Emotional Investment:
Bridging the player's effort
and emotions' intentionality[1]

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Abstract: Computer games are capable of manipulating the players' emotions in complex ways. Most of the contemporary research on games and emotions has been treating emotions as reactions to games or to in-game objects. It seems that the methods used by most of the contemporary research on the subject are incapable of looking at what happens inside the game and thus cannot answer the questions of why and how emotions are elicited. Given that playing a computer game is a process that requires constant effort from the player, it might be feasible to look at how player's effort intertwines with his emotions. This paper outlines one possible viewpoint to what happens when the player gets emotional with the game.

[1] Some of the ideas included in this paper will be presented also in an article in a book edited by Karkulehto, Inkinen, Mäenpää & Timonen and published by Like Kustannus (Helsinki, Finland) in fall 2006.

INTRODUCTION

Describing and expressing emotions has traditionally been considered as the task of literature, art and popular culture. Those engaging in the empirical dissection of emotional experiences, tend to rely on psychology.[2] In this respect, computer game studies make no difference. Most of the contemporary research on emotions and computer games is rooted on the tradition of psychology.[3] At first such a connection seems workable, as psychology offers a wide range of tools for the empirical dissection of emotional experiences accessible also by those who are not trained psychologists. But I believe that in the phenomenon of the player's emotional experience there are things that remain concealed to the psychological method. On one hand, I understand emotions as means of making sense out of one's surroundings.[4] On the other hand, due to their role in interpersonal relations, they must be inspected also as social and cultural phenomena.[5] In this paper I will concentrate on the first aspect. I will look at how in single-player games the player's effort contributes to the emotional meanings of in-game concepts, objects and events. More than a report, this paper is a snapshot of ongoing research work leading ultimately to a Dr. of Arts dissertation. The structure of this paper is twofold. First, I outline the need for a non-psychological approach to games and emotions by looking at some recent studies on games and emotions and attempting to find out to which extent the player's emotions can be explained with their methodologies. Then I present a suggestion of one possible way to complement the existing research on the subject. Lastly, I briefly introduce the paths that the suggested approach would open.

According to some theorists, emotions have a tripartite nature with subjective experience as one corner, bodily reactions (or physical component) as another, and expressive behaviour as the third one.[6] The goal of this paper is to add to the understanding of why emotions are felt while playing and what in the process of playing contributes to the emergence of emotions. To achieve the goal, it does not seem ultimately necessary to pay attention to neither the expressive behaviour nor the physiological component. It seems possible to attain what belongs to the subjectivity of the player by looking at the process of playing.

SEPARATION FROM PSYCHOLOGY

In many psychological studies about computer games and emotions, players are often asked to describe their emotions with words of common-sense emotion names. This is often done by using a combination of questionnaires and interviewing, sometimes complemented with video recordings of the subjects playing. In these studies, emotions are often conceptualised with a circular two-dimensional model with arousal (calm/aroused) on the Y axis and experienced positive-negativeness on the X axis. Here the described approach is referred to as conceptual approach. Another approach, here titled psychophysiological, concentrates on measuring bodily phenomena like skin conductivity or facial muscle movement of the players. Based on existing assumptions on the relation between bodily phenomena and emotional states, these studies attempt to map the corresponding emotions of the players.

The problem of psychological approaches is that due to the nature of their methodologies, they tend to treat emotions as reactions or responses to games or in-game events. This works well when the research has a specific purpose or seeks an answer to a particular question. A proper example of a specific purpose is to solve a certain design-related problem. It is easy to imagine a play-testing session of a game still under development, where the designer wants to confirm that the choices she had made actually elicit an emotional reaction she intended. The possible surveys would then address some specific details of the game. If psychophysiological measuring would be used, the data coming from the measurement instruments could be synchronized with the game's log files detailing the player's activity or video recordings of the screen or of the player. In these cases, the result of a research might be just an answer such as "yes" or "no" and there would be no need for understanding how the emotions are elicited, the emotional outcome of a particular game situation is enough to solve the problem in question.

Not taking into account the in-game context of the emotions while simultaneously not attempting to solve a specific problem may lead into results that are detached from the games, almost to the extent that they appear as trivial. Ermi & Mäyrä have studied players' emotions by conduct-

[2] Niiniluoto 1986, 6.

[3] See e.g. Perron 2004, Perron 2005a, Knez & Niedenthal 2005, Ermi & Mäyrä 2005 and Ravaja et al. 2005.

