Musical Embrace: Using Social Awkwardness as a Game Ingredient

Amy Huggard
Exertion Games Lab
RMIT University
Melbourne, Australia
graff_on_the_wall@hotmail.com

Anushka 'Chet' De Mel
Exertion Games Lab
RMIT University
Melbourne, Australia
anushkademel@hotmail.com

Jayden Garner
Exertion Games Lab
RMIT University
Melbourne, Australia
jayden.garner@gmail.com

Cagdas 'Chad' Toprak (coach)
Exertion Games Lab
RMIT University
Melbourne, Australia
chad@exertiongameslab.org

Alan Chatham (coach)
Exertion Games Lab
RMIT University
Melbourne, Australia
alan@exertiongameslab.org

Florian 'Floyd' Mueller (coach)
Exertion Games Lab
RMIT University
Melbourne, Australia
floyd@exertiongameslab.org

Abstract

Some social situations can be awkward. However, socially awkward situations are not always negative; examples from the entertainment domain suggest that they can also result in memorable and engaging experiences. Yet so far, there has been little exploration into social awkwardness and digital games. In response, we present Musical Embrace, a digital game that requires physical contact between strangers through the use of a pillow-like controller that requires pressure from their torsos to move through a virtual soundscape. Through our observations from demonstrating Musical Embrace at an open house event, we developed a set of strategies to engage players in socially awkward digital play. With our work we hope to guide game designers when considering social awkwardness as a compelling ingredient in digital games.

Author Keywords

Exertion game; social awkwardness; digital play; body contact; tangibles; uncomfortable interactions.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Human Factors

Introduction

Digital games are generally considered as offering positive

entertainment experiences. Social awkwardness, on the other hand, is often considered a negative experience that can involve stress and lead to mental and physical suffering due to fear and anxiety [1]. Interestingly, Benford et al. propose that uncomfortable interactions, such as facilitated by social awkwardness, can work to enhance the entertainment experience as opposed to diminishing it [1]. This notion stems back to humans' fundamental need for stimulation, arousal and excitement and is common where feelings of thrill may arise from a combination of fearful anticipation, followed by an extreme physical sensation, and then euphoria of relief at having survived [1]. Examples where these types of experiences are fostered are extreme sports and theme park roller coasters.

Our focus is on uncomfortable interactions arising from social awkwardness, and ways in which digital games could be enhanced by social awkwardness created by physical contact, similar to what exists in some traditional, non-augmented games. For example, in the game Twister, players climb over each other in an effort to put hands and feet on certain parts of the floor, creating awkward physical contact between players. Similarly, the coconut game requires two players to maneuver a coconut from their bellybuttons towards their lips without using their hands. In both games players deliberately engage in socially awkward situations in order to experience an engaging play experience.

Based on these investigations on uncomfortable experiences and their engagement benefits, we present Musical Embrace (Figure 1): a novel digital game that requires physical contact between strangers as they need to apply strong pressure, collaboratively, to a suspended pillow controller using only their torsos in order to move through a virtual soundscape. We have demonstrated Musical Embrace at an open house event, and through our observations and design knowledge we have developed a set of strategies to facilitate socially awkward digital play that engages players rather than drives them away.

In the next section, we present what we learned from previous work that inspired Musical Embrace. Then we present insights from player observations and articulate strategies that might help other designers when considering social awkwardness as digital game ingredient.

Related Work

Many game platforms also enable players to engage with bodily interactions, such as the Nintendo Wii, Sony PlayStation Move and Microsoft Kinect. However, these platforms generally require physical separation between players due to both sensor technology and the interactions typically used, such as arm swinging. We believe that by having players stay apart, there is a missed opportunity for exploring social awkwardness and bodily interactions.

There are a number of existing games that provided us with inspiration. One digital game that explores intense physical bodily interactions is Bubble Popper [5]. In this game, body contact between two players is not only allowed, but also promoted through the digital game through a competitive element. Although Bubble Popper does not require bodily interaction between players, the game demonstrates that bodily interactions can be encouraged through digital game design.

Another game exploring body contact is Combiform, a digital game platform featuring four combinable handheld controllers. Although this game platform does not focus on social awkwardness, we draw inspiration and consider the importance of co-located, co-attentive social interactions among players in order to facilitate an engaging experience [6].

Figure 1.
Pillow controller with screen displaying virtual world containing sound sources

A game that does aim to use bodily contact while possibly inducing social awkwardness is the iPad game Fingle, in which players are led to touch each other's fingers as they try to keep their fingers on certain spots on the iPad [2]. Fingle demonstrates that bodily interaction can be encouraged through collaborative game elements, and utilizes social awkwardness to create engaging play. Our project seeks to create more intense bodily contact, as well as critically examine the impact of such interaction on the experience.

Additionally, an important aspect of social awkwardness is the existing relationship between players. A system that has explored awkwardness and bodily contact between strangers specifically is the Mediated Body. It involves touching another person, which is assumed to be socially awkward, but can yet lead to "performative and behavioral" immersion between the participants [3]. From this system, we draw insights into how digital systems and tangible interactions alter the social dynamics between strangers.

In sum, although interactive systems have supported bodily interactions and created social awkwardness amongst players, we see further opportunity to explore how intense bodily contact and social awkwardness in digital games can enhance players' experiences. In response, we present Musical Embrace, a digital game that promotes social awkwardness through bodily interactions in order to facilitate an engaging experience.

Musical Embrace

In Musical Embrace, two players are invited to enter the game space, which includes a pillow-size device hanging from the ceiling at around chest height, as well as a large screen placed to the side. Players are invited to apply pressure to the pillow, but as it is hanging off a rope, they have to do it from both sides at the same time. The players are only allowed to use their torsos to touch the pillow; no direct contact is permitted with their hands, but they can use their

Figure 2.
Two players awkwardly pressing their torsos together.

arms to embrace the other player to intensify the pressure (Figure 2).

