a range of many domains with consent in mind requires understanding how consent is imagined, how it is framed, and how it is enacted.

We argue here that additional work in HCI is required to address consent as a *design challenge*: that is, as a set of unique difficulties and potential solutions surrounding the question of how to design meaningful and ethical interactive opportunities for technology users to negotiate consent. Though consent is often associated with sex, the relevance and importance of consent is not only limited to sexual interactions. This is especially true within the context of technology, where consent takes many forms. Indeed, in popular contexts, questions of consent in relation to technology often emerge most explicitly through surveillance technologies, medical devices, and social media platforms. Furthermore, discussions of consent commonly arise surrounding how users must accept end-user license agreements (EULAs) in order to use many digital technologies. Thus, consent is a key concern for the development of digital technologies broadly.

With the goal of prompting critical reflection among designers of interactive technologies and proposing new ways forward, this paper introduces the concept of *consent mechanics*. “Mechanics” is the standard term used to describe units of interactivity found in video games [46]. Consent mechanics as we define them are the interactive elements through which video games allow players to actively consent to in-game activities, especially those that relate to sexuality, sexual expression, or interpersonal intimacy. The consent mechanics found in video games offer valuable models for how consent can be designed more effectively in a wider range of technological systems, interfaces, and tools. Our key intervention is to show that

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consent mechanics, as they are found in video games, provide a useful resource for understanding how consent can be designed into digital technologies in new ways that better reflect the cultural and ethical goals of their designers.

To illustrate the concept of consent mechanics and its value, we analyze three queer, feminist video games that incorporate consent mechanics and present them as design case studies. In so doing, we explore how game mechanics can be used as models for imagining more effective experiences of user consent. These games include *Realistic Kissing Simulator* (Jimmy Andrews and Loren Schmidt, 2014), *Hurt Me Plenty* (Robert Yang, 2014), and *HUGPUNX* (merritt kopas, 2013). We analyze these games by using the established qualitative method of critically analyzing video games and other technological systems for the “values” communicated by their design. Specifically, we do this through the “values at play” framework developed by Mary Flanagan and Helen Nissenbaum, wherein all designed elements of video games are understood to communicate values (such as personal, cultural, or political values) and values themselves are defined as “properties of things and states of affairs” that a person or group “care[s] about and strive[s] to attain” [14: 5]. Though the case studies presented here are video games, the implications of this research are not limited to video games. Rather, as we demonstrate, video games are a subset of digital technologies that usefully foreground interactivity and user agency, which has broad relevance to issues of consent across areas of HCI.

All three of the games that we present as case studies here involve expressions of sexuality and intimacy. Existing research has addressed related topics like the design of technological devices for sexual pleasure and wellbeing [3, 21]. In this work, we push these conversations in productive new directions by demonstrating how, though the content of these games relates to sex and interpersonal contact, their consent mechanics have implications that extend beyond technologies whose use is related to sex. These implications are tied to broader, pressing questions of negotiating agency, power, privacy, surveillance, diversity, and inclusion in the design of technologies—questions which sex and intimacy helpfully bring to the forefront.

BACKGROUND AND EXISTING WORK

Existing Research on Consent in HCI

Consent is an important issue that intersects with the design of technology in a number of ways. Existing work that addresses consent from within the field of HCI has considered it in a variety of domains, particularly those related to the collection, management, use, and protection of users’ personal data. Such work demonstrates that the topic of consent is particularly important in the present moment, with the ongoing rise of ubiquitous computing and digital platforms that collect and use increasing amounts of personal user data. In their zine and primer on consent and HCI titled *Building Consentful Tech*, for example, Una Lee and Dann Toliver discuss the design of consentful technologies:

technologies built centrally around consent toward securing user self-determination [26]. In so doing, Lee and Toliver articulate five key values they argue are core to ethical consent in technological design: freely given, reversible, informed, enthusiastic, and specific [26]. At the same time, such existing work speaks to the particular challenge of finding new, more effective, and more ethical ways of designing consent given the growing use of contemporary technologies that may themselves be ill fit to current, dominant notions of how consent operates.

One key area of HCI research that has addressed the issue of consent at length is sensing and surveillance in ubiquitous computing. Ubiquitous computing poses challenges, both ethical and technical, for the question of how designers conceptualize and implement opportunities for users to consent to the collection of their data. Because ubiquitous computing devices often collect data from users over periods of time, rather than at one particular moment, designers must wrestle with creating opportunities for users to give sustained, ongoing consent [28, 31] without overwhelming them with requests [16]. Such devices may also collect data from individuals who do not realize they are being monitored, which raises questions about whether and how these individuals can offer informed consent [29]. While efforts to model concrete, improved systems for facilitating user consent is represented in this research [2], much of this work remains speculative [38], in part because solutions to the design questions raised by the issue of consent in ubiquitous computing are particularly challenging to answer using standard modes of collecting and managing consent traditionally found in HCI.

