

- Game & AI Case Study -

Telltale's The Walking Dead

Tamara
Bogdanov
2439607

Jean-Francois
Retief
2458318

<u>Abstract</u>	1
<u>1. Introduction</u>	1
<u>2. Background</u>	1
<u>3. AI Methods</u>	2
<u>3.1. Decision Making (Decision trees)</u>	2
<u>3.1.1 NPC - Kenny (Season 1)</u>	2
<u>3.1.2 NPC - Clementine (Season 3)</u>	3
<u>3.1.3 NPC - AJ (Season 4)</u>	3
<u>3.2. Player Modeling - Behavioural Analysis</u>	4
<u>4. Conclusions and Discussions</u>	4
<u>References</u>	5

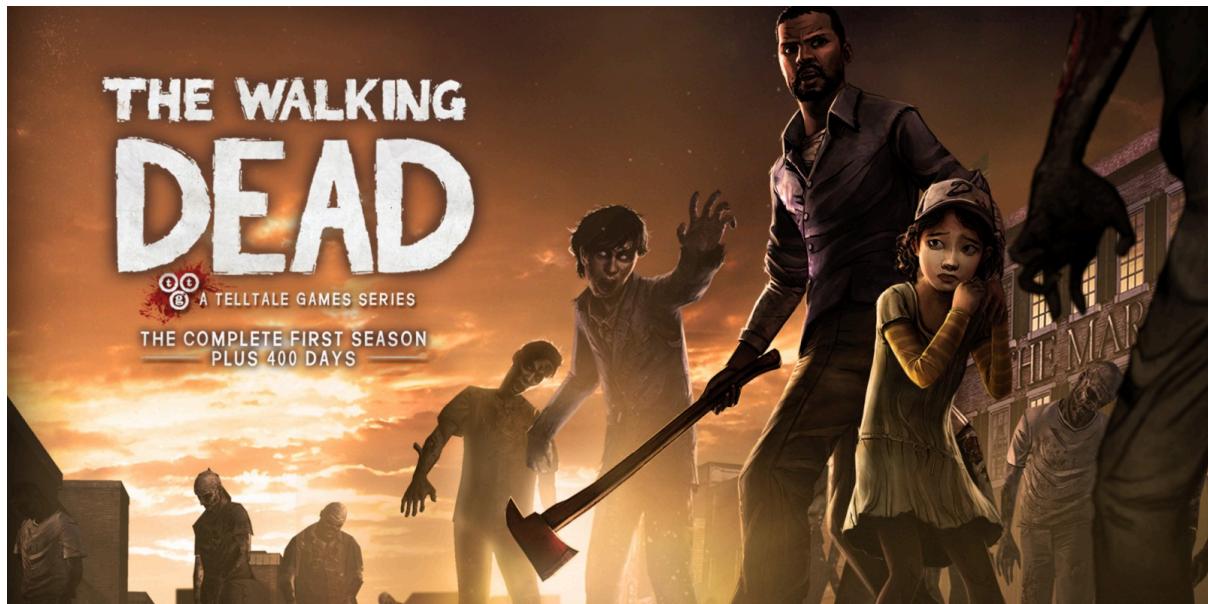


Figure 1: Poster of Season 1 [7]

Abstract

This case study is about the game series: Telltale's The Walking Dead. These are choose-your-own-adventure style games where even the NPC's make decisions in response to the players actions. The games also keep track of the playerbase's choices in order to create a model about the fanbase's behaviour, as well as individual players' behaviour.

1. Introduction

We will be discussing and focusing on how The Walking Dead utilises its AI to not only track player decisions, but also shapes NPCs' behaviour throughout the game based on these choices. Though there are multiple characters throughout the series that are influenced by your decisions, in this case study we will be mainly focusing on characters such as Clementine, AJ and Kenny. Player decisions are not subjected to a certain chapter or season but go as far as being remembered throughout the entire game. They shape your story, and we will be diving into how this is made possible with the usage of the game's AI, more in particular, looking at the two main methods used, decision based AI and player modelling.

2. Background

"Lee Everett is arrested for allegedly killing a state senator sleeping with his wife. While leaving Atlanta with the police, the police cruiser he is in runs over a walker and crashes off the highway. After fighting off the policeman (who turned into a walker after the crash), Lee meets Clementine, a young girl" [4] and thus the story begins.

