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Paraplay: exploring playfulness around physical console gaming

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Abstract. We present the concept of *paraplay*: playful activities that take place within the context of an interactive game or other play activity, but outside the activity itself. By critically examining work related to gaming and play goals and motivations we argue that the concept of playfulness should have a stronger role in our understanding of gaming sessions, and particularly social gaming sessions. In order to further understand the role of playfulness in social gaming we conducted an empirical field study of physical console gaming. Six families with a total of 32 participants were provided with an Xbox 360 console, Kinect sensor, and three casual physical video games to play together for a period of approximately two weeks. Participants were instructed to record their social gaming sessions. We conducted video analysis on these recordings as well as interviews with many of the participants. We found numerous types and examples of playfulness within the gaming session even from those who were not actively participating in the game. Drawing on the results of this study we present a taxonomy of paraplay and discuss the ways that playfulness can be exhibited in a social play session. We show that participants in a game situation act within a wider context of playfulness, according to a variety of significant roles ranging from active player through to audience member. We explore these roles and their attributes to provide a rich account of paraplay and its importance in understanding playful activities broadly.

Keywords: Games; context of gaming; metagames; physical console gaming; play; social gaming; videogames.

1 Introduction

Play has recently received increased interest and attention from the HCI (Human Computer Interaction) and CSCW (Computer Supported Cooperative Work) communities. Two separate streams of work seem to be emerging: one focusing on the ways in which games, particularly videogames, can be designed, evaluated, and understood [e.g. 1–3]; and another looking at the ways play and playfulness are to be understood and used within HCI and CSCW, including their application beyond games and the sociability of different types of playful systems [e.g. 4, 5].

In this paper, we examine an intersection between these trends: the playfulness that occurs on the periphery of games – and, by extension, also on the periphery of other types of play. We term this *paraplay*.

The play activity itself is just one part of a playful situation. Unlike other researchers in this area [e.g. 1], we do not see the game as existing within a thin, fixed boundary or ‘magic circle’. Indeed, the periphery of the activity is a place where many different types of activities and playfulness can occur. This periphery provides an interesting site for research given the variety and richness of the interactions that take place. In the case of a physical console videogame, for example, players move in and out of the game in various ways, and audience members can indirectly participate to varying degrees by watching, commenting, and mimicking the player’s movements.

Paraplay is concerned with the multiple types of playfulness that occur within the context of a wider play session. Play sessions can take the form of structured activities such as board games, card games, videogames, or sports, or unstructured activities like running around aimlessly, play fighting, or playing make-believe. In this study, however, our concern is primarily with paraplay around physical console videogames.

Our motivation for studying paraplay is twofold. Firstly, there is a theoretical gap: the concept of playfulness at the periphery of games and other activities has not been well described or theorised, particularly within HCI. Secondly, there are practical implications: designers of games and other playful systems could incorporate additional forms of play into their systems and thereby enhance the experience for players and audience members.

By studying the periphery of playful activities we can begin to understand more about their contexts and the nuanced relationships between different types of systems and their users. As entertainment systems like gaming consoles become more prevalent and more social it is important to understand the broader ramifications of their use, and to ensure that their designs do not unintentionally limit participation to a few active players while ignoring the opportunities for wider involvement. Additionally, the relationship of paraplay to play – as a peripheral activity worthy of attention in its own right – is a relationship that might also be transferrable to other domains, where situational context is critical to the activity – for example, mobile technologies and communication.

In the following sections we first discuss related literature within HCI, CSCW, play studies, and game studies. The concept of paraplay is then introduced and described in general terms, before an empirical study is presented that explores the nature of paraplay within the context of physical console videogames.

2 Related Work

This section introduces a number of foundational concepts and working definitions. First, the concept of play is described and a definition of play is provided that captures the types of play we are interested in exploring. Next, the role of play within games is considered, as is the role of the context of gaming. Finally, the concept of paraplay is more fully described.

2.1 Play

Play, and the relationship between play and technology, has attracted the attention of HCI researchers for a variety of reasons. Play has intensely social aspects [4, 5] and provides a mechanism and medium for interaction between participants irrespective of physical proximity, age differences, and technological abilities [6].

In HCI and CSCW, play is often discussed and examined in the context of games, or of other systems that are specifically designed to encourage playfulness. However, the process of defining play is fraught with difficulty. ‘Play’ is expected to incorporate a variety of activities: games and sports, as well as less structured activities like playing make-believe, and even jokes, word play, and rhyming [1]. The disparate nature of these activities makes the construction of a unifying definition of play and ‘being playful’ a difficult yet important endeavour.

From our review of the definitions of play, playfulness and games, we argue there are three key components:

Play is fun. The primary reason a person engages in play (whether that be in the form of a game or otherwise) is to have fun. Indeed, players of videogames tend to cite ‘having fun’ as one of their primary motivators [7]. Unfortunately, of all of the commonly used definitions of play and games in HCI [see 1 for a review], not one includes the idea that play should be fun.

The concept of fun is inherently subjective and contentious. What one person finds fun another may find utterly boring. Indeed, in our analysis we take an ethnocentric approach: rather than providing a single, objective definition we instead argue that an individual may stipulate what is and is not fun to them at any particular moment. In general, however, fun activities are not merely pleasurable [8]. The notion of fun suggests a light-heartedness to the activity and the way it is conducted.