A second area of existing research that engages with questions of consent in the design of technological systems is focused on users’ data privacy, especially documents like terms of service policies and end user license agreements (EULAs). Documents of this sort are ubiquitous in digital spaces; typically, users must consent to their terms, such as a company’s right to collect and utilize personal data, in order to access a digital platform’s service. Unfortunately, users rarely read EULAs in detail [25], and terms and conditions documents often allow for users’ data to be collected and distributed for purposes far beyond the original service for which they are signing up [24]. Researchers in this area have argued that current protocols for collecting user consent are “broken” and finding new and better ways to solicit informed consent is a crucial issue for individuals, corporations, and a democratic online way of life [27]. As with existing research on issues of consent around ubiquitous computing, this work on consent and users’ data privacy raises valuable points and concerns, yet explorations of designing alternative systems for improving the current situation that users face remain preliminary [35, 36]. Questions of consent as it intersects with the management of data also has ties to research on patients’ consent in the distribution and storage of personal medical information [47].

Another area of existing research related to consent and technological design explores issues of privacy on social media platforms. Issues of privacy have arisen surrounding researchers unaffiliated with the platform who collect data on these sites and publish findings, since users are often not contacted in order to give their consent to have their social media data used for such studies [49]. A related issue surrounds the ability for users to delete or change social media data, such as in the case of trans folks who wish to manage the visibility of past identity presentations [18]. Additionally, consent comes to matter in situations where subjects who are incapable of consenting are impacted by social media. For example, studies have explored how social media platform users who have children negotiate consciously or not how they post or disclose information about their children [1, 34]. While not always discussed explicitly through the language of consent, such social media practices gesture to the fact that parents may be posting content about their children without their children's consent or knowledge. This is especially the case with babies and young children who are incapable of providing such consent and for whom such social media content may impact their future social and professional lives. Another user population affected by digital technologies but are unable to—or no longer able to—consent are users who have passed. Research in this area explores how the design of social media platforms has historically failed to account for the afterlife of user's online lives and the need to acknowledge and account for their wishes after their deaths [7].

This existing research on consent from the field of HCI demonstrates that designing opportunities for users to give meaningful, informed, and ongoing consent represents a significant challenge. It also illustrates the importance of identifying new alternative models for interactive consent to a variety of technologies and systems, including but not limited to ubiquitous computing, social media, and the management of user data.

Complicating Conceptualizations of Consent

While much research has identified consent as a necessary issue to address in HCI and technological design, many existing studies treat consent as a fairly straightforward acquisition of permission. However, it is crucial to complicate this vision of consent as a simple or self-evident concept. What constitutes consent and the purpose of consent are questions that are seen differently by people and within different cultural contexts [8, 17]. The values regarding consent that a technological design communicates are informed by how designers conceptualize consent. Because consent is fundamentally related to issues of power, agency, and ethics, the way in which one conceptualizes consent is itself inherently political. Understanding consent through a negative model (“no means no”) versus an affirmative model (“yes” means “yes”), for example, reflects differences in how consent is conceptualized: whether consent is assumed until explicitly withdrawn or denied or whether consent is only given when explicitly communicated. These are important

distinctions that must be reflected upon in order to design conscientious mechanisms for users to negotiate and give consent.

For instance, the recent development of consent recording mobile phone applications such as LegalFling and Good2Go demonstrate how technological designs based around reductive or misguided notions of consent can result in problematic products. Both these and similar mobile applications seek to document when partners have explicitly and mutually consented to sexual interaction. Although giving explicit consent should be understood as a significant component of engaging in sexual interaction, such applications do not encourage robust or nuanced conversations about consent, relying instead on a very simplistic model of consent as merely a checkbox to fill. Moreover, these technologies also position themselves largely as solutions to prevent potential wrongful accusations of sexual misconduct in the future, treating the need for consent as one rooted in paranoid self-preservation than in mutual consideration and care for relevant parties [20]. Applications like LegalFling and Good2Go conceive of consent through a checkbox model—something that a user either does or does not give, which the technology then records. Such a model of consent, however, ignores the ways that consent is negotiated, affirmed, and retracted throughout interactions. This is an example of how the way that consent is designed into interactive technological systems can potentially communicate harmful or misguided values.

In contrast to this model of consent as something a technology can simply record, we conceptualize consent as an expression of agency and autonomy rather than a mere granting of permission, drawing from recent work on consent in both HCI as well in feminist scholarship, queer theory, and disability studies [8, 9, 12, 13, 15, 17, 26, 30]. With regards to consent and HCI, Ewa Luger and Tom Rodden argue that technological design, particularly in the context of ubiquitous computing, should dispense with seeking only to secure consent—that is, to record user consent in specific discrete moments of interaction, as is the conventional approach—and instead focus on technological design that facilitates and sustains user agency throughout the interaction [30]. Luger and Rodden's call to sustain user agency in technological design parallels work in recent feminist and queer theory as well as disability studies that argues that debates over consent could be improved through increased attention to issues of autonomy and agency [9, 12, 13, 15]. Additionally, consent conceived in this way has been particularly prominent in recent queer scholarship as queer theory has long been invested in interrogating and reimagining oppressive systems of power that marginalize and pathologize nonnormative gender and sexual identities, experiences, and meanings. This emphasis on user autonomy and agency is resonant with Lee and Toliver's conceptualization of consentful technologies, which center their designs around consent and support user self-determination [26]. Such conceptualizations of consent

suggest that user consent as an element of HCI design should be available for negotiation throughout a user’s interaction with the technology rather simply as a precondition to it.