[4] Calhoun & Solomon 1984, 16., Sajama 1996, 258.

[5] e.g. Parkinson 1995, 169-198, 199-226.

[6] Ravaja et al. 2005, 2, Parkinson 1996, 27, 88, 117.

[7] Ermi & Mäyrä 2005.

[8] ibid. 3.

[9] Ermi & Mäyrä 2005, 2.

[10] compare: Lazzaro 2004, 23-24.

[11] Ermi & Mäyrä 2005, 3-4.

[12] Parkinson 1995, ix-x.

[13] Ermi & Mäyrä 2005, 4.

[14] Heinämaa & Reuter 1996, 149.

[15] Ravaja et al. 2005.

[16] ibid. 5-6, 8-9.

[17] ibid. 9.

[18] Sartre 1962, 11.

[19] Lazzaro's finding that players are willing to take negative emotions because they amplify the positive ones suggests the same. (Lazzaro 2004, 23-24).

ing a survey with over 200 participants.[7] Their study is an example of what is here described as conceptual. The participants were asked to evaluate the existence of five separate emotional components in their experiences with a game. The five components were fear, anger, pleasant relaxation, joy and boredom, and the scale was from "not at all" to "very much" with seven steps. The authors reported that while joy and pleasant relaxation dominate the players' experiences, Nethack offers a less relaxed experience than World of Warcraft.[8] While discussing the results, the authors also note that without qualitative data such as interviews, it's impossible to find out if the emotions were positive or negative and what were the games' details that caused the emotions. As Ermi & Mäyrä were after what kind of feelings players experience while playing digital games,[9] not paying attention to the emotions' context is a major drawback. Negative emotions such as fear or boredom might contribute to a pleasant experience but might as well ruin it,[10] it is thus relevant to ask if boredom as an ingredient of a pleasant experience is the same emotion as boredom as an ingredient of a negative experience. The authors are aware of the problems addressed here, as they note that any data about the player's emotional experience that lacks the player's subjective interpretation is "somewhat defective".[11] While interviews could benefit a study like Ermi & Mäyrä's by explaining the context of an emotion, it is unclear whether or not they would add any accuracy to the descriptions of emotions. According to Parkinson, regardless if participants of an empirical study that involves emotions' self-reporting were "willing to put their emotions on the table for all to see" all they would come up with would be "something conforming to a shared idea of emotion". In this setting, the interview participants might end up talking about their emotions "manufactured through the medium of talk"[12] instead of talking about their emotions triggered by the game.

Ermi & Mäyrä also mention that as the data they used is resulted by self-reporting, not by for example psychophysiological measurements, it is uncertain whether the reported emotions were actually experienced or not.[13] It is unclear what would have been the benefits of using psychophysiological methods in their research. According to Heinamaa & Reuter, the physiological approaches cannot tell fear from anger; by examining bodily reactions one gets information about the state of the body, such as, a high adrenaline level in the blood. To be able to extend the physical explanations to the field of emotions, a detailed theory of the connections between bodily states and emotions would be needed. Such theory does not yet exist.[14] This is not to say that physiological measurements are incompetent, but that when used alone without a specific purpose, they cannot produce results that are beneficial to those trying to understand how games elicit emotions in their players.

In their psychophysiological study about the emotional reactions of Super Monkey Ball 2's players, Ravaja et al. demonstrated connections between different game events and certain bodily reactions.[15] The psychophysiological discourse understands these reactions as being associated with the subject's emotional states on a two-dimensional scale of valence (positive/negative) and arousal (calm/aroused). Ravaja et al., who studied the bowling-mode of the game, found out that a failure to knock out the cones by causing the ball to fall out of the lane may unexpectedly lead to positive emotions.[16] According to Ravaja et al., this finding suggests that to the players' emotions, the event's properties like excitingness or visual appearance may more important than the event's nature as a success or failure in the game.[17] Given that when the ball falls out of the lane no particular visual spectacle (compared to other events in the game or in other games) is presented, Ravaja et al.'s finding might be a demonstration of the inability of the psychophysiological approach to tell one emotion from another. Sartre notes that "for a psychologist emotion signifies nothing, because he studies it as a fact; that is, by separating it from everything else".[18] When methodology like Ravaja et al.'s finds itself in front of such an unexpected result, it cannot do anything but raise its hands and let the researchers do the guessing.