Play is conducted for its own sake. Individual games and activities can be conducted in a very serious way (for example, a high-stakes poker match), but the sort of play we explore in this paper is not serious; the previous element, fun, suggests a whimsical, non-serious nature to the activity in question. Because play is not serious, it is therefore not performed for any instrumental end, but purely for its own pleasure; it is autotelic [9].

Play has goals. Suits [10], in his discussion of games and play, describes the goals of play activities. In a competitive game, the ultimate goal – what Suits terms the lusory goal – is typically to win: each player is competing against one another, or in the case of a solo game, against a computer or their own high score. Players perform game actions with this lusory goal in mind. In a less structured play session, such as make-believe, the lusory goal shifts from winning to merely perpetuating the activity.

We argue that there is another category of higher-order goal that can be added to Suits’ model: an overall goal for the entire session. We term this the *superlusory goal*. This superlusory goal transcends any specific game that a player might find themselves in, irrespective of the lusory goal.

The superlusory goal of a play session is usually to have fun. In a free play session, such as playing with toy trains, the lusory goal might be to perpetuate the play, but the superlusory goal of fun provides the reason and impetus to do so. In a game of chess

the lusory goal might be competitive in nature, but the superlusory goal to have fun still enables the players to enjoy the game irrespective of the outcome. In a social gameplay setting, the lusory goal of one player might be to win while another player's lusory goal is to continue the game as long as possible; despite these different lusory goals, both players can share the same superlusory goal of having fun together.

Based on these characteristics, for the purposes of this paper we present the following working definition of play:

Play: An individual or collective activity, conducted for its own sake, in which at least one player's superlusory goal is to have fun.

2.2 Games

As structured systems that are generally intended to be fun, games are a clear example of designed playfulness. While games can be conducted in a non-playful manner, in general HCI is concerned with games that provide the elements of play described in the previous section: they are typically fun and light-hearted activities conducted purely for the sake of pleasure. The definition of a game is also controversial and difficult to pin down, but as a working definition for our purposes we might consider a game as [cf. 11]:

Game: A rule-based system that is designed to be playful.

Games include board games, card games, and so forth, as well as videogames.

Juul [3] notes that a genre has emerged of casual games designed to appeal to a variety of types of players through the use of techniques like cartoon-style graphics, simple controls, and episodic, mini-game style play. Many of these games are intended to be played socially, either while collocated or using an online multiplayer system. Physical game controllers such as Microsoft's Kinect for Xbox 360 are often employed to enable gesture-based or mimetic interfaces in these games. The coincidence of these trends – casual gaming and mimetic interfaces – seems to be partly due to the increased sociality afforded by physical gaming [12], and partly because it is typically simpler to design and develop interaction paradigms for the controls required to play these games. As a result of this shift toward casual gaming, gaming devices are now being purchased and used by a variety of users beyond the 'traditional gamer', including a high proportion of home users [7]. This has led to a corresponding interest in exploring the ways that gaming contexts are created, both in the home and elsewhere [e.g. 13, 14].

Gaming context: The metagame. The concept of the metagame, popularised by Garfield [15], describes the ways in which games intersect with 'real life'. Players bring their own experience, knowledge, social relationships, and goals to a gaming situation, and the metagame describes how these components interact with one another. Carter et al. [16] argued that the term 'metagame' has become somewhat muddled, with different but overlapping definitions being adopted by various game scholars. In this paper, we take the 'metagame' to refer to the wider context of a game. The game forms part of this context, and provides an activity that is a focus for attention – but there is far more happening in the environment than just the game itself.

Mueller et al. [17] noted the importance that metagames hold for the sociality of physical videogames due to the interrelationship between the game, the player, and the physical space. Players have opportunities for exploiting the ambiguity and anticipation that result from physical exertion through strategies such as false starts and the intentional use and misuse of other physical cues. These metagame elements, while outside the game proper, are nevertheless a key part of the game experience.

Play within games. Within traditional videogames, it is clear that ‘the game’ (as a piece of software, a narrative, or an interaction between players and the gaming system) is typically the focus of the experience. However, a player might choose to play in a different manner than the designer intended; as such, they are acting within the metagame, but the types of actions they perform might be completely different to that envisioned by the game designer.

Voida et al. [18] identified the ‘incorrect’ playing of games as an intentional play type. Using an example of a racing game player who intentionally crashes their cars in order to watch the ensuing carnage, they argue that ‘the primary form of engagement during those special effects seemed to be between each individual gamer and the game and not between two members of the gaming. This type of ‘trifling’ [10] with the rules is framed as disruptive to the central purpose of gameplay, rather than as an opportunity for a game to be appropriated for playful purposes outside its core rule set. In contrast, Consalvo [2] notes that players can gain enjoyment from a game in many ways, such as playfully modifying the game so that characters have an absurd appearance.

We can also consider the example from Mueller et al.’s [17] discussion of the creation of meaning in an exertion game. In a game of table tennis, a particularly powerful shot might cause the opposing player to have to run across the room to retrieve the ball. Although acting within the rules of the game, the player is essentially appropriating the game in order to derive additional pleasure and playfulness.