While considering a more complex understanding of consent as rooted in sustained user agency, it is also necessary to consider what kinds of users are expected to engage with designed interactive technologies. Much of what has been discussed thus far has largely assumed fully autonomous adult subjects; however, design situations that involve children or other vulnerable groups require particular care and consideration based on the specific capabilities and vulnerabilities of user groups in mind as well the context and nature of technological interaction.

In addition to providing background for our discussion of “consent mechanics” below, this articulation of differing conceptualizations of consent and the ways that they manifest in designed technologies represents its own contribution to HCI scholarship. Presented in this way, such work offers a robust conceptual framework for reconsidering consent—one that understands consent as more than a one-time acquisition of permission but rather as a complicated, nuanced set of ongoing interactions with opportunities for negotiation, reaffirmation, and the retraction of consent. This understanding of consent is crucial for the design of more ethical technologies.

Sex and Sexuality in HCI

Because consent is closely related to issues of sex and sexuality, and because the video games we discuss here are thematically tied to sexual contact and intimacy, our work is also in dialog with existing HCI research that explores the intersection between technology design and sexuality—or, more broadly, technosexuality [23]—as well as its current limitations and potential for future work [22]. While examples of research in this area are too numerous to list, some topics of particular relevance to our discussion of consent include the design of technologies for sexual pleasure [3], sexual intimacy with robots [45], and sexual wellbeing as a matter of social justice [21]. In addition, because we are drawing from scholarly frameworks that are feminist and queer, and because the examples of designed technologies that we discuss are created by and/or about queer people, our work can also be considered alongside existing research about feminist [4, 6] and queer [19, 44] approaches to HCI and the design of technological systems. This existing work informs our own by underscoring the fundamental interrelation between designed technologies, sexual experiences, and sexual identity. At the same time, our work contributes to these conversations by demonstrating how discussions of sex and sexuality can serve as productive entry points for using feminist and queer thinking to reimagine consent within the design of technological systems broadly.

Video Games and “Consent Mechanics”

Building on this existing work, we turn here to consider another area of computational technology that sheds valuable

light on the challenges of designing consent and suggests new ways forward: video games. Within the broader cultural and scholarly context of their reception, video games have raised questions related to consent through discussions about topics including the agency of non-player characters [10] and the release of an individual’s personal data without their consent as a tactic of game-related harassment [37]. Researchers from HCI have also looked to smartphone-based video games like *Pokémon Go* to address users’ data privacy [25].

Through their interaction and narrative designs, games also communicate particular values and framings of consent. For example, the most common ways that mainstream (often referred to as “AAA”) video games represent consent in-game are problematic. Many games, such as narrative-driven action-adventure games and dating simulators, present acquiring consent—and the subsequent romantic or sex scene—as a reward that players can earn. By collecting and delivering certain items to non-player characters or choosing the correct set of dialog choices, players can successfully “romance” other characters and enter into intimate, often sexual relationships with them. This approach to introducing consent into the interactive experience of a video game is ethically dubious because it reflects and perpetuates a misguided yet widespread perception of consent as an obstacle to be overcome in order to “win” [38]. This is an example of a way that consent, whether integrated into video games or other technological systems, can embody and communicate specific cultural values, as discussed at greater length below in the “Methods” section.

Video games are particularly useful for addressing issues of designing consent because a number of them incorporate what we term *consent mechanics*. Mechanics are the basic units of video game design: the rules or points of interactions that structure how a player experiences and interfaces with a video game [46]. Consent mechanics are interactive game elements that explicitly allow players to opt into (or out of) an experience while still actively engaging with the game. Consent mechanics, then, are not representations of consent by artificial constructs in the game, though these representations still matter for understanding how values around consent are communicated within games. Rather, they are ways that a game negotiates consent with the player. Speaking more broadly, video games are useful points of consideration in discussions of technology and consent because of the ways that they explicitly model user autonomy and agency, as through mechanics.

Additionally, because our research looks to examples of queer video games as models for designing consent mechanics, this work also builds from and contributes to the sub-field known as “queer game studies” [41, 42]. Queer game studies scholars have explored the relationship between video games, sexuality, and gender from a variety of perspectives. Our work here is most closely aligned with queer game studies scholarship that examines the

relationship between gender, sexuality, identity and design as such—that is, how designers can use interactive mechanics [32] or designed tangible interfaces [33] to communicate non-heteronormative values in their games.

Turning to video games, and specifically to examples of “consent mechanics” found in video games, allows us to highlight how opportunities for giving consent can take the form of designed, interactive engagements between users and technology—or, in the case of video games, between players and games. Drawing from queer game studies helps us bridge the areas of video game design and questions of sexuality, as well as other forms of intimate connection.