Besides the intensity, the location of the pressure applied on the pillow is also important as the players navigate a virtual world from a first-person perspective that is displayed on the screen. This virtual world is populated with a set of destinations that represent sound sources. By applying pressure to the four corners of the pillow, the players navigate from destination to destination, hearing pleasing sounds when they get closer, and by applying different intensities, they determine the speed at which they travel. The objective of the game is to navigate to as many sound sources as quickly as possible. After two minutes, the game ends and players hear a sequential track of all the sounds in the virtual environment.

Technical implementation
To create our pillow controller, we used the sensors of a Wii Balance board which we encased in foam padding and wrapped with cloth. The virtual world is created with Unity, and we use Glovepie to communicate between the two via Bluetooth.

Experiencing Musical Embrace

Musical Embrace was presented, along with other games from our "radical games" class at an open house event at our university. The audience was in the game design field or shared related interests. More than 40 people participated.

A journey of social awkwardness
Benford et al. suggest that discomfort is usually not the overall goal but rather a momentary point on a journey through a digital experience [1]. They use the classic five-act performance structure consisting of exposition, rising action, climax, falling action, and denouement to articulate this journey [1]. We found that our participants also experienced this structure.

EXPOSITION

The first stage, *exposition*, involved the initial framing of what to expect in the game. Since the game was prominently placed near the entrance of the lab, everyone entering the space witnessed others playing. There was also a video showing how the game is played in a cartoon style. This informed participants what to expect when they would start playing.

RISING ACTION

The second stage corresponded with the player's decision to participate. Awkwardness appeared to increase, reflected by the players' reluctance to follow through with the game as they found themselves next to a stranger, wondering what sort of interactions this stranger would engage in and permit.

CLIMAX

The *climax* stage occurred when the players began playing, when "anticipation turn[ed] into actual experience" [1]. This saw players beginning to act upon the pillow in order to navigate the virtual space and locate the various sound sources. We observed many players laughing, yet often nervously, when they discovered bodily actions together that resulted in positive outcomes in the game, i.e. triggered a sound destination.

FALLING ACTION

Here players accepted the social awkwardness as a means to an end, and as a result, players began to embrace the intimate nature of the game, and enjoyed having tackled the initial discomfort together (Figure 3). They also started to explore new and interesting ways of interacting, such as bending their torsos back.

DENOUEMENT

Once the game came to a close, players reflected together on what they had just experienced. This stage also paved the way for feedback, resulting in many suggestions on how the game could make a contribution beyond entertainment; for example it was suggested to use the game as a tool for dancers to make warming up and stretching more engaging.

Strategies for Social Awkwardness

Poremba states that "the act of playing provides players with an excuse and an alibi to do things that break social norms and push the social boundary as a means of exploring concepts and their benefits, values or worth" [4]. This explains why players would want to engage in a game around social awkwardness. However, playing is a voluntary activity, and players can always stop, therefore restoring the preexisting social boundaries. In general, humans tend to avoid social awkwardness; therefore game designers who aim to make social awkwardness an ingredient for successful game experiences face the challenge of encouraging players to enter and stay in a state of play despite awkwardness, while also engaging players through and with awkwardness. By means of our observations as well as the knowledge gained through creating Musical Embrace, we identify a set of game design strategies to engage players *with*, *through* and *despite* social awkwardness.

Required collaboration (through)

The setup of the pillow, i.e. hanging it off a rope, calls for two players collaboratively applying pressure from both sides. Players realized that they needed their partner in order to play, facilitating engagement through social awkwardness.

Mapping unusual bodily actions to a virtual world (through)

Players' bodily actions are mapped to actions that enable them to traverse the virtual world. While this gives players the aforementioned "excuse" for their socially awkward bodily actions, we found that our game was strengthened by creating an unusual mapping of bodily to in-game movement, for example, players must twist their hips to go backwards in the game world. This encourages the players to explore the set of actions available to them, giving them further justification for socially awkward actions. This exploratory

Figure 3.
Two players accepting and enjoying the awkward nature of the game

aspect, facilitated by the virtual world, seemed to contribute to players' enjoyment.

Virtual world on screen as social sanctuary (despite)
The screen, which displayed the virtual world, not only provided players access to the virtual world, but also functioned as social sanctuary when the experience became too awkward. Players who seemed uncomfortable redirected their attention to the screen more in order to shift the focus from the uncomfortable bodily interaction to one of virtual traversing, using the visual display as social sanctuary to retreat from the afforded awkwardness.

Performance setup (with)
The public setup of the game allowed players to perform to an audience, which some seemingly enjoyed. Performing to an audience was also a way for players to experiment with the social awkwardness of the experience, for example one man lifted up a woman to shift the awkwardness of the experience to one in which he became a public performer.

Future Work
Our own investigations, as well as player feedback, has highlighted interesting avenues for future development in the area of social awkwardness in games such as: can playing such a game break social boundaries? Can social connections be fostered faster through this game than playing a mouse and keyboard game? Do games around social awkwardness have the potential to help understand or help treat social interaction disorders, such as displayed by Asperger's syndrome?

Conclusion
We presented Musical Embrace, a novel digital game that uses social awkwardness facilitated by bodily interactions as a successful game ingredient. Through our observations and knowledge gained through creating the game, we identified a set of game design strategies to engage players *with, through* and *despite* social awkwardness. Moreover, our

game raises the bigger question of whether games, and digital play, can help us further understand how we as human beings interact with each other. With our work we hope to guide game designers to consider social awkwardness as a compelling ingredient in digital games.

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