2.3 Paraplay

The examples in the previous section provide a foundation to explore the concept of paraplay. Each example includes the idea of exploiting the game to achieve playful purposes beyond the prescribed constraints, and of a higher-level (superlusory) goal being more important than the specific game activity underway. This idea of playing beyond the game itself is what we term paraplay, and can be extended beyond games to any types of play. We define paraplay as:

Paraplay: Play that occurs on the periphery of other types of play.

Within this definition, ‘play’ refers to any playful activity as described above, whether structured or unstructured.

‘Other types of play’ refers to the canonical playful activity: the primary activity that is ostensibly the reason for the interaction. In the case of a board game, the canonical playful activity is the set of actions and moves that form the play of the game. In the case of a videogame, the canonical playful activity is the game activity itself: the actual race, battle, or sequence of moves; what most players would consider to be the game itself. Although other elements of the game system such as splash screens,

menus, and so forth are part of the software and have been incorporated by the designer, they are not part of the canonical playful activity.

Audience members – those participants who are co-present but not actively playing – are also considered to be within the play context but outside of the canonical playful activity. These audience members might have different levels of interaction in the situation. O’Hara et al. [19] described differentiated participation by audience members in an alternate reality game: some audience members become tightly involved in a game session by adding commentary, making suggestions, and participating in other ways, while other audience members remain detached from the game, only becoming involved peripherally and sporadically. At both extremes – and at all levels in between – audience members can be involved in various playful ways.

Finally, ‘the periphery’ of the play is the play context excluding the canonical playful activity. In the case of a game, the play context is referred to as the metagame; this includes activities that are peripheral to the game, which may be playful (paraplay – for example, using a board game’s pieces to act out a playful narrative) or non-playful (for example, conversations and social interactions between players). Therefore, paraplay is playfulness at the periphery of the game itself, but still within the metagame.

When discussing the periphery of play it is tempting to incorporate or assume the concept of the ‘magic circle’. Originally described by Huizinga [20], the magic circle is considered a hard boundary of time and space in which play occurs; inside this boundary special rules apply. However, the concept of the magic circle is fraught [21, 22], and the implication that there is a hard boundary between ‘Play’ and ‘Not-Play’ is heavily contested, particularly when applied to digital games and play. Indeed, in this work we are specifically interested in exploring the nuanced forms of interaction at the periphery of games and play, so the magic circle is not an appropriate metaphor for our analysis.

Of course, there are many activities that occur on the periphery of the canonical playful activity that are not playful, and therefore not considered paraplay. For example, an audience member making a player a cup of tea would be acting at the periphery of the play, but unless the tea-making was performed in a particularly playful manner – say, by the tea-maker juggling the teapot – it would not be classified as paraplay.

The superlusory goal concept provides a lens through which to consider paraplay. Because the superlusory goal applies to the entire play session, it also follows that individual canonical playful activities are not the only elements covered by this goal. Indeed, in any given gaming session, players might participate in multiple distinct games in sequence. The same superlusory goal applies irrespective of the specific game in progress. By extension, it also follows that other activities within the play session – even if they are not part of the canonical playful activity itself – can be covered by the superlusory goal. These activities might be peripheral or even irrelevant to the game underway, but they do take place within the gaming context. All of these other playful activities are paraplay.

3 Investigating Paraplay: Approach

Although metagame elements have been described by others, as have the different types of play within a wider play session, these descriptions have not been well integrated. Additionally, there has not been any work specifically examining these alternative forms of play. As such, we report a study designed to specifically address the question: What is the nature of paraplay? The following sections describe the study and lead to a discussion of paraplay in the context of physical videogame play.

3.1 Aim

Our introduction of paraplay noted that paraplay is broader than just games. Playfulness can occur at the periphery of any type of play. However, in this study we were specifically interested in exploring the nature of paraplay around physical console gaming. These gaming systems (such as Nintendo's Wii and Microsoft's Kinect for Xbox 360) enable a rich set of physical and social interactions, including many that are playful in nature. In order to study this we conducted an observational study.

3.2 Method

We conducted a study with six families, comprising a total of 32 participants. Each family participated for approximately two weeks. Families were provided with an Xbox 360, Kinect sensor, and three Kinect-enabled videogames:

- **Kinect Adventures.** A number of mini-games of varying levels of physicality and complexity, most of which support two simultaneous players.
- **Kinect Sports.** Various sport-themed mini-games (including sprinting, bowling, and volleyball), also with multiplayer support.
- **Dance Central.** Music-based videogame in which players perform specified dance moves and receive feedback about their accuracy. Includes rudimentary multiplayer support.

Each family was also provided with a fixed digital video camera to record themselves playing games. All studies were conducted in family homes.

3.3 Participants

Based on previous work [e.g. 4, 23], we expected that familial environments would be particularly conducive to rich forms of play as well as other forms of social interaction. Participants were recruited through snowball sampling and through advertisements in local newsletters. All families who volunteered to participate, and who met the criteria, participated in the study. Table 1 lists the participating families and the demographics of these family members.

Table 1. List of participants.

