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Designing for Emotional Complexity in Games: The Interplay of Positive and Negative Affect

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Introduction

People play games for the experience [13, 15], and one of the aims of player experience research is to understand what constitutes and contributes to positive gaming experiences [17]. Emotionally challenging and uncomfortable game play experiences have been largely neglected, as they are seemingly at odds with the field's focus on fun and positive affect [4, 17]. We argue that the positively-biased perspective on desirable emotions in games misses out on opportunities that the interplay between positive and negative emotions offers.

A previous workshop at CHI PLAY 2015 covered this missed opportunity by focusing on the false dichotomy between positive and negative affect [4], and identified a number of factors, both personal and contextual, which determine when players will value emotional game experiences that go beyond the purely positive. The present workshop is a continuation of this effort, putting the spotlight on the complexity of emotional experience and how it evolves throughout game play. Crucially, a central aspect of this workshop is to get participants thinking more about the design and evaluation of these types of experiences, by allowing hands-on game design exercise for the examined emotional experiences.

The relevance of this topic is illustrated by a recent series

of publications, which have shown that negative affect in game play can very well make for engaging, transformative, and ultimately positive experiences. For instance, MOBA players experience more frustration and less positive affect than players of other genres, but this is not forcibly experienced as negative [14]. Challenge, frustration and failure are core to many games, as they heighten the feelings of triumph once overcome [15]. Similarly, players of DayZ consider the chance of the permanent death of their character a frustrating, albeit necessary component for the game to be enjoyable [1].

In addition to motor and cognitive challenges, more and more games involve emotional ones as well [7], with players considering the experience of adverse emotion in itself as positive under certain circumstances [5, 9, 16]. Compellingly, emotionally charged games have been found to extend their influence beyond the game context, promoting reflection on a variety of themes [6, 12], which in turn has been linked to their potential to increase prosocial behavior [19].

The aforementioned research has shown that people often value negative and mixed affective game play experiences. However the processes that lead to such positive experiences are not yet clear and likely very diverse – both in terms of game design and with respect to the affective trajectories experienced by players [18].

Drawing from performance studies, Benford et al. [3] outline how design tactics can be applied at particular moments during an experience (e.g., rising action, climax, dénouement) to consciously create uncomfortable interactions, which can lead to an ultimately positive experience. Likewise, in the context of product design research, Fokkinga and Desmet [10] describe different processes with which positive and negative emotions

interplay to create a positive experience. For instance, as when a given situation evokes both negative and positive emotions at the same time, thereby intensifying the entire emotional experience – or when the positive feelings follow from overcoming a negative emotion.

In games research less attention has been paid to how different, oftentimes mixed positive-negative emotions evolve and interact with each other during play; particularly in relation to contrasting effects [10], or how emotions shift from negative to positive (or vice versa) [17]. As argued by Marsh and Costello [17] an appropriate rhythm between positive and serious experiences may well be crucial when designing for games to be most impactful.

In *Hotline Miami* [8], for instance, players may at first experience both tension and exhilaration due to the frantic, hyper-violent gameplay, punctuated by frequent bursts of frustration at the game's difficulty, which may then even heighten the feelings of pride after having finally mastered a level.

Beyond this, *Hotline Miami* intersects "fun" gameplay with more serious episodes, as when it instills discomfort by forcing players to backtrack through cleared levels, confronting them with the graphic (pixelated) remains of the bloodshed they had partaken in just seconds ago. This echoes another point described by Fokkinga and Desmet [10], whereby negative emotion helps to realize the gravity or importance of something. Yet it remains unclear (as of now) just how successful *Hotline Miami's* mechanics are in actually evoking these feeling and getting players to reflect on their actions, emphasizing also the importance of evaluating emotive game design.

Our workshop aims to focus on these kinds of complex emotional experiences through engaging participants in

activities that will prompt discussion and reflection on the interplay between positive and negative affect. Through bringing together researchers and designers who are interested in these topics, we will help to establish a growing community and uncover directions for further work in this area.

