Three Corners of Reward in Computer Games

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ABSTRACT

This paper looks at reward within computer games and establishes a visual framework for displaying the reward mechanics used in games in the form of "Three Corners of Reward". It establishes the link between personal reward, material reward and competitive reward through three drivers: intrinsic, extrinsic and social play. The work shows that this framework has two purposes. One is of a framework for analysing games and the other as a potential design tool to decide upon the appropriate reward mechanics for games with a specific target market.

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Computer games 794.8
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General Terms
Theory

Keywords
Reward, intrinsic, extrinsic, social play, framework, visual

1. INTRODUCTION

The Three Corners of reward was initially created in order to simplify an area that many seem to make more and more over complicated theories about [4]. This area is how players receive and handle rewards from games.

It should be an accepted fact that players play video games for a specific stimulus, to have a positive feeling; but this fact, however true, is rarely looked upon. In a study looking at dopamine release during a video game [8] the research showed that when players are playing a game, or in this case, navigating a tank, the process of learning the mechanics of the game made the subject's brain reward them.

The feeling the players received after the dopamine release was based on a rewarding and aversive stimuli. Humans have a need to feel good and the feeling of getting a reward gives the brain the buzz that it searches for. Chris Bateman [1] expresses them as nine types of reward, currency, rank, mechanical, narrative, emotional, new toy, new place, completeness and victory.

These types of reward however stretch out the main idea of what exactly a reward is. "Reward" is a simple feeling for a player; they do not consider that the game is made for that purpose. A player just does what makes them happy while engaging in playing the game or activity (as first shown by B.F. Skinner in 1930). However, while the reasoning may be seemingly irrelevant to the players it is still important to include in the games they play and it is crucial to the games design process.

2. THREE CORNERS OF REWARD
With the above in mind, the Three Corners of Reward's main purpose is twofold, firstly to simplify what designers see as rewards in a game, secondly, to better appeal to their respective audiences. This means that the rewards in games can be categorised into three main areas: Personal, Material and Competitive.

2.1 Personal reward

This is the player's own ideals and goals that they put on a game. For example, some players may just want to complete the game while others may wish to complete it 100%. These goals are, as the name suggests, personal to the player, therefore it is not easy to study as every person has different values. However, certain core values run through every player, these can be simple things such as unlocking something in-game to wanting to complete the game, these can be assumed when a player is playing a game for themselves.

2.2 Material reward

This is simply being given a reward for actions, for example in winning a stuffed bear at a fairground for knocking over a pile of cans, the player is offered a reward for doing well which is an outside influence on the game. However this can also be applied from inside the game, for example, Team Fortress 2 (2008) added hats into the game. Even though these hats do nothing in-game, only changing the characters appearance, players still desired to obtain these hats. These could only be obtained via crafting which required weapons, which would only drop over time thus encouraging players to play for longer. In both cases of material reward the player is obtaining something they want after putting time and effort (and sometimes money) into playing the game.

2.3 Competitive reward

This is the feeling players get after besting other players. This could be in the form of more points, a quicker time, beating other players in battle or even just having a higher completion score. The desire to be the best pushes the players to keep playing and master the game just for bragging rights. This type of reward also, obviously, looks at the player's interactions with other players.

These three main areas of reward can then be combined together to explain other types of reward that are make up the different sections of the model.

3. THE SIDES OF THE TRIANGLE

3.1 Personal-Material Side

This side of the triangle deals with intrinsic drivers, a type of motivation which comes from enjoying the activity or having a large interest in it with little or no external influence. The enjoyment comes from a personal aspect and the game becomes more meaningful to the player [12]. This effect increases as the player becomes better at what they are playing [5]. This type of reward is favoured by many as it is normally fast paced and often used in the most recent popular genres to generate more enjoyment for the player on a short term basis [13]. The two types of reward mechanisms employed by the intrinsic side of the triangle are Own Goals and In-game Achievement. Own Goals are the rewards that give the

feeling of accomplishing something that the player has set for themselves to do in the game. In-game Achievements are where the player receives something for completing or attempting certain actions in gameplay or for carrying out actions relating to the game.
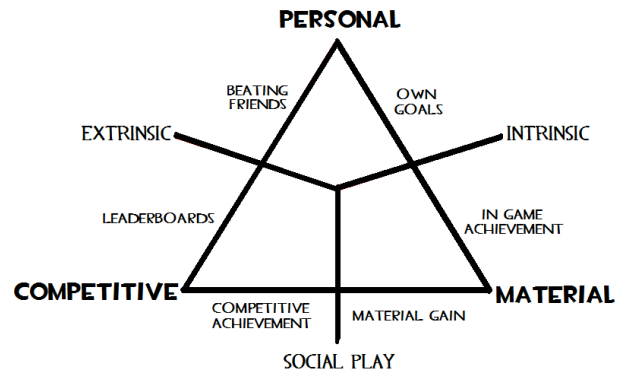

Figure 1. The 3 Corners of Reward diagram with basic terms

3.2 Material-Competitive Side

This side of the triangle relate to social play drivers [3] that offer these potential services that allow players to connect and play with other players in a multiplayer environment. This not only makes the games competitive community increase but also the overall time spent playing the game in general [10]. It also creates new player interactions and meta-games within player groups and manifests a set of player generated rules, an unofficial code of conduct that is learned while playing the game thus strengthening the player base of the respective game [2]. The two types of reward mechanisms employed by the social play side of the triangle are Material Gain and Competitive Achievements. Material Gain is where the player receives items for taking part in a competitive situation relating to the game they are playing; this could be anything from an in game item or a special un-lockable in game to show competitive participation. Competitive achievement is where the player plays the game for a competitive aspect and/or some sort of competitive award such as becoming a "pro" gamer or becoming a famous player, the main focus here is on being the best player(s) of the game in question rather than receiving anything for playing in a competitive stance.
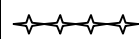
3.3 Competitive-Personal Side