The Walking Dead is a narrative-driven episodic adventure game developed by Telltale Games. The story spans over 4 seasons and revolves around multiple characters such as Lee Everett, Clementine and Javier Garcia. Throughout the seasons they face various challenges and encounter other survivors, and players must make difficult decisions that impact the outcome of the story and the relationships between characters.

The main type of AI found within The Walking Dead is primarily decision-based AI. This is where the AI engine tracks the player's choices and actions throughout the story, affecting the attitudes and behaviours of other characters as well as the outcomes of key events. These decisions lead to branching storylines as well as multiple possible endings according to the player's choices. In some cases, the AI is able to make predictions according to the data collected from the player. All of this creates a sense of consequence and personalization within the narrative.

Towards the end of every chapter within the story, the game displays which decisions the player has selected, as well as how they compare to what other players chose.

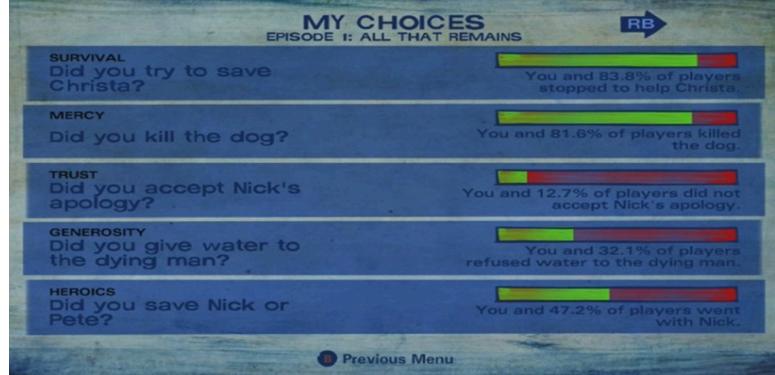


Figure 2: Summary of the player's choices at the end of S02E01 - as well as percentages comparing every player's choices with those of the entire playerbase [8]

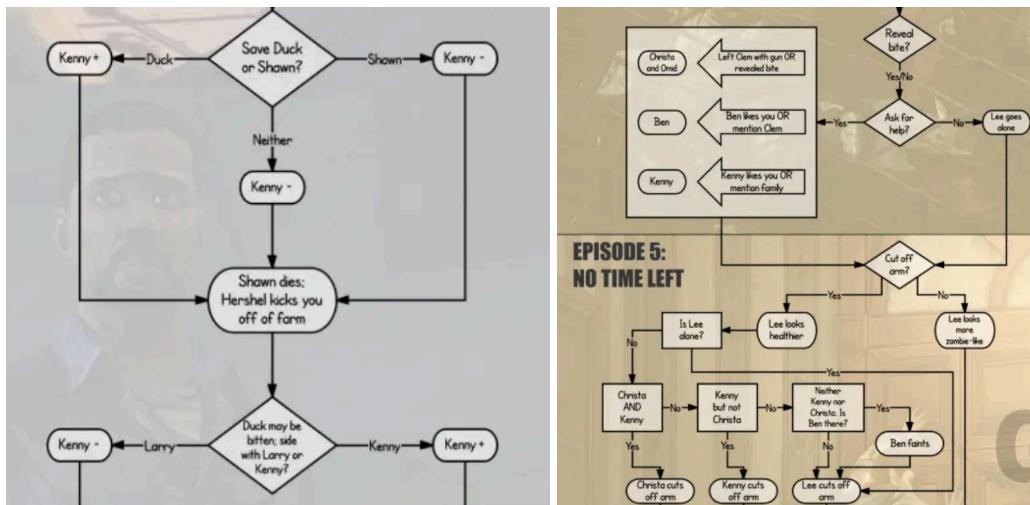
All of these decisions play a role in a very complicated tree of choices. “*This Game Series adapts to the Choices you make. The Story is tailored to how you play*” [9]. It is important to understand how the game’s AI utilises these decision trees, more particularly your decisions, in order to shape your story.

3. AI Methods

3.1. Decision Making (Decision trees)

3.1.1 NPC - Kenny (Season 1)

Kenny’s opinion on the player character (Lee) can change due to the choices the player makes and the sum of these choices are weighed at the end of episode 4 - where Kenny either joins Lee, or stays behind.