Novelty and Relevance

This workshop is a follow-up to the CHI PLAY 2015 workshop “The False Dichotomy between Positive and Negative Affect in Game Play” [4]. The recent emergence of relevant publications at CHI PLAY 2015, CHI 2016, as well as other related venues, highlight that the topic is of considerable interest to the community and suggest a need for further discussion and elaboration of its themes.

Novelty

Previous research has until recently mostly investigated the effects of game play on positive affect, but has neglected negative affect. Understanding the role of negative affect is a novel lens through which to view the player experience and the interplay of positive and negative affect provides value for foundational constructs of player experience, such as immersion and engagement.

Relevance to Academia

The workshop provides value to researchers because it provides a new perspective through which play experiences can be approached. While industry has moved forward in the use of negative affect in play, academics have only recently started to investigate the role of negative affect in games, limiting our ability to build a theoretical grounding to inform the design of emotional complexity in games.

Relevance to Industry

This workshop is relevant for industry, because ideas and techniques are discussed that go beyond the current

perception of state-of-the-art game design and explore a new side that has potential to – when well understood – be relevant for creating new mechanics, as well as in terms of informing the evaluation of emotionally complex player experiences [12]. For GUR practitioners, taking up a design lens may facilitate novel perspectives on how to create and interpret insightful play tests.

Workshop Goals

Our goals are to explore the role of complex emotional experiences in players overall evaluation of their game experience and the tools at our disposal to design for specific emotional experiences. The organizers will provide the structure, questions, scaffolding of discussions, and workshop materials; whereas participants will provide ideas around potential game mechanics, which may help design for emotional complexity in games.

Workshop Plan

Before the workshop

As a prerequisite for participation, a short biography and a 4-page position paper are expected. The papers will be reviewed for relevance and quality by the organizers. We solicit position papers on the following:

- Game mechanics for emotive game design, which afford emotional experiences in games, including uncomfortable ones.
- Gaps in our understanding of the range and trajectories of affective experience in games.
- When and why negative experiences are sought by players.
- The pleasure of failure and repeated failure in games.

- The use of negative affect in serious games.
- Ethical issues surrounding designing for negative experiences.
- Practitioners post-mortem on game design and testing for emotional experiences.
- Techniques to evaluate emotional experiences.
- Other topics and issues relevant to affective/emotional experience in games.

During the workshop

The workshop will be run as a single day event. The day is split into four 1.5-hour units. In the first unit, participants will briefly present their work as a foundation for future discussion.

The second unit will be used for group brainstorming on affective experiences to address in more depth. Specifically, we will introduce an adapted version of the Grow-a-Game cards [2] as well as the Mechanics, Dynamics, and Aesthetics (MDA) model [11]. Instead of the values outlined in the original Grow-a-Game cards [2], participants will brainstorm a set of emotions they would like to see addressed in game play, and discuss how the mechanics of existing games afford these emotions, as well as what makes these experiences worthwhile or not.

The third unit will be for small group activities on the basis of the adapted cards and MDA, where participants will be asked to engage in and reflect on emotive game design. Thereby each group will draw at least one of the previously generated “emotion cards” at random and be tasked with developing a game idea based on an existing game, but modified to express these particular emotions through its mechanics. Here participants will incorporate

approaches discussed in their position papers and those explored during the previous sections of the workshop.

In the fourth unit, the larger group will come back together to discuss the interplay of positive and negative affect with the goal to line out future collaborations. Coffee and lunch breaks will be held between units and there will be a workshop dinner to strengthen new connections and develop a community with an interest in affect in games.

After the workshop

All accepted submissions will be part of the workshop proceedings, which will be accessible through the workshop website. The outcome of the workshop will be summarized, documented and made available for the community. We will also discuss plans for a special issue of a journal and future workshop opportunities.

