

Games analysis – use of Game Theory.

The concept of using game theory to analyse a game is a relatively new idea. As Gonzalo Frasca [1] explains, the traditional and most popular approach to games research is to examine games as an extension to drama and narrative rather than to examine the theory behind the conception of the ideas within the design of a game. However this is a gradual shift towards looking at the theory in more depth, as Espen Aarseth [2] explains: ‘Game theory, a branch of mathematics and economics that is really not about (entertainment) games at all, but competitive situations in general’. This has led onto the study known as ludology which enables many games to be analysed in a way that is somewhat more mathematical minded than many other forms of media analysis such as film theory. The game being examined here is Maxis’s The Sims [Maxis, 2000:3]. The Sims is the best selling PC game of all time having overtaken 1993’s Myst in sales figures. [4] Its sequel the Sims 2 and its numerous expansion packs continue to dominate the sales figures in both Europe and the US. [5] [6] This game is interesting from a number of different perspectives due to the fact it is currently the only ‘life simulation’ game available on the market. It enables players to control the lives of human characters that they create and then watch over, in a simulated doll’s house manner, until their eventual death. The way the player looks after the character can bring out unique sides to their personality and may cause them to come across moral decisions they would not normally have encountered in ‘real’ life. There is also a heavily dominant consumeristic ideology within the game [7] which has been examined in the past, but not the theories behind the game itself.

Due to the expansiveness of the game experience, The Sims has a large variety of different strategies that can be taken by the player allowing various different payoffs to be achieved. A strategy within game theory, according to Davis, is ‘a complete plan of action that describes what a player will do under all possible circumstances’. [8] It is devised to cover every eventuality with a game, in this case so that a designer can ensure there is nothing the player can do to break the program. As a solely single player game it is tricky to define a point at which the player ‘wins’. This is where the concept of utility theory is relevant to the game. It helps define what the player wants to gain from the game as well as aids the ability to determine how to gain it efficiently. The Sims is technically a ‘zero-sum’ game as it has no specific goal and no ultimate solution, in essence it could carry on forever with future generations of the player created family continuing the game perpetually. This is perhaps a sign of why the game has so much appeal, you cannot lose unlike many other games. As Schwartz and Greenleaf [9] explain, this is an observation of life, and possibly why the ‘rich grow richer while the poor grow poorer’. When there is a risk to take, some people would rather step away from it. In a game like The Sims, there are no risks and the player is only restricted by what the developers have created within the game. Even this has been extended with the ability to add player created objects and the many expansion packs that have been released for it.

Game theory has a number of failings with analysing The Sims, primarily because it is a game with no way of completing it and because there is no competition between other players. A theory such as ‘non zero-sum’ games concentrates on the concept of two players competing so that one is favoured by the game ultimately. It also

bypasses the 'Prisoner's dilemma', explained by Davis thusly: 'Two men suspected of committing a crime together are arrested and placed in separate cells by the police. Each suspect may either confess or remain silent, and each one knows the possible consequences of his action.' [Davis:1978, p108] This breaks down to if they both confess, they both go to jail for five years. If they both do not confess then both go to jail for a year, but if only one of them confesses then the other goes to jail for twenty years while the confessor walks out free. Many games also play a similar rule of trade-offs in exchange for certain events, however as The Sims is single player only it avoids this. Other bargaining theories such as the Nash arbitration scheme are irrelevant too as they focus on two player strategies. The Nash arbitration scheme is whereby the players want to make the best agreement that they can, while avoiding making no agreement at all. Its overall aim is to ensure that both players gain a small amount, although possibly less than if they had decided to not form a coalition of agreement. Before the scheme can be applied, the 'utility function' of both players must be known. The utility function determines what the player can gain from each strategy, but can be misrepresented by a player disrupting the result. There is also work on Socratic game models such as the work done by Lepinski, Liben-Nowell, Gilbert and Rasala Lehman [10] which concentrates on 'unobservable-query' models where players learn only the response to their own queries and 'observable-query' model where players can also learn the response of their opponent. As The Sims is so popular, it also produces the question, why is it so popular? None of these theories are able to determine what makes a game so popular, nor what makes a game 'fun'. As the idea of fun is so subjective, it makes it particularly difficult to pinpoint. This means there are very few theories on the debate of what makes a game fun, but it forms a crucial element in how well a game sells.

The various theories discussed previously mainly concentrate on multiplayer elements within games, primarily due to their reliance on communication to convey information, either covertly or overtly, to the other player, sometimes through a method of bluffing. This would suggest that the ideal way of extending The Sims would be to add multiplayer elements. This is available to an extent but not in any competitive way. Players are able to 'swap' houses of Sims with others through the extensive community tools offered by Maxis on their website. [11] What could possibly be added are various competitions amongst other players to encourage competitive elements to the game. There could also be in future versions of the game, the ability to play against another player, such as having a goal to achieve the highest job status in a quicker time than the other player. Each player could still be able to trade items to the opposing player, thereby gaining from the sale of said items. Potentially, each player could have their own unique advantage to make the game different every time via handicapping, ensuring that the same strategy does not win every time. Story elements could also be added to a future The Sims game, possibly even enabling a metaphor of the 'Prisoner's dilemma' to be implemented within the game by encouraging players to co-operate together.

In summary, the game raises a number of valid issues regarding the use of game theory to analyse a game. While theories such as the Nash arbitration scheme can be used for a wide range of multiplayer based games, it is largely inconsequential when examining a single player game. However theories such as 'zero-sum' games and the ideas that Schwartz and Greenleaf have examined regarding people's behaviour to

potentially losing possessions is quite useful to be used alongside a game such as The Sims. The features recommended to improve the game, such as the ability to play against another player, developing bargaining techniques and handicapping have to a certain extent been implemented in The Sims Online, which offers more goal-orientated achievements and the ability to interact with others. This game never reached the same popularity as The Sims however which brings into question the idea of fun and what is deemed as 'fun', which requires much more in-depth study of the subject matter.

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