Family	Child (<10 years)		Youth (10-18 years)		Adult	
	Female	Male	Female	Male	Female	Male
1			P1		P2, P3	
2				P4, P5	P6	P7, P8
3		P9, P10			P11, P12	P13, P14
4		P15	P16		P17, P18, P19, P20	P21, P22, P23
5	P24				P25, P26, P27	P28
6				P29	P30, P31	P32

3.4 Data Collection and Analysis

Family members were asked to record all gameplay sessions for the duration of the study. It is conceivable that participants' behaviour was affected by the presence of our recording equipment; however this limitation applies to all observational research. In total, approximately 19 hours of gameplay video data was collected and analysed. While video data were the primary source of data for this study, interviews were also conducted with the families at the beginning and end of each study. Interviews were primarily intended to collect contextual information about the family's broader social interactions, gameplay habits, and level of physical activity.

Interview data were analysed using a Grounded Theory approach, and are presented here only when they provide relevant contextual information to add to the video data. Video data were catalogued and transcribed based on the Interaction Analysis [24] approach. The transcripts were then analysed using a Grounded Theory approach in order to identify high-level themes and concepts of relevance. These themes were manipulated (combined and separated) until distinct themes were isolated.

We then applied our definition of paraplays as a selective lens to sample this wider set of themes. Specifically, we looked for activities that were playful in nature and that were within the game context, but at the periphery of the game itself.

One complexity was dealing with the ambiguous nature of the periphery of play; this was accentuated by the physicality of the games that we used in our study. In the case of videogames, we argue that elements like the menu system, pre-game setup, and so forth are not part of 'the game' even though they have been designed and are included in the game software. Instead, for our purposes, 'the game' is the canonical playful activity: the actual game event that players participate in (e.g. the act of dancing in Dance Central, or of bowling or jogging in Kinect Sports).

During our analysis we also observed a distinction between the player and audience member roles. For the remainder of this paper we use the following terminology: *participants* are all people within the gaming environment; *players* are the participants who are currently playing the game; and *audience members* are participants who are not actively playing the game.

4 Investigating Paraplay: Findings

The following sections discuss the multiple ways in which playfulness was created and exhibited within the gaming environment. The findings presented in this section highlight the fact that within a videogaming session there are a number of ways the game can become a resource for play. The gameplay itself is only one of these: the design of the game, the gaming technology, and the game rules all provide mechanisms for play to emerge. Similarly, the social context in which the games are played, the existing social roles of the participants, and the physical environment all affect the types of play that can emerge around a game.

Our findings both support the existence of paraplay and suggest that there are multiple forms of paraplay. The following sections describe the types of paraplay in more detail. Themes were drawn almost exclusively from the video analysis; interview data were primarily used to add context.

4.1 Paraplay and the Player

The majority of gaming sessions we observed were social in nature – they included both players and audience members.

Some players would use the game as a way to deliberately create a performance and to add playfulness and humour to the situation. This was often done for the benefit of audience members, but was also occasionally observed during solo gaming sessions when no audience was present. These performances took a number of different forms.

Sound effects. Younger players often made audible sound effects to accompany their actions. These were sometimes associated with the real-world analogue of the game action – for example, grunting and whooshing while serving a tennis ball. Audience members also added sound effects in an attempt to participate in the game without playing directly.

Singing and dancing along with the game. Kinect Sports and Dance Central both used popular songs in various parts of the games. Players, and occasionally audience members, sang along and encouraged others to sing along, particularly while they were waiting for the game to load or for other players to join in.

Taking a bow. At the conclusion of a successful level, players would sometimes take a bow, playing along with the performance characteristic of the situation. Occasionally audience members would cheer or applaud the player, participating in the make-believe theatrical aspect of the game. Sometimes players also exploited particularly bad game performances for humorous purposes by bowing ironically.

4.2 Paraplay and the Audience

Rather than simply sitting back and watching, audience members became involved through laughing along, teasing, providing commentary, and even indirectly participating in the game.

Teasing and trash talking. Audience members and players used the game as an opportunity for paraplay in the form of playful banter, teasing, and trash talking. For example, the following exchange took place as a mother (P11) and son (P10) watched the father (P13) play the Kinect Adventures mini-game 20,000 Leaks:

P11: "watch Daddy do it by himself, OK?"

P10: "maybe Daddy's very bad"

P11: "maybe Daddy's really bad, we'll see"

P10: "cos he can't get any higher than us"

P11: "yeah, break that glass!" (to the game)

P10: "make it sink! Make Daddy sink! "

In this example, the father was playing a game in which he used his body to plug holes in an underwater aquarium as fish continued to create new holes.

Audience emulation. Audience members 'played along' with the game by performing many of the game actions – leaning, jumping, moving their head or arms, and so forth. This was often done even when the player was facing away from the audience member and therefore could not see them; likewise, the sensor was not able to detect the audience members and so they were not actual 'players' in the game.

Commentary. Audience members frequently provided commentary of the game, describing players' movements and actions, and assessing whether they were contributing to the player's success. Sometimes these commentaries were provided in a form that suited the game – for example, in a track and field event, commentary might be in the stereotypical 'sports announcer' tone.