EMOTIONS' INTENTIONALITY AND PLAYER'S EFFORT

Rather than understood as responses to game events, the player's emotions are here understood as being shaped in the process of playing.[19] I suggest playing a (single-player) computer game to be considered as a process requiring constant effort from the player. In exchange, the game will give the player the possibility to interpret the game's events and adjust his efforts according to his own will. Most likely, the player's efforts affect the events in the game or related to the game.

If the player experiences emotions because of these events, he is at least partly responsible for his emotions in question. Thus, I believe that by looking at the ways the game enables its player to invest effort in the game one could also look at how computer games elicit emotions.

To be able to discuss emotions and computer games, it is necessary to come up with something that can work as a definition of emotion. An ideal definition would allow one to look at emotions without having to pay attention to bodily reactions. It would also incorporate the possibilities for understanding emotions in their situational contexts. It seems workable, for the time being, to subscribe to a conception that emotions are mental states always caused by something and about something.[20] In other words, an emotion has a cause and an intentional object.[21] All mental activities are intentional, meaning that they are about something.[22] Loving is loving somebody, knowing is knowing something and so forth. In this regard, emotions make no difference. According to Sajama, in literature intentionality as a quality of a mental phenomenon has referred to two distinct concepts: (1) the mind being *directed toward* an object (directedness) or (2) the mind containing a *representation* of something (representativeness). Sajama notes that the idea of directedness has its troubles; *"It is hard to say what is the object, toward which my fantasy of a centaur is directed and where the object is"*. Sajama opts for the notion of representativeness, according to which every intentional state of mind contains a representation of some being or state of affairs. In this view, intentionality is the mind's internal quality, not a relation between mind and an object external to the mind.[23] In Satre's reading of Husserl, mind is not even metaphorically a box containing beings, thoughts, or ideas representing objects outside the mind.[24] Rather than anything constituting or containing a representation, in this view Sajama's centaur fantasy is a quality of mind when it (mind) directs itself toward its object in a certain way.[25] Emotions, like other acts of mind, can be thus analysed with two concepts; their objects and the ways they are directed towards their objects.[26] In this view, intentionality attempts to reach out from the mind to the outside world. In Sajama's view the representations do not have to hold true in any respect, but even as imaginary, they pose an image of state of affairs *about which* the emotion is. In Satre's view it does not matter whether there is or is not anything toward which the mind is directed; the directedness exists even when the object does not.[27]

Calhoun & Solomon note that of an emotion can be given both causal and intentional explanations.

Causal explanations are objective, and they cite *"antecedent conditions or events without which the particular emotion would not have come about"*, whereas explanations based on the object, i.e., intentional explanations, *"explain an emotion in terms of the viewpoint of the subject"*. Causal explanation of an event could be *"Joe got angry when he saw the garden hose, which he mistook for a snake"*. If one was to explain Joe's feelings intentionally, it would not matter that the snake turned out to be a garden hose, the intentional object of Joe's feelings was a snake.[28] Thus, the intentional object is not an actual object. Even; *"The object of emotion as an intentional object need not exist."*[29]

Games as ergodic texts are considered to require non-trivial effort from their readers.[30] In this view the effort is crucial for the game to exist in the form its author designed it to exist. Later in this paper, this type of effort is called ergodic. Juul has used player effort to, among other purposes, state that players can influence what happens in the game, and by this effort, they may affect the outcome of the game.[31] Apart from this, Juul suggests that player effort may have consequences: *"The investment of player effort tends to lead to an attachment of the player to the outcome since the investment of energy into the game makes the player (partly) responsible for the outcome."*[32] I will refer to this type of effort later as *game state-affecting* effort. Another view on effort is from Tan, who when discussing films and emotions, notes that there may be a reward in the form of new insights for beholders who are prepared to put some effort to understand a piece of artwork in question. This effort could mean going to a museum or doing some background research about the artist.[33] A film critic with extensive knowledge on movies expectedly understands a film's subtle meanings better than someone with no experience on movies. To Tan, effort is an investment that will pay back by maximizing the beholder's experience. This is why I shall call Tan's conception of effort *experience-affecting*. A juxtaposition of all three conceptions of effort shows that they all share the idea of effort having consequences. Ergodic effort is a pre-

[20] This is not an attempt to define emotion, but provide basis for analysis. If one was to tell emotion from other mental states, which is not the task in this paper, it might be feasible to subscribe to the Aristotelian idea, introduced in Nicomachean Ethics, that the mental states considered as emotions are always accompanied by pleasure or pain.