METHODS

In this paper, we present three case studies of video games that foreground consent mechanics. We then use these case studies to generate productive questions regarding consent as it is designed within technological systems. Our analysis of the games was undertaken as follows. Drawing from our backgrounds as scholars with expertise in video games, gender and sexuality, and the cultural issues that surround technology, we identified and critiqued how these games translate consent into interactive elements performed by players. Our analysis was also informed by our experiences as creators and teachers of game design, as well as existing writing on how to identify, describe, and evaluate the designed elements of video games [11]. The terminology that we use to describe the interactive elements of video games is consistent with that found in widely used texts such as *Rules of Play* [43].

The specific interpretative framework that we used to perform our analysis of these games is drawn from Flanagan and Nissenbaum’s concept of “values at play” in video games [14]. This framework allows for qualitative, culturally-informed analyses of gameplay. The “values at play” framework operates from an understanding that the design of digital systems and tools, such as video games, is always already encoded with the values (both cultural and personal) of the people who designed them—whether or not the communication of these values is intentional. “Values at play” models how to analyze the values communicated through existing designs so that designers can more consciously and conscientiously create games that manifest and communicate positive and responsible values. Flanagan and Nissenbaum themselves structure their research on game values in a format similar to that which we present here, with a series of individual games as case studies demonstrating varying ways in which game mechanics and narratives embody different cultural values.

Though our ultimate aim is to generate questions about consent and the design of technology more broadly, we chose to focus our analysis on video games because they make certain important issues visible. Generally speaking, video games often helpfully distill messy human experiences and interactions, like negotiating consent, into structured and rule-based activities, allowing us to more clearly explore

these issues when we consider them through video games. Another feature of approaching issues of consent in technological design through games is that games provide the language of the “mechanic” to describe a unit of interaction between user and technological system. This allows us to think about issues of consent as designed in specific, useful ways through the idea of the consent mechanic.

Specifically, we chose to analyze three video games that are about sex and/or intimacy because these games bring an explicit focus on consent, both in their representational content and in their designs. As such, these games represent examples of what Lee and Toliver describe as consentful technologies, technologies centrally designed consent that explore and facilitate user self-determination [26]. Moreover, these games not only present but also implicitly interrogate consent both as a component of sexual intimacy as well as a designed or structured element of user interaction. This prompts useful reflexivity. It is not coincidental that all three of the games we have selected as case studies emerge from an alternative subset of contemporary video games: queer independent (or “indie”) games. Queer indie games and queer indie game makers represent a vibrant, influential, and growing element of the broader landscape of video games today [39]. Such games are typically designed for, about, and/or by LGBTQ (or “queer”) people and often engage with topics like identity, community, sexuality, and intimacy. Because many of these games address sex and sexuality from a queer political perspective that understands consent to be both crucial and complex [8], queer indie games often include the most explicit, thoughtful, and indeed admirable examples of designed consent mechanics. Whereas other sorts of video games often represent consent as an obstacle toward an in-game reward, such as many AAA titles, these games take on consent itself as a key site of play and reflection. This makes them particularly useful digital objects for thinking through issues of consent and design.

FINDINGS: CASE STUDIES

Here we present three case studies of video games that illustrate the concept of consent mechanics and the ways that these mechanics can communicate what Flanagan and Nissenbaum call “values at play” through their designs [14]. The write-up of each case study includes the following elements: a general description of the game, a description of its consent mechanics, and an articulation of the values (i.e. cultural implications) that are communicated through the game’s consent mechanics. Consent mechanics in video games take a variety of forms; each of these case studies models a different way that consent can be structured through interactive digital elements. While there are many valuable lessons to be learned from these case studies, not all consent mechanics represent successful examples of how to design opportunities for negotiating consent effectively and ethically. As such, though we identify most of the design decisions found in these games as positive, we find other

elements as limiting or problematic. Thus, these case studies provide helpful information regarding potential pitfalls in designing opportunities for users to give consent.

These case studies have been arranged in an order that highlights the valuable complexities of their consent mechanics. The first game discussed, *Realistic Kissing Simulator*, offers the most straightforwardly positive example of consent mechanics as implemented in video games. *Hurt Me Plenty*, the second game discussed, demonstrates how consent mechanics can have ambivalent or negative implications even when they are designed thoughtfully. The third game discussed, *HUGPUNX*, shows how consent mechanics operate even in less obvious places, such as a game about hugging; this game also shows how consent mechanics can facilitate joyous (as well as ethical) interactions via digital media technologies.