This side of the triangle relates to extrinsic drivers, [11] a motivation to win in order to receive an outcome not always meant to be enjoyable but to get something that can be seen by others outside of the game. For example, this could be a place on a worldwide leader board – such a placement would be viewed as an attractive position to dedicated players [9]. It has been proven that the reward for extrinsic gameplay lowers the intrinsic areas of the

activity the player is attempting; their behaviour is altered because they wish to complete the task rather than receive any material reward [6]. A game cannot rely on this area alone however, as extrinsic rewards are usually very time consuming to achieve and unfocused in which type of player profile they appeal to. Also, the rewarding feeling does not last as long as some other areas do which is further unappealing to players; this occurs because setting a high expectation on themselves means that players may think more negatively towards losing than they would normally, as discussed by Eisendberger [7]. The two types of reward mechanisms employed by the extrinsic side of the triangle are Leader Boards and Beating Friends. Leader Boards are less of a multiplayer element and more of a personal affirmation by being the top of a game usually represented by a leader board or a score table. This is often seen in some fighting games or games with very little multiplayer aspects but which still have elements and content that can be compared against other players. Beating Friends is the feeling the player receives when beating another player's score, but focusing more on besting people known to the player such as friends or peers for their own satisfaction.

4. CONCLUSIONS

The "Three Corners of Reward" is a very visual way of displaying reward mechanics in games and can be used in two different ways.

Firstly it can be used as a framework by which to analyse game rewards for current games. A traffic light system of relevance of reward mechanics to a game can be utilised.

————	Not Applicable
✦—✦—✦—✦	Partially Relevant
▬ ▬ ▬ ▬	Fully Relevant

And the "Three Corners of Reward" filled in as follows:
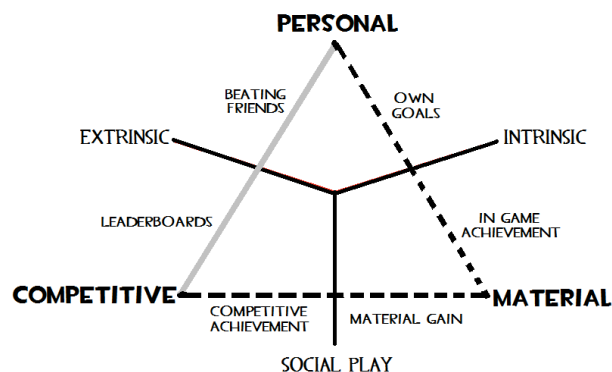

Figure 2. Using The 3 Corners of Reward

This may have a number of uses. For example, it may be used for finding the correlation between game demographics and reward or genre and reward.

The second use for the "Three Corners of Reward" follows on from an extension of the first. It is that of an aid to design. If the target market has been established and the reward for that demographic and genre have been analysed for a number of games, a pattern may emerge that would indicate under what circumstances each of the methods of reward should be designed into games for that target market. Tentative first trials of using the "Three Corners of Reward" as a design tool have been tried, which suggest that patterns do exist. However these patterns have not been established as yet and further work in this field is needed.

5. ACKNOWLEDGMENTS

6. REFERENCES

[1] Bateman, C. 2009. *Beyond Games Design: Nine Steps towards Creating a Better Computer Games.*

[2] Bekoff, M., 2001. *Social Play Behaviour.*

[3] Bekoff, M., Byers, J. A. & Allen, C., 1997. *Intentional Communication and Social Play: How and Why Animals Negotiate and Agree to Play.*

[4] Bissell, T., 2010. *Extra Lives: Why Video Games Matter.* New York: Pantheon Books.

[5] David J, H., 2000. *Public-Service Motivation: A Multivariate Test.*

[6] Deci, E. L., Koestner, R. & Ryan, R. M., 1999. *The Undermining Effect Is a Reality After All - Extrinsic Rewards Task Interest, and Self-Detremination: Reply to Eisenberger, Pierce and Cameron (1999) and Lepper, Henderlong, and Gingras (1999).*

[7] Eisendberger, R., Pierce, W. D. & Cameron, J., 1999. *Effects of Reward on Intrinsic Motivation - Negative, Neutaral, and Positive.*

[8] Koepp MJ, Gunn RN, Lawrence AD, Cunningham VJ, Dagher A, Jones T, Brooks DJ, Bench CJ, Grasby PM. 1998 *Evidence for striatal dopamine release during a video game.*

[9] Lepper, M. R., Greene, D. & Nisbett, R. E., 1973. *Undermining Children's Intrinsic Interest With Extrinsic Reward: A Test Of The "Overjustification" Hypothesis.*

[10] Quiltch, H. R. & Risley, T. R., 1973. *The Effects of Play Materials on Social Play.*

[11] Ryan, R. M. & Deci, E. L., 2000. *Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions.*

[12] Singh, S., Barto, A. G. & Chentanez, N., 2005. *Intrinsically Motivated Reinforcement Learning.*

[13] Vorderer, P., Hartmann, T. & Klimmt, C., 2003. *Explaining The Enjoyment Of Playing Video Games: The Role Of Competition*