Figures 3 & 4: Snapshots from GamesBeat's Flowchart depicting how Kenny's opinion of Lee improves or worsens, and how characters decide to join Lee for the final episode's start. [1]

3.1.2 NPC - Clementine (Season 3)

Clementine can either trust or distrust the player character (Javi) due to the player's choices throughout the season. In the final episode, the player can choose between saving a town or to go after Gabe and David. Clementine will decide whether she will join Javi or go to the other path - again depending on how much she trusts Javi.

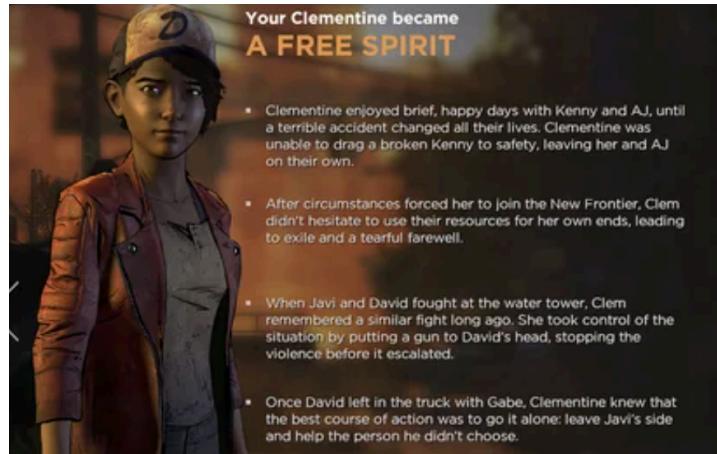


Figure 5: One of the possible outcomes for Clementine at the end of Season 3 [2]

3.1.3 NPC - AJ (Season 4)

One way AI shines throughout The Walking Dead is how player choice has an effect on character growth and decisions, especially that of the character AJ within season 4. Throughout the season, AJ acts in very erratic and unhinged ways, which can either be condoned or condemned by the player (Clementine). These decisions then influence AJ's shift of nature, having him either tone down his behaviour or worsen it depending on how the player responds.

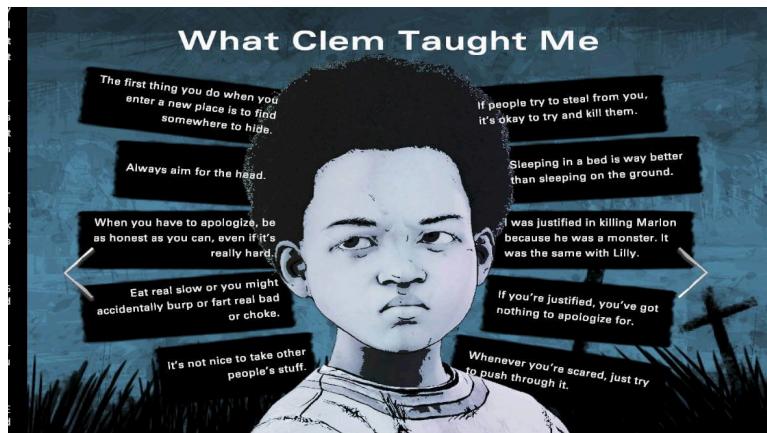


Figure 6: Summary of what AJ learned from the player in season 4 [6]

An example of this can be seen where AJ casually puts "dibs" on killing Abel in the chapter "Suffer The Children". Should the player tell him "Killing is never easy or fun, so take it real seriously"[3]. AJ's attitude towards killing changes. Clementine shapes AJ as a character,

and what this tells us is that we as players train the actual AI to behave and thus respond in a way we deem fit.

One of the biggest examples of how the player shapes the AI's decisions can be seen in Act three (Savior) of the final episode. What happens within this act is completely out of the players control, and instead determined by the AI. As mentioned above, the player's decisions shape AJ's character, deeming him either erratic or rational. This then plays a role in whether Clementine thinks AJ is capable of making the right decisions, by either trusting or distrusting him. The aftermath of this decision then plays a part in one of the biggest pivotal moments within the season, leading to the demise of either one of three well-loved characters (Tennessee or Louis or Violet) based off of AJ's decision [5].