In this example, P15 is watching his father (P21) play bowling on Kinect Sports and providing advice and commentary about his performance, as well as playing along with the game actions.

4.3 Paraplay and Transitions

Any individual game's context had a number of transition points. One transition type was when players moved into a play session, or changed between games or forms of play. Another transition type was when participants shifted in roles, from player to audience or from audience to player. Paraplay was seen to emerge at each of these transition points.

Transitioning the space. The preparation of the play space was often a source of amusement. Depending on the size of the space and the amount of ambient light, players sometimes had to stand on top of furniture, perform strange contortions, or even move furniture to other parts of the room in order for the sensor to work correctly. These peculiar actions were seen as amusing and playful by the players and audience members.

Transitioning to other forms of play. One family commented that their gaming provided an opportunity to participate in other forms of play together. In one example, at the conclusion of an evening playing Kinect games, this family played 'hide and seek' throughout their house.

Transitioning between roles. Participants shifted between roles throughout the play session, and often used these natural inflection points as times for paraplay. For

example, the following extract from family 3 shows the grandmother (P12) engaging in a short play session with her grandson (P10) based around a role transition point and a silly hat she found:

P10: (is wearing a baseball cap)

P12: picks up silly hat, puts on
"can I play with this on my head?", dances around

P12: "OK, you've got a hat, I need this one"
moves into play area to begin bowling
balances hat precariously as she bowls ball
hat falls off, dances with hands on hip, turns around 360 degrees
Game announces strike

P12: laughs, "see, it was the hat, because the hat, that's why! You have to put the hat on and you will... (come) first"

In this example, while she was an audience member she insisted on wearing the silly hat so that she would be no different to her grandson (P10). When she scored a strike, she jokingly attributed her success to her wearing the hat.

4.4 Paraplay and the Technology

The game itself, and the Xbox and Kinect technology, provided opportunities and affordances for paraplay to emerge. Game features, such as virtual game characters and the game's use of the Kinect camera for taking photos and video, were sometimes designed and sometimes appropriated for playful purposes. Additionally, the mechanism for controlling one's avatar – 'avateering' – provided sufficient flexibility that players could move their avatars in playful and interesting ways.

Virtual characters. In some games there were elements designed to provide opportunities for serendipitous and planned forms of playfulness. These forms of paraplay were enabled by the game software itself. In the case of Kinect Sports, these took the form of virtual game characters.

For example, during a game of Kinect Sports bowling, P15 (the son in family 4) accidentally threw the ball into the virtual crowd, eliciting a bemused reaction from his father (P21). P15 was unaware the game included this particular 'feature', and found it extremely entertaining - so much so that he went to get his sister (P16) and attempted to reconstruct the manoeuvre for her.

Similarly, before the starting gun fired in some of the track events, players could move into other characters' lanes and elicit humorous responses from these characters. Players also discovered that in the main menu of the game, waving and clapping caused the virtual stadium crowd to respond by cheering or clapping along. Typically a player would discover these game elements by accident and then, amused with the results, would attempt to demonstrate them to others.

Game photos and replays. Many games showed short video replays or mid-game photographs of players at the end of each level.

As players became used to the games, they would learn the places in the game levels where the system took photographs, and would often prepare playful, amusing, or silly poses in preparation for these points. For example, during the Kinect Adventures

mini-game River Rush, P5 performed a characteristic Michael Jackson-style pose at the end of the game and then waited for the photographic replays so he could show others.

These points were a common place for interaction between players and audience members, and for paraplays to emerge through playfulness and humour. Audience members would laugh at the players' photographs (whether intentionally posed or not), and sometimes imitate or tease them.

Avatars. Appearance of players' avatars was a common source of amusement, particularly when their appearance was incongruous with players' real appearance. In the following example, family 4 note the gender and hairstyle of the father's (P21) avatar, teasing him playfully:

P17: "Daddy's got pigtails too"

P21: "what?"

P23: "I like your hair mate"

P21: "thanks mate, it took me a long time to do it, you know that?"

P17 and 20 laugh

Additionally, in one of the clearest examples of paraplays, players exploited the games' mimetic interface controls to make their avatars behave in amusing ways for their own benefit or for the benefit of the audience. However, this ability was only present in some games and at certain points in the game. For example, P16 (the daughter of P21) took advantage of the fact that the medal ceremony in Kinect Sports provides full mimetic control over her avatar. She used the opportunity to perform an impromptu dance routine. Similarly, players sometimes experimented with the boundaries of the sensor's capabilities, such as when two participants tried hugging each other to see if their avatars would mirror their movements:

P1: "now cuddle"

P1 and P3 hug

P3: (looking at avatars on screen) "they're not cuddling"

Technical problems. Although the sensor technology was reasonably robust, it occasionally malfunctioned in interesting and amusing ways, and sometimes these malfunctions were appropriated for playful purposes by players and audience members.

Generally technical issues were exhibited through players' avatars moving in unusual ways and performing strange contortions. After some initial confusion about why their avatars were behaving in this way, participants began to treat these situations as opportunities for play. Some participants attempted to emulate the avatar's contorted position while others simply laughed, teased, and commented.