Outcomes

Participants will discuss current trends in affective research and connect with their peers. The workshop offers the opportunity to share knowledge and define a direction for upcoming research on the design and evaluation of emotionally complex game experiences that will be beneficial for the community as a whole. The community will benefit from a novel, emerging research direction that opens up the space to investigate the interplay of negative and positive affect in games.

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References

- [1] Allison, F., Carter, M., and Gibbs, M. Good frustrations: The paradoxical pleasure of fearing death in dayz. In *Proc. OzCHI '15*, ACM (2015), 119–123.
- [2] Belman, J., Nissenbaum, H., Flanagan, M., and Diamond, J. Grow-a-game: A tool for values conscious design and analysis of digital games. In *Proc. DiGRA 2011* (2011), 14–17.
- [3] Benford, S., Greenhalgh, C., Giannachi, G., Walker, B., Marshall, J., and Rodden, T. Uncomfortable interactions. In *Proc. CHI '12*, ACM (2012), 2005–2014.
- [4] Birk, M. V., Iacovides, I., Johnson, D., and Mandryk, R. The false dichotomy between positive and negative affect in game play. In *Proc. CHI PLAY '15*, ACM (2015), 799–804.
- [5] Bopp, J. A., Mekler, E. D., and Opwis, K. Negative emotion, positive experience? emotionally moving moments in digital games. In *Proc. CHI '16*, ACM (2016), 2996–3006.
- [6] Brown, J., Gerling, K., Dickinson, P., and Kirman, B. Dead fun: uncomfortable interactions in a virtual reality game for coffins. In *Proc. CHI PLAY '15*, ACM (2015), 475–480.
- [7] Cole, T., Cairns, P., and Gillies, M. Emotional and functional challenge in core and avant-garde games. In *Proc. CHI PLAY '15*, ACM (2015), 121–126.
- [8] DennatonGames. Hotline miami. Devolver Digital, 2012.
- [9] Eickhoff, D., Mueller, S., and Baudisch, P. Destructive games: Creating value by destroying valuable physical objects. In *Proc. CHI '16*, ACM (2016), 3970–3974.
- [10] Fokkinga, S., and Desmet, P. Meaningful mix or tricky conflict? a categorization of mixed emotional experiences and their usefulness for design. In *Proc. of the 8th International Design and Emotion Conference*. (2012), 1–14.
- [11] Hunicke, R., Leblanc, M., and Zubek, R. Mda: A formal approach to game design and game research. In *In Proc. Challenges in Games AI Workshop, AAAI-04*, Press (2004), 1–5.
- [12] Iacovides, I., and Cox, A. L. Moving beyond fun: Evaluating serious experience in digital games. In *Proc. CHI '15*, ACM (2015), 2245–2254.
- [13] Isbister, K. *How Games Move Us – Emotion by Design*. MIT Press, 2016.
- [14] Johnson, D., Nacke, L., and Wyeth, P. All about that base: differing player experiences in video game genres and the unique case of moba games. In *CHI '15*, ACM (2015), 2265–2274.
- [15] Lazzaro, N. Why we play: affect and the fun of games. *Human-Computer Interaction: Designing for Diverse Users and Domains* (2009), 155.
- [16] Lobel, A., Gotsis, M., Reynolds, E., Annetta, M., Engels, R. C., and Granic, I. Designing and utilizing biofeedback games for emotion regulation: The case of nevermind. In *Proc. EA CHI '16*, ACM (2016), 1945–1951.
- [17] Marsh, T., and Costello, B. Experience in serious games: between positive and serious experience. In *Serious Games Development and Applications*. Springer, 2012, 255–267.
- [18] Rank, S. Towards affective trajectories in games with physiological signals. In *CHI PLAY 2015 Workshop on The False Dichotomy between Positive and Negative Affect in Game Play* (2015).
- [19] Steinemann, S. T., Mekler, E. D., and Opwis, K. Increasing donating behavior through a game for change: The role of interactivity and appreciation. In *Proc. CHI PLAY '15*, ACM (2015), 319–329.