3.2. Player Modeling - Behavioural Analysis

At the end of each episode, a list player's choices are shown, along with the entire playerbase's choices depicted as percentages (see figure 2). At the end of a season, the effect the player has had on each NPC is also shown (see figures 5 and 6), and this forms a model of each player's behaviour and provides interesting data on what choices the majority of players made. Many trends can be seen in this data and certain conclusions can be drawn from these player stats. The result is a sort-of model of the playerbases and their general consensus or disagreements on certain choices.

4. Conclusions and Discussions

When looking at the NPC behaviour, while the *underlying implementation* of the NPC's AI is very **simple**, it has a very **significant** impact on the *narrative*, the *tension* and the *game as a whole*. The game is built around player choice and branching narratives - so naturally, all the games systems spin off of that, including NPC AI. While many characters make if-then decisions in response to the player's choices, there are many cases where there is an underlying "trust" value that determines the most important AI behaviour (see figures 3 and 4). The simple approach can often be the best, at least in the world of game design.

When looking at the data on the playerbase's behaviour [3], one can see the following trends:

- The majority of players try to be kind, or if that is not an option, they are at the very least selfless (helping characters *other* than the player character).
- With most morally grey decisions, the stats are almost 50/50. Examples are whether to steal food for the group in S01E02, whether to shoot Kenny in S02E05, telling Violet to shoot in S04E02 or the scenarios where you have to choose between two characters to save (Duck vs Shawn, Doug vs Carley, etc.).
- In season 4, most players let AJ be more independent, self-reliant and in some cases ruthless - so that he can survive in the post-apocalyptic world. This leads AJ to make morally wrong decisions, but it will help him survive longer. Thus most players act out of love for AJ, instead of the "moral correct path," i.e. players put their own morals aside to protect AJ - like many parents do.

References

- [1] GamesBeat, "Here's a chart of every choice in The Walking Dead: Season 1 (image)", image source, ONLINE (last accessed 22/03/2024)
URL:<https://venturebeat.com/games/the-walking-dead-season-one-plot-graph/>
- [2] u/Hu5Ky75, Reddit - r/TheWalkingDeadGame Post, "What did your Clementine became at the end of ANF?", image source, ONLINE (last accessed 22/03/2024)
URL:https://www.reddit.com/r/TheWalkingDeadGame/comments/lmtx20/what_did_your_clementine_became_at_the_end_of_anf/
- [3] Walking Dead Wiki, "Telltale Series Statistics | Walking Dead", ONLINE (last accessed 22/03/2024)
URL:https://walkingdead.fandom.com/wiki/Telltale_Series_Statistics
- [4] IMDB, "Plot Summary | The Walking Dead: A Telltale Game series", ONLINE (last accessed 22/03/2024)
URL: <https://www.imdb.com/title/tt2006890/plotsummary/>
- [5] Walking Dead Wiki, "Take Us Back | Walking Dead", ONLINE (last accessed 22/03/2024)
URL:https://walkingdead.fandom.com/wiki/Take_Us_Back
- [6] Special Games Club, "The Walking Dead : The Final Season", ONLINE (last accessed 22/03/2024)
URL:<https://specialgamesclub.ru/reviews/obzor-the-walking-dead-the-final-season-vsyo-eshhyo-ne-ukushena/>
- [7] Nintendo, "The Walking Dead : The Complete First Season", image source, ONLINE (last accessed 22/03/2024)
URL:<https://www.nintendo.co.uk/Games/Nintendo-Switch-download-software/The-Walking-Dead-The-Complete-First-Season-1430669.html>
- [8] Reiner, A, Game Informer, "The Choices I Made In The Walking Dead: Season 2", image source, ONLINE (last accessed 22/03/2024)
URL:<https://www.gameinformer.com/b/features/archive/2014/09/02/the-choices-i-made-in-the-walking-dead-season-2.aspx>
- [9] Telltale Games & Skybound Games, "The Walking Dead: The Telltale Definitive Series", game source (steam page), ONLINE (last accessed 22/03/2024)
URL:https://store.steampowered.com/app/1449690/The_Walking_Dead_The_Telltale_Definitive_Series/