Case Study #1 - *Realistic Kissing Simulator*

Realistic Kissing Simulator is a video game about kissing. It was made by two independent designers, Jimmy Andrews and Loren Schmidt. *Realistic Kissing Simulator* is a game for two players. Unlike in many contemporary multiplayer video games, where each player has their own controller or uses separate computers, the two people playing *Realistic Kissing Simulator* share one keyboard. The controls are simple; each player only controls two keys. This makes the game both intimate (in that players must stand close together to play) and accessible for players of various skill levels. The aesthetic of the game is colorful, blocky, and lighthearted. *Realistic Kissing Simulator's* on-screen representational elements are also seemingly simple. Two human heads, rendered in profile, face one another. One head is green, and the other is purple; both are ambiguous in gender and race. The main element of gameplay is licking. Players hold down their buttons to extend and move their characters' long, floppy tongues. Using their tongues, players can poke each other's characters in the eye or the nose, or squirm into their mouth. *Realistic Kissing Simulator* has no stated goal or win state. It is a freeform kissing experience that is silly and absurdist but also reflective of queer and transgender experiences.

Consent mechanics are a prominent element of *Realistic Kissing Simulator*. The game foregrounds consent, offering players multiple opportunities to opt into or out of the kissing experience. Before the main gameplay begins, one character must ask the other, "Do you want to kiss me?" The player who controls the second character can respond "Yes" or "No." Importantly, this exchange does not take place with a quick press of a button. Both players must hold down their respective keys on the keyboard for an extended period (roughly five seconds) to express their interest and consent to kiss. This demonstrates a model of designing consent in which consent cannot be given without deliberate thought, effort, and time on the part of the user. In addition, it presents a system in which both parties must agree to interact before interaction begins. A second set of consent mechanics can be

found in the main gameplay phase of *Realistic Kissing Simulator*. In order to continue kissing, players must hold down their keys; this keeps their tongues extended. At any time, either player can decide to stop the kiss by lifting their fingers from the keyboard, which causes their character's tongue to retract back into the character's mouth. Once their character's tongue is retracted, the kiss ends. This mechanic ensures that players can opt out of kissing if they become uncomfortable or would like to end the kissing experience.

The consent mechanics found within *Realistic Kissing Simulator* model how opportunities for users to give meaningful, ethical consent can be designed into an interactive system. Some of the values that these consent mechanics reflect include: the importance of communication and mutual understanding, the right of all individuals to opt into or out of intimate interactions (even after those interactions have begun), mutual consent as a precondition for intimate "play," and the understanding that giving consent is an ongoing process that requires time and continually reaffirmation. However, there are still limitations to consider in how this *Realistic Kissing Simulator* designs and incorporates consent mechanics. Specifically, the design of consent in this game would be improved if players could instantly withdraw their consent while kissing. As it stands, players must remove their fingers from the keys and wait approximately five seconds for their tongues to retract before the game registers that they would like to stop kissing. A more effectively design would allow players to withdraw consent with less delay, communicating the value that individuals have the right to stop consenting at any time.

Case Study #2 - *Hurt Me Plenty*

Robert Yang's game *Hurt Me Plenty* (2014) tasks players to participate as a dominant partner in a BDSM (bondage domination sadism masochism) spanking play session with a submissive NPC (non-player character). Throughout the game, the player controls a hand via the mouse or other input device in interactions with the submissive. Gameplay is organized into three phases. Different forms of consent mechanics are implemented into each of these phases, with each phase communicating different values of consent that vary in desirability as models for designing technological consent more broadly.

The first phase, titled "Boundaries," involves negotiating the terms of the encounter with the NPC. This is done through the player shaking hands with the NPC, who then begins articulating to the player acceptable intensity of spanking, level of dress, and the safeword—a keyword that signals the desire to terminate the BDSM roleplay fantasy session when spoken. The player can stop shaking hands in this process to renegotiate these conditions of play. This phase ends when the player shakes hands with the NPC long enough to establish all terms of the encounter and signals agreement to them. The second phase, called "Play," presents the NPC prone on all fours ready for the player to begin spanking. As the player spanks the submissive with their hand, the player

receives feedback regarding the intensity of the spanking through sound, flashes of light, and the potential reddening of the NPC's body. Additionally, the NPC will utter words, represented as text on screen, which might or might not be the agreed upon safeword. This phase ends when the player refrains from spanking for a specific duration of time or until the submissive NPC passes out. The third and final phase, called "Aftercare," requires the player to unpack how the encounter went for the NPC by maneuvering the cursor control in a motion representing a comforting gesture. During this phase, the NPC shares how he felt during the play session, whether the player was respectful of the boundaries initially set, and his current feelings about the player based on this encounter.

If the NPC deems the encounter enjoyable, he will express that he would like to see the player again soon. However, if the NPC states that the player did not respect the boundaries set—such as by continuing spanking after the safeword was spoken or by spanking at an intensity beyond the level agreed upon—then the NPC declares that time will be needed for him to feel comfortable to trust the player again. Should the player attempt to play *Hurt Me Plenty* again in this situation, the player will be shown a screen that locks them out of the game and be given a specific amount of time before the NPC will be able to rebuild trust with the player, which varies based on the amount the player violates the boundaries set in the last play session. This locking out of the player from being able to play *Hurt Me Plenty* formally maps the NPC's trust based on the player's past behaviors to the ability for the player to be able to access the game.