5 Discussion

Section 4 introduced a number of themes that emerged from our study. A common thread throughout each of these themes was the idea of playfulness. Participants of all types – players and audience members alike – used the game session as a means for play, and this play was not restricted to the gameplay itself. In this section we discuss

some of the overarching themes and important concepts that came from the study, and relate these to our understanding of paraplay and to other literature in the area of play and HCI.

5.1 Paraplay and the Player

There are a variety of types of play engaged in by the active player. The most obvious of these is the play associated with the game itself, but this is excluded from paraplay by definition. We encountered a number of other ways in which players ‘played’ within the gaming context, particularly around creating a deliberately staged ‘performance’ for audience members, and by using competitiveness as a means of play.

Performance. Performance was a clear example of playful behaviour. Frequently, players would show off for audience members, pose for in-game photos, take a bow (to acknowledge their good performance, or to ironically highlight their bad performance), and sing and dance along with game music. These activities were particularly prevalent when players had an interested and engaged audience, but some players found amusement in these performing activities even when there was no audience (or when the audience was not paying attention).

Performance-like playfulness was also highlighted by Lindley et al. [5] in their discussion of the Wayve messaging device. They argued that the device ‘became a legitimate means of drawing attention to oneself, in a way that can be understood as “broadcasting identity”, both of oneself and of the family as a whole’ (p. 2359). Similarly, the types of performance observed in our study were playful means of drawing attention, showing off, and promoting an individual and group identity.

Importance of physicality. As players moved around the play space, adopted game poses, performed physical gestures, and interacted with the game and other participants, the physicality of their actions made their playfulness all the more salient. In a discussion of physical game controllers, [25] note that they ‘expect that (physical game controllers) may enhance audience enjoyment’ and suggest that empirical studies be designed to explore this phenomenon. Our study indicates that the physicality of Kinect gaming does indeed affect enjoyment, and provides a richer and more engaging platform for play to occur.

Rhetoric of competitiveness. The levels of competitiveness in a game varied depending on specific players, player combinations, and specific game sessions. In general, however, players became or pretended to become particularly competitive, and would engage in teasing and disparaging comments about other players’ game performance. Occasionally this was not intended playfully, but generally it was, and the game’s announcements of scores, leaderboards, and unlocked achievements provided focal points for this type of playful interaction and bantering. In these situations, the rhetoric of competitiveness was used as a mechanism for playfulness [cf. 18].

5.2 Paraplay and the Audience

Similarly to [23], we found a role distinction between audience members and players. Far from being passive observers, though, audience members were active participants

in the gaming sessions, having and enabling fun in a variety of ways. Throughout our study, some clear examples of this phenomenon were observed, including audience members providing commentary on the game and emulating the players.

Commentary. Some audience members – even those who never played the games at all – participated in the gaming experience by acting as commentators. In some games, the role of commentator suited the theme of the game (for example, sports announcements in many of the Kinect Sports events) and audience members in turn fit their commentary into the style. In other games, general commentary was provided on player performance and on the game design and aesthetic. Irrespective of the type of commentary and who was providing it, banter and playful teasing often featured, as it did in the analysis of messaging through the Wayve device [5].

Emulation, mimicry, and playing along. Audience members also emulated and mimicked players, particularly the physical movements they made as part of game actions. Mimicry was often intended to playfully highlight how ridiculous players looked as they performed the game movements. Occasionally it was used for audience members to rehearse for an upcoming turn, to simply try out the movements themselves, or to feel like they were ‘playing along’ – similar to group karaoke games [26].

5.3 Paraplay and Transitions

The fluidity of the game sessions meant that there were frequent transitions in the activities underway, and in the roles held by participants.

Transition into play. At the beginning of each gaming session, there was frequently a marked transition of the space as it was prepared and configured for gaming. These initial transitions served as points of demarcation for a gaming session to begin.

In their study of social board gaming, Xu et al. [27] found that game ‘chores’ – setting up, scorekeeping, managing turn taking, and so forth – were often considered to be fun and part of the game experience. Rather than being perceived as undesirable ‘make work’, chores presented points for reflection, socialisation, and transition. Similarly, the transitioning of a space into a play area for Kinect gaming – through the reconfiguration of furniture, setup of game options, and so forth – all presented points at which participants engaged in playfulness.

Transitions between activities. Additionally, there were transition points that occurred when participants decided to switch games, or even to switch activities entirely. One of the clearest examples of paraplay was the transition from playing videogames to other forms of play. In some cases we were told by participants that at the conclusion of their videogaming sessions they started playing other games such as hide and seek throughout the house, as well as unstructured forms of play such as running around outside together.

Transitions between roles. The roles of ‘player’ and ‘audience member’ were not fixed. As in Volda & Greenberg’s study [26], players would take turns, swap roles mid-session, or take over another player’s turn due to a variety of reasons: a telephone ringing, a player giving up, or a player becoming too tired to continue. Davis et

al. [4] argued that intergenerational play has both episodic and flexible characteristics, and we suggest that transitions between roles are one key way in which this flexibility can be introduced. Indeed, the Kinect game technology supported these – sometimes abrupt – changes in role and enabled players to change or take over each other’s turn as necessary. As such, there were two clearly identifiable transition points to demarcate a particular participant’s membership in the roles.