[21] Calhoun & Solomon 1984, 26-30.

[22] e.g. Siewert 2003.

[23] Sajama 1986, 259.

[24] Kauppinen 2004, 16.

[25] Saarinen 1982, 33.

[26] ibid. 1982, 37-38.

[27] ibid. 1982, 43.

[28] Calhoun & Solomon 1984, 29.

[29] ibid. 26.

[30] Aarseth 1997.

[31] Juul 2003, 38.

[32] ibid.

[33] Tan 1996, 30.

requisite to playing. The consequences of game state-affecting effort are the player's attachment to the outcome. The consequences of experience-affecting effort relate to the interpretation, they are possibilities to better understand the work of art, offered only to those engaging in the supplementary activities.

EMOTIONAL INVESTMENT IN PRACTICE

While causal explanations' of the players' emotions refer among other things to the in-game events, by approaching the player's effort in relation to his intentionality, one might able to understand how game can elicit emotions in their players. In the following, I concentrate on couple of situations, in which the game offers its player a possibility to experience emotions in exchange of effort spent.

Receiving an unilateral demand for resources, technology or a city from a leader of a rival civilization while playing the single-player mode of the game Civilization IV can leave the player wondering dumbfounded or elicit emotions like anger or fear. If the player has spoken with the military advisor or conducted espionage on the rival civilization, he might be aware that his civilization is currently in terms of military weaker than its rival. If the player has earlier experience on the game, he might have learned that when repeated, such demands are often followed by an attack. This kind of information the player might have also read from a source such as a guide book. Regardless of the player's level of knowledge about the game, a causal explanation about his emotions in this situation refers to the event of demanding. If, due to not spending effort on the possibilities mentioned above, the player is ignorant about the possible consequences of such demand, the only fuel for his possible emotions of fear and anger[34] is the narrative content presented by the game during the event of demanding; the animated picture of a straight-faced rival leader accompanied with few lines of text that communicate the rival leader's message. If the player has spent the effort to understand what the demand actually might mean in its prevailing context, he is most likely to experience fear. Thus, in this case the game state-affecting effort is crucial to the player's emotional experience. In other words; the game state-affecting effort the player spent (conducting espionage, speaking with advisors) made it possible for him to experience fear; to experience the object of the emotion (the event of demanding) in a specific way; to direct his mind toward the game in a specific way. But the game state-affecting effort is not in the only factor affecting the player's emotions; also the knowledge of what may follow the demand expectedly affects his emotions. If attaining and implementing such knowledge is considered as experience-affecting effort, it is easy to conclude that both types of effort contributed to the player's intentionality and subsequently his emotions. It is also important to note that the object for the emotions, the demand, came virtually out of nowhere – the player did not actively contribute to its emergence.[35]

Some in-game things, objects, or concepts are important to the player but not necessarily recognized as such by the game. SimCity 4 does not give any bonus to a player who manages to align the housing blocks so that when viewed from above they form an alien from Space Invaders, although the player might find this act extremely important. The peculiar town plan the player recognizes as his own achievement carries the legacy of a series of changes in the game state, but, in terms of the value it has to the player, does not have substantially much, if anything, to do with the outcome of the game. It is easy to subscribe to the idea that player effort affects game state, which in turn, adds to the player's attachment to the outcome. It is also fair to assume that the player's attachment to outcome mediates to his emotions. Regarding this case, I almost dare to speak about the player being proud of his achievement. The object of the player's emotion, the alien-shaped housing estate, would not have been there without the player's game state-affecting effort. But this case cannot be fully explained with game state-affecting effort.[36] The town planning in the specific way was in this case a supplementary activity, as one could succeed in or keep up with a game without engaging in such activity. But those who do engage in such activity, which might be dubbed creative in this context, have an opportunity to experience something more. Whereas in Civilization IV-example the existence of the object of the emotion was not a result of player's actions, in this case player's activity resulted an opportunity for his emotions to have an object that would otherwise not

[34] Please note that these emotion names, like the others later in the text, are placeholders required by the analysis instead of actual accounts of experiences.

[35] The programmers of Civilization IV might have a different opinion on this, but from the player's point of view one can safely say that the demands appear without explicit reasons.

[36] One could also say that the player was playing a meta-game on top of Sim City 4, where the goal was to build an alien-shaped housing estate.

exist. If the game as a whole is taken as the object for the player's intentionality, one could say that the creative activity of experience-affecting effort led to the possibility for the player's mind to be directed toward the game in a specific way.