Through *Hurt Me Plenty*'s design, both negotiating consent and agreeing to the terms of play as well as unpacking feelings through aftercare are both coded as constitutive parts of the entire sexual encounter. By situating the gameplay in the narrative context of BDSM as a sexual subculture known for explicit protocols for establishing and respecting consent, *Hurt Me Plenty* attends to the contextual power, care, and agency involved in negotiating and enacting consent [5]. Moreover, during the "Boundaries" phase, the player enacts a process of negotiation to determine a mutually agreed upon set of terms for the spanking encounter, with the ability for them to renegotiate elements suggested by the NPC that they would like to. In this way, the consent mechanic of shaking hands highlights the act of consent as a durational process of negotiation rather than simply a moment of recording agreement to a static set of terms. In this sense, *Hurt Me Plenty* uses its consent mechanics to effectively communicate the following values: the importance of communication and mutual understanding, the need for terms of consent to be negotiated explicitly, the fact that negotiating consent should include determining conditions for withdrawing consent, the right of all individuals to opt into or out of intimate interactions (even after those interactions have begun), mutual consent as a component of intimate "play," and the importance of aftercare following consensual interactions (that may be sensitive or intimate).

While this model of consent as a process of negotiation emphasizes user agency, *Hurt Me Plenty* does not narratively enable the player to express nuances in their withdrawal of their consent while participating in the "Play" phase. The game's design prioritizes reprimanding and shaming the player for exceeding the boundaries either by spanking too aggressively or by ignoring the safeword, such as through the game's mechanic to lock players out for violating the NPC's trust. If during the "Play" phase the player does not engage in any spanking, the "Aftercare" phase depicts the NPC asking if the player is okay, affirming that it is okay to change one's mind, and encouraging them to talk about it. This represents importantly that aftercare should also be directed at the player and, by extension, users of digital technologies participating in potentially difficult or sensitive interactions. *Hurt Me Plenty*, here, acknowledges the legitimacy of the player to withdraw their own consent during the interaction. However, in contrast to this care, if the player does not spank the NPC hard enough to his desired intensity during the "Play" phase—perhaps because the player does not feel comfortable or no longer wishes to do so—the NPC comments in the "Aftercare" phase that the player "went a little easy." The NPC then comments "I think you need to work on listening more?," suggesting that the player is an inattentive partner rather than recognizing that the player may be withdrawing their consent because they no longer feel comfortable participating. While *Hurt Me Plenty* demonstrates a model of how to negotiate and secure consent as an expression of user agency, its inability to recognize nuanced conditions for player withdrawal demonstrates the need to attend to both the design of withdrawing consent as well as how narrative and rhetorical elements frame consent and withdrawal.

Case Study #3 - HUGPUNX

merritt kopas' *HUGPUNX* (2013) is a short game about hugging cats and people if the player so wishes. The game's visual aesthetic is composed of bright neon pink and green hand-drawn stick people, cats, and flowers on a black background. The simple gameplay is set against a backdrop of lively, twee indie pop music. Through the duration of the three-minute song, players move and jump around and can hug any person or cat that they encounter who also is willing to be hugged, represented with arms open. During the game, the outcome of hugging is that the NPC bounds off joyfully from a mutually consenting hug and a flower starts to grow in the background. *HUGPUNX*'s use of hugging as the intimate interaction demonstrates how consent can be meaningful even in interactions that are not explicitly romantic or sexual. This allows the game to situate consent as a dynamic of bodily autonomy, agency, and interaction more broadly than exclusively in the context of sex.

In the game, a mutually consenting hug or the resulting flower, however, does not impact a numerical score, since there is none, nor does it trigger the end of the game. Unlike *Hurt Me Plenty*, *HUGPUNX* does not utilize a penalty mechanism. The consent mechanic in *HUGPUNX* only

recognizes mutual consent between player and NPC and does not require or enforce either party to engage in a hug, which underscores the autonomy of the player and the NPCs in the game. When the player and the NPCs have arms open, they are expressing a willingness to hug another consenting subject interested in hugging rather than expressing an expectation to hug. Additionally, there is no penalty for trying to hug someone who is not open to receiving a hug, since hugging can only occur between mutually interested and consenting parties. As a result, the game avoids coding negotiations of consent as potentially shameful or guilt-ridden by celebrating the joy of achieving mutual consent. Lastly, because the game always ends in the same lighthearted and joyous way, regardless of what the player does, *HUGPUNX* does not require or force the player to hug, thereby recognizing the player's own agency as a consenting subject themselves. In this way, *HUGPUNX* communicates the following values: mutual consent as a precondition of contact, an understanding that expressing consent is not the same as pressuring others to consent, a perspective in which not achieving mutual consent should not be shameful or embarrassing, and a belief that achieving mutual consent is something joyous and should be celebrated.