When audience members became players, this was frequently within a multiplayer turn-based game, and so the incoming player was a competitor to the outgoing player. In these cases there were often incidents of teasing and trash-talking between these participants (for example, ‘I can easily beat that score!’, ‘you’re useless, let me show you how it’s done’, etc.).

There were also times when audience members became players to permanently take over another player’s turn. In these cases the incoming player would sometimes reconfigure the game by selecting a new avatar or changing the game entirely.

As players moved into the audience member role, they frequently engaged in parallel forms of playful behaviour. When playing a turn-based competitive game, they would use the opportunity to tease and trash-talk the incoming player; they would also highlight their own performance and suggest that their scores could not be beaten.

In other cases, as players transitioned into audience members they intentionally engaged in playful self-deprecation. This was sometimes intended ironically, and sometimes merely as ‘soft’ commentary on their own performance.

The frequency and ease of these transitions highlights the fluidity of the boundaries between the game, the gaming context, and the rest of the environment. Again, we argue that the magic circle metaphor places too much emphasis on the distinction between the game (or play) and the rest of the environment, when in our analysis we are concerned with the varied ways in which this boundary is morphed and moulded.

5.4 Paraplay and the Technology

The gaming technology used in our study – the Xbox 360, Kinect sensor, and the game software – enabled play in a variety of ways, specifically with regards to the physicality of the control system and the designed playfulness in the game software.

Mimetic controls. The Kinect’s mimetic interface controls, combined with (in some games) a direct mapping between a player’s physical movements and their avatar’s movements, also provided the freedom for players to ‘avateer’ – to control their avatar in a playful and amusing way. Players were able to simply strike amusing poses, or to control their avatar to perform (or pretend to perform) actions in the virtual world.

Designed game elements. In some cases, the game software also provided elements outside of ‘the game’ (as it is defined above) that were adopted for playful purposes. The menu system in Kinect Sports provides one example: players were able to add fireworks and encourage the virtual crowd to clap and cheer by moving their body in specific ways. Similarly, in some of the track events in Kinect Sports, players could interact with non-player characters by pretending to shove and push them, provoking amusing reactions. In these examples players would often discover these fea-

tures accidentally and would be either confused or amused by the results until they were able to successfully reproduce them.

Voida et al. [18] discussed a similar phenomenon, which they termed ‘falling prey to the computer’s holding power’ (p. 377). They noted that in these situations the engagement was between the player and the game software, rather than between players. Consalvo [2] described these types of play as ways of ‘gaining more enjoyment from the game, in a variety of ways’. We argue these playful game software elements are just some of a great many factors that enable a variety of playful behaviours surrounding a game.

Technical problems. The complexity of the Kinect’s sensor technology meant that there were a number of technical issues observed throughout the study. In some cases the players and audience members were able to appropriate these technical problems and incorporate them into their play session. For example, when the sensor malfunctioned and caused players’ avatars to move in unusual ways, audience members found this an amusing source of conversation and banter.

This is similar to the notion of seamful design. Seams – technical limitations or barriers in a technology – are typically considered flaws, and a traditional perspective argues that ‘getting rid of them is just a matter of time and improved service’ [28]. Challenging this view, [28] argue that seams can and should be deliberately used by designers ‘in ways that users (might) find useful or interesting’. With regards to Kinect games, designing improved sensors and recognition algorithms is certainly one approach, but given the casual and fun nature of the games we used, another design approach would be to embrace these technical issues and use them to enhance playfulness and ambiguity.

6 Conclusions

In this paper, we have introduced the concept of *paraplay*. We define paraplay as play that occurs on the periphery of other types of play. In our study, the canonical playful activities were Kinect-enabled videogames, and our data support the idea that within the gaming session – the metagame – multiple types of play are present. The game-play itself is just one of these.

From our study we identified two distinct roles that participants adopt: active player and audience member. As participants take these roles, and as they transition between them, various types of playful behaviour emerge. These behaviours are both enabled and mediated by factors such as the game’s design, the gaming technology, pre-existing social relationships, and the superfluous goal of the session.

Although we have a relatively small data set to draw from, the findings and analysis are nevertheless interesting enough to suggest a number of implications for the designers of playful technologies and physical videogames. These include:

1. Be sensitive to the fact that the game may be a spectacle, observed by audience members. Attempt to make games engaging for audience members.

2. Build up a sense of playfulness throughout the entire gaming session, including within elements such as menus and splash screen. This will help to provide explicit hooks to other games and other types of play, even non-digital play.
3. Where possible, include some unstructured game elements that do not have specific goals or requirements. These provide opportunities for creative play and paraplay to emerge.
4. Sensor-based gaming technologies often include ‘seams’. Rather than treating these as bugs to be fixed, consider how these seams might be appropriated by users (for example, as physical spaces where audience members can ‘play along’ without fear of the technology directly including them into the game).
5. When designing an avatar-based control system, provide full mimetic control if possible, even if it is not necessary for the game itself. This will allow players to ‘avateer’ in playful ways.