A game may a pre-written narrative, like most modern computer games do. If the player pays attention to it, it supposedly affects his emotions. As the cut-scenes in Katamari Damacy are in Japanese, it is impossible for a player who cannot understand Japanese to comprehend exactly what the game designers wanted to say with the cut-scenes. When the player fails to clear a level of Katamari Damacy in time, the cut-scene features an angry man and music that conveys unpleasant atmospheres. Even if the player does not understand Japanese, the cut-scene makes it clear that this outcome was not what was expected from the player. If this incident is compared to a failure of a player fluent in Japanese, interesting differences come up. An objective causal explanation about the emotional experiences of both players would mention the failure to clear the level in time. The Japanese-speaking player who understood the cut-scenes has the better possibilities for his emotions to have an object in the game's fictional universe.[37] The object for his emotions caused by the failure might be the prince's inability to make his father happy by helping him to fix the constellations he had messed up. The player who does not understand Japanese is not as able to feel the sadness for the prince and the king as the other. In other words, some aspects of the game remain concealed to the player who does not understand Japanese and is thus incompetent for experience-affecting effort in full scale. To the Japanese-speaking player, the range of emotional possibilities available is broader. The effort player spends in understanding the story is experience-affecting and not game state-affecting. Like creative town planning and studying the game's logics from a guidebook, following the story can be sometimes considered as a supplementary activity. In adventure games, like Syberia II, story often has a central role, which makes it impossible to consider following the story of an adventure game an activity supplementary to playing. In these games, each possibility of action is tied to a certain detail of the story.[38] Interesting cases are also those, in which cut-scenes contain information that is crucial for being able to succeed in the game.

Based on these examples, which are far from constituting an exhaustive analysis, it can be noted that by putting effort into different aspects of playing, player opens up possibilities for not only new objects for his emotions but also new ways of directing his mind toward aspects of the game. The amount of different possibilities might make the difference between an "emotional" and "non-emotional" game. It becomes also clear that the game state-affecting effort spent in the activity of playing is not the only or the most important prerequisite for being able to attach emotional meanings to in-game objects and events. As all acts of mind are intentional, intentionality alone is too broad to offer a viewpoint to games and emotions. Effort seems to be a feasible way to frame the intentionality into analysable form. With further research it should be possible to expand upon the concept of effort and identify subtypes of both game state-affecting and experience-affecting effort. Regarding this project, it would be counter-productive to limit the concept of effort to refer only to those activities that have consequences recognized by the game. I believe that increasing the understanding about player's effort would lead also to understanding of how emotions are elicited by games. The proposed approach cannot say directly much about common-sense concepts of emotions such as fear, sadness, or joy. If one subscribes to this statement of Heinämaa & Reuter, that *"emotions can be individualised only by the way they are directed and their object"*[39], the lack of emotion names is easily accepted as a fact instead of pondered as a problem.

It is also extremely important to make the note that to look at the possibilities the game offers for the player's effort is not the only way to understand how games elicit emotions in their players. In terms of player's emotional experience, a bad chair might be as important as possibilities for experience-affecting effort. Not being able to solve a puzzle in a game for the first time is different from not being able to solve the puzzle when trying for the 100th time. The effort spent in the activity of solving might be identical each time, but the player's expectations of his own performance expectedly get higher by each subsequent try. The game might treat each solving attempt identically, so the game does not have anything to do with the player's expectations getting higher. What changes, is how the player experiences the game. Metaphorically speaking, the intentional object of player's emotions gets wrapped up in a new layer on each try. Similar mod-

[37] Emotions with such object resemble what Tan has defined as fiction emotions, those arising as "witness emotions" which are felt with the fictional characters or because of events in the fictional world. (Tan 1996, 65)

[38] Leino 2005, 4-5.

[39] Heinämaa & Reuter 1996, 149.

ifiers of the experience are also the involvement of elements from the world outside the game, such as playing in a competition, playing for money and playing with other people. The effort spent in these situations may not be decisively different from effort spent in ordinary single-player game situations, but the existence of the real-world element adds emotional meanings that are *not directed toward anything inside the game.* These emotional meanings involve the expectations, prejudices, motivations and other issues that stem from the player's relationship to the real-world element. Incorporating also other factors than effort into the concept of emotional investment is a challenging but interesting goal for further research.

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