By celebrating the achievement of mutual consent, *HUGPUNX* frames consent as joyful and desirable rather than an obstacle in the way of intimacy, a process couched in shame or embarrassment, or merely a safeguard against future accusations of wrongdoing. By not requiring players to hug, the game recognizes the autonomy of players. The interaction and narrative design of *HUGPUNX* demonstrate a positive model of consent as achieved through non-coercive and mutually respectful interaction. *HUGPUNX* also raises important questions about consent and technology in another way. As of the writing of this paper, merritt kopas has removed the game from her web presence. In this way, the context of the game creator's own intentions demonstrate that the complexities of consent and agency also manifest with the circulation and availability of this game.

DISCUSSION AND ANALYSIS

Learning from Games that Value Consent

Together, these three games demonstrate some of the many ways that consent mechanics manifest in video games and, by extension, how they could be incorporated into other designed technologies. They also demonstrate how these consent mechanics can communicate different values—some of which are commendable and some of which remain wanting in their approach to the formations and ethics of consent. Though the forms that consent mechanics take in these games (and, by extension, the implications of these consent mechanics) differ, these games share an investment in foregrounding consent as an important part of the game experience and a precondition for intimate interactions with others, whether they are other players or non-player characters. Therefore, arguably, the most significant value that is common to all three games is the valuing of consent

itself. Yet it is also notable that, as illustrated through our analysis, the issue of how to design consent into interactive systems is a fundamentally messy and complicated one; even video games that explicitly focus on consent can sometimes get it “wrong.” As these examples illustrate, this messiness is itself productive, because it encourages us to reflect on our own beliefs about consent and ask difficult yet vital questions about the nuances of how consent is designed.

Implications for the Design of Interactive Technologies

This research has valuable takeaways for the design of interactive technologies in two main ways. Firstly, the presented case studies model various forms of consent mechanics that could be implemented elsewhere beyond games. Indeed, it is the case that the video games discussed here are already less conventionally game-like than many mainstream video games. Neither *Realistic Kissing Simulator* nor *HUGPUNX* have clear goals or win states, for example. They could equally be considered interactive, playful digital experiences. Though we have discussed these works as video games and used game language to analyze them (such as the language of “mechanics”), the ways in which they structure user experiences have direct application to other technologies and user experiences often given consideration within the broader field of HCI.

Specifically, these games demonstrate how technologies can be designed in ways that offer users opportunities for giving consent that are ongoing and easy to exit (as exemplified by the key release mechanic in *Realistic Kissing Simulator*), personalized and open to discussion (as reflected in the opening negotiation in *Hurt Me Plenty*), and leave room for users to opt out of consenting without judgment (as in *HUGPUNX*, where only consenting characters are available for hugging). In addition, all of these games are explicit and transparent in their emphasis on consent and their use of consent mechanics. These games serve as valuable examples for other technologies and systems discussed above, such as ubiquitous computing devices and websites that collect user data. Soliciting informed, meaningful consent requires communicating clearly and directly and foregrounding consent as a conversation, rather than encouraging users to breeze past their expression of consent without opportunities for careful and deliberate consideration.

Re-envisioning the design of consent through these models of consent mechanics could also help to course correct the misguided design of apps like LegalFling and Good2Go, also mentioned above, by reframing consent as something that intimate partners work on together over the course of their intimate interactions, rather than a “yes” or “no” answer they respond to and then cannot retract easily. These games and their consent mechanics prompt us to imagine the value new designs that could be created if, rather than using an application to take the place of complicated conversations regarding consent, we used them to facilitate those conversations. In this way, the games analyzed here offer models for how designed technologies can foster autonomy

and agency, values that are especially crucial in the development of interactive experiences created in accordance with queer and feminist perspectives and values of social justice.

Self-Reflective Questions for Designing Consent

The second key takeaway from this research is the importance of asking self-reflective questions during the process of designing consent as an element of interactive technologies (not limited to video games or technologies that relate to sexuality). We provide here a set of questions prompted by our analysis. These are questions that developers of technologies, systems, experiences, etc. should ask themselves when considering consent. They are intended to encourage designers to think in informed, nuanced ways about the values and implications communicated by the way they present (or do not present) consent as an interactive element of their design. There is not necessarily a right or wrong answer to these questions, and no designer nor technological tool can be expected to respond to all of these considerations directly in their design. However, it is our contention that designing consent in ways that are ethical and effective requires giving these questions fair consideration in order to make informed decisions about design and its meaning.

Some core questions raised by these games taken as a whole:

- Does the designed object (technology, interactive system, digitally-mediated experience, etc.) incorporate explicit opportunities for users to engage in consent? Is consent an explicit element of the users' encounter with the object?
- Do users have the opportunity not only to opt in but to opt out? When and how are those opportunities made available and legible?
- Who gets to consent, and who gets to set the terms of consent?
- How do the values communicated by the way that consent is designed (and/or represented) in this technology align with those held by the designers? Are they ethical and socially responsible?

In addition, each of these games raises more precise questions about how consent is designed into technologies and interactive systems. Some questions raised by *Realistic Kissing Simulator* include:

- What are the specific mechanisms by which users give consent? Do these mechanisms make consent quick and “easy” or do they reflect the fact that consent takes time and communication?
- What are the specific mechanisms for users to retract consent? How quickly and easily can they do so?