The concept of paraplay also leads to a number of open issues for future research to address. These include identifying the types of play activities that have paraplay around them, the ways in which games and other activities can be designed to enhance or manipulate paraplay, and a further description of the elements of our taxonomy of paraplay.

Our research contributes to the theoretical understanding of social play within HCI and CSCW. It also provides design implications based on the different roles, types of play, and superlusive goals that players adopt during a videogaming session.

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References

1. Salen, K., Zimmerman, E.: *Rules of Play: Game Design Fundamentals*. MIT Press, London (2004).
2. Consalvo, M.: *Cheating: Gaining Advantage in Videogames*. MIT Press (2007).
3. Juul, J.: *A Casual Revolution: Reinventing Video Games and Their Players*. MIT Press, Cambridge, MA (2009).
4. Davis, H., Vetere, F., Gibbs, M., Francis, P.: Come play with me: Designing technologies for intergenerational play. *UAIS*. 11, 17–29 (2012).
5. Lindley, S.E., Harper, R., Sellen, A.: Designing a technological playground: A field study of the emergence of play in household messaging. *Proc. CHI 2010*. p. 2360. , Atlanta, Georgia, USA (2010).
6. Davis, H., Vetere, F., Francis, P., Gibbs, M., Howard, S.: “I wish we could get together”: Exploring intergenerational play across a distance via a “Magic Box”. *J. Interger. Relationships*. 6, 191 (2008).

7. Interactive Games & Entertainment Association: Digital Australia 2012. Bond University, Evanleigh, Australia (2011).
8. Blythe, M., Hassenzahl, M.: The semantics of fun: Differentiating enjoyable experiences. In: Blythe, M.A., Overbeeke, K., Monk, A.F., and Wright, P.C. (eds.) *Funology: From Usability to Enjoyment*. pp. 91–100. Kluwer Academic Publishers (2004).
9. Csikszentmihalyi, M.: *Flow: The Psychology of Optimal Experience*. Harper Perennial Modern Classics, New York, NY (1990).
10. Suits, B.: *The Grasshopper: Games, Life and Utopia*. Broadview Press (2005).
11. Brynskov, M., Ludvigsen, M.: Mock games: A new genre of pervasive play. *Proc. DIS 2006*. pp. 169–178. ACM, University Park, PA (2006).
12. Whitson, J., Eaket, C., Greenspan, B., Tran, M.Q., King, N.: Neo-immersion: Awareness and engagement in gameplay. *Proc. Future Play 2008*. p. 220. , Toronto, Canada (2008).
13. Flynn, B.: Geography of the digital hearth. *Information, Communication and Society*. 6, 551–576 (2003).
14. Sall, A., Grinter, R.E.: Let's get physical! In, out and around the gaming circle of physical gaming at home. *JCSCW*. 16, 199–229 (2007).
15. Garfield, R.: Metagames. In: Dietz, J. (ed.) *Horsemen of the Apocalypse: Essays on Roleplaying*. pp. 16–21. Jolly Roger Games, Charleston, IL (2000).
16. Carter, M., Gibbs, M., Harrop, M.: Metagames, paragames and orthogames: A new vocabulary. *Proc. FDG 2012*. , Raleigh, NC (2012).
17. Mueller, F., Gibbs, M.R., Vetere, F.: Design influence on social play in distributed exertion games. *Proc. CHI 2009*. pp. 1539–1548. , Boston, MA (2009).
18. Volda, A., Carpendale, S., Greenberg, S.: The individual and the group in console gaming. *Proc. CSCW 2010*. pp. 371–380. , Savannah, GA (2010).
19. O'Hara, K., Grian, H., Williams, J.: Participation, collaboration and spectatorship in an alternate reality game. *Proc. OzCHI 2008*. pp. 130–139. ACM, Cairns, Australia (2008).
20. Huizinga, J.: *Homo Ludens: A Study of the Play Element in Culture*. J. & J. Harper Editions, New York (1970).
21. Consalvo, M.: There is no magic circle. *Games and Culture*. 4, 408–417 (2009).
22. Juul, J.: The magic circle and the puzzle piece. *Proc. Phil. Computer Games* (2008).
23. Volda, A., Greenberg, S.: Console gaming across generations: Exploring intergenerational interactions in collocated console gaming. *JUAIS*. 11, 45–56 (2012).
24. Jordan, B., Henderson, A.: Interaction analysis: Foundations and practice. *The Journal of the Learning Sciences*. 4, 39–103 (1995).
25. De Kort, Y.A.W., IJsselstein, A., Gajadhar, B.J.: People, places, and play: A research framework for digital game experience in a socio-spatial context. *Social Psychology*. 6, 823–830 (2007).
26. Volda, A., Greenberg, S.: Wii all play: The console game as a computational meeting place. *Proc. CHI 2009*. pp. 1559–1568. , Boston, MA (2009).
27. Xu, Y., Barba, E., Radu, I., Gandy, M., MacIntyre, B.: Chores are fun: Understanding social play in board games for digital tabletop game design. *Proc. DiGRA 2011*. , Utrecht, Holland (2011).
28. Chalmers, M., Dieberger, A., Höök, K., Rudström, Å.: Social navigation and seamless design. *Cognitive Studies*. 11, 1–11 (2004).