- Is consent imagined as a one-time transaction, like a tick of a box, or is it a continual process that must be actively reaffirmed throughout the experience?

Hurt Me Plenty also raises additional questions that designers should consider in order to effectively and ethically incorporate consent into their designs:

- What are the consequences of violating consent within the system as designed? What happens if a user does not respect the consent of another party?
- Does the design provide opportunities for reflection following an activity to which the user has consented? What would it look like to perform effective “aftercare” for users?
- Rather than simply consenting or not consenting, are there ways for users to renegotiate the terms of consent? Is there room to nuance or individualize the experience to which a user is consenting?
- Is the user's engagement with consent through the designed object or system tied to shame? Is a user primarily incentivized to respect consent because they fear punishment rather than because consent has inherent value?

Lastly, some of the questions raised by the third game, *HUGPUNX*, include:

- What happens to users who do not consent to a given experience? Does this design still offer them opportunities to interact and enjoy themselves?
- Does this technology present meaningful consent as mutual by definition—that is, as something that must be given by all parties involved in an interaction?
- What types of interactions do or do not require consent? Is consent reserved for materials that are explicitly sexual or romantic, or is it seen as also important for other forms of intimacy and interpersonal contact?
- How can designers frame consent as an affective experience that is tied to joy? Rather than being associated with shame, how can technologies present achieving consent as something worth celebrating?

A Design Challenge but not a “Problem to Be Solved”

As these questions demonstrate, designing consent into interactive technologies is neither easy nor simple. Indeed, it is a design challenge. Yet, it is important to approach the design of consent in and through technology in ways that do not see technology as “solving the problem of consent.” Broadly, we suggest that designing consent should center user agency and autonomy rather than treating consent as a simple checkbox. This treatment of consent, however, should always be in careful negotiation with the parameters of the

context of interaction as well as the particular capabilities and vulnerabilities of the user groups imagined in mind. The goal of designing consent mechanics well is to facilitate conversations about and negotiations of consent with nuanced attention to the specifics of the relevant contexts and parties. To do so requires designers to recognize and explore the values surrounding consent that we hold as individuals and as a society and that are often embedded in our technologies.

CONCLUSION AND FUTURE WORK

Consent is an important issue for the design of interactive technologies and digitally-mediated experiences—including but by no means limited to those that relate to experiences of sexuality and intimacy. Here we have argued that consent as an aspect of HCI is not only a question of the collection and ethical management of data. It is also a design challenge. Opportunities for users to give meaningful, ongoing consent must be designed into interactive systems themselves but these opportunities are difficult to design well. To address this, we have presented case studies of three queer independent video games that foreground what we have termed “consent mechanics”—the interactive mechanisms by which players consent to engage in (or opt out of) activities in games. As these games show, different consent mechanics communicate different cultural values. Attending to consent mechanics in games is important because it provides models for different ways that designers of interactive technologies might structure consent. It also reveals questions that must be addressed in order for the designers of technological systems to design consent in ways that are effective, ethical, and in line with their own values.

This work draws from video games and game design but also has broader relevance for HCI. As Aaron Trammell and Emma Leigh Waldron argue about designing sexual interaction in games, sex in games, like violence in games, elicits visceral and emotional responses that require that designers develop mechanics that safeguard players from undue negative experiences and reactions [48]. For this reason, incorporating explicit opportunities for consent is particularly important in games. However, as we illustrate here, the lessons about designing consent that can be taken from games have value for thinking through the challenges of designing consent in technological systems more broadly. Within games, we have turned to queer indie games for our case studies because these games offer important models for how consent mechanics have been explicitly designed into video games and therefore point us toward possibilities for better design of consent in other technological systems.

By nature, this research is analytical and speculative; it draws out example case studies to pose important questions about consent for designers to ask of their own designs. Future work in this area could build on our research by putting our proposed approaches to design into practice—such as by translating certain consent mechanics from the video games described here into other interactive technologies or digital

systems. Design-based research of this sort could explore whether users give different forms of consent depending on how their opportunities for engaging with consent differ, such as when presented with a check-box versus an interactive, nuanced model for consent. Additionally, future work could select one of the question prompts that we pose above and address it more systematically and in more depth. Future work could also examine other video games and digital technologies in order to identify alternative models of consent not addressed here and generate additional design questions to consider. Finally, future research could be conducted in collaboration with the designers of technologies and computational systems for which consent is a pressing issue, with the goal of identifying the designers’ own ethics around consent and generating a design plan that effectively reflects those ethics.

Approaching the challenge of designing consent in HCI through the framework of “consent mechanics” provides a useful approach for those who design technological tools, systems, and experiences to create more meaningful, ethical opportunities for users to give consent. In developing technological systems, designers should engage with consent in meaningful and ethical ways, understanding it to be a nuanced and ongoing process rather than a simple, one-time agreement. Self-reflective questions about the design of consent that should be considered as an integral part of the technological design process.

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