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Exploring Player Choice and Its Impact on Game Mechanics in Fallout: A Study of Non-linear Role-playing Game Dynamics

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Abstract

This research aims to investigate the diverse range of choices presented to players in the non-linear sandbox role-playing game, Fallout, and analyze how these choices interact with and influence the game's mechanics and rules. By examining the various decision points and their consequences within the game, this study seeks to uncover patterns and dynamics that shed light on the underlying design principles and player experiences in sandbox RPGs like Fallout.

Contents

1	Introduction	1
1.1	Background information	1
1.2	Purpose of the study	2
2	Player choices	2
2.1	Character selection and creation	2
2.1.1	Attributes	2
2.1.2	Traits	3
2.1.3	Skills	3
2.1.4	Perks	3
2.2	Levelling up	3
2.3	Discovery	4
2.4	Companions	4
3	Impact on mechanics	4
3.1	Weapons	4
3.2	Combat	4
3.3	Balance and difficulty	5
3.4	Alliances	5
3.5	Game length and ending	5
4	Discussion	5
5	Conclusion	8
	References	10

1 Introduction

Fallout (Cain, 1997) is a non-linear sandbox role-playing game for PC and Mac. The game is grounded in a seemingly living world, taking place in a fictitious post-nuclear nightmare scenario for mankind. Survivors give the protagonist missions which tell interconnected stories allowing the player to make deep decisions, leading to new interactions and challenges in the game world. The player will also level up, and PERKS add extra sophistication to the game's rule-set.

1.1 Background information

Fallout, together with many other role-playing games in the 90-s, was commercially successful in America (Desslock, 2000). In 1998 it received a sequel, Fallout 2 (DeMilt & Urquhart, 1998). Fallout's producer Tim Cain notes that they wanted to make an open-world game, which today one would call a sandbox game (Cain, 2014a). The game has novel video-game design where the player is free to make morally dubious decisions, making the game impactful and relevant to this day.

Game designer Todd Howard reimagined the Fallout games in a popular new series first appearing with Fallout 3 in 2008 (Howard, 2008). Fallout 3 became Bethesda's best selling game up to that point. Todd Howard successfully made a game praised for having open-ended gameplay. Fallout 3 is considered to be among the best games ever made, winning the Game Developers Choice Award for Game of the Year 2008 (Howard et al., 2008).

There is also a Fallout television series expected to air in April 2024 (Robertson-Dworet, 2024). The television series will be directed by Jonathan Nolan, who co-wrote the superhero films *The Dark Knight* (Nolan & Nolan, 2008) and *The Dark Knight Rises* (Nolan & Nolan, 2012), as well as the science-fiction film *Interstellar* (Nolan & Nolan, 2014) together with his brother Christopher Nolan. Jonathan's older brother, Christopher Nolan, recently won a BAFTA for Best Direction and a Golden Globe Award for his newest film *Oppenheimer* (Nolan, 2023).

Role-playing games were a staple of the 90-s (Desslock, 2000). The genre has made a comeback with a sequel to the *Baldur's Gate* series with the highly successful big-budget game *Baldur's Gate 3*, released more than 20 years after its predecessor (Vincke, 2023). Gary Gygax first popularised role-playing games in the United States with the *Dungeons and Dragons* tabletop role-playing system, which relies heavily on dice and random numbers (Gygax & Ar-

neson, 1974). Black Onix popularised the role-playing game genre in Japan (Ackerman, 2016). Later, Steve Jackson tried to remove randomness from role-playing games with his action-based GURPS system (Jackson, 1985). Fallout was originally going to use GURPS before they invented their own SPECIAL role-playing game system (Cain, 2014b).

1.2 Purpose of the study

As role-playing games and sandbox games are important genres in video-game and tabletop gaming, with popular role-playing series such as Final Fantasy, Baldur's Gate, and sandbox games such as Minecraft, there is a need to better understand these games to reproduce their success. The choices presented to players and how the choices interact and influence the game's mechanics and rules will now be examined.

2 Player choices

In Fallout, you play a character from Vault 13, a survivor of the post-apocalypse. Your character has been chosen to leave the vault, and its community, to secure a new water chip from the outer world. As the vault's critical water chip has malfunctioned, you only have 150 days to find a new chip and save your vault.

2.1 Character selection and creation

The first thing you do in Fallout is choose a character to play.

All the characters you can choose are balanced. The characters you choose from have different strengths and weaknesses. If you design your own character, you get to set the character's name, age, traits, skills and attributes.

Every character in the game, enemy or foe, is controlled by the same SPECIAL role-playing system.

2.1.1 Attributes

In the SPECIAL system, there are seven main attributes: strength, perception, endurance, charisma, intelligence, agility, and luck. Each will be set in a range from 1 to 10.

2.1.2 Traits

Traits modify aspects of gameplay, including the player's attributes and skills. Traits are optional, each trait has a benefit and a penalty, and can only be chosen at the very beginning of the game. An example of a trait is "Gifted", which makes the player gain an extra point to each attribute but has the penalty of rewarding the player fewer skill points at level up, making the player character more fixed and less dynamic as the game goes on.

2.1.3 Skills

Skills are the learnt abilities of a character. Skills can be improved by reading specific books or going up in level. There are combat skills which dictate a character's proficiency with various weapons, such as small guns, or energy weapons. There are also skills which are active and passive, which affect how well a character can haggle down prices on wares, how easily a character can sneak undetected and repair equipment. The player can choose where to apply new skill points at each level up.

2.1.4 Perks

Perks were invented by Chris Taylor after game-designer Brian Fargo suggested levelling up should involve more than simply increasing skill points (Cain, 2014c). Perks are additional rules, or game enhancements, which add an extra layer of sophistication to the game's existing rule-set. One can for example add the perk "animal friend", which results in wild animals no longer starting combat. This trait requires high intelligence, a high level, and proficiency in the outdoorsman skill. Another perk one can choose, if the character qualifies to it, is "Friendly Foe". This perk helps the player by making friendly characters appear with a green outline when in combat.

2.2 Levelling up

During the game, the player will gain experience points which can be used to go up in level. The player can choose to not level up if they wish. At level up, a set amount of skill points can be used to increase the player character's skills. For each third level, the player can choose a new perk.

2.3 Discovery

You can switch between two modes, combat mode or discovery mode. This is done with the user interface. In discovery mode, you can speak to characters in the game and learn about where different towns can be found. They will then appear on the world map. You can also access combat mode at any time. You can make friends and enemies in the game world. The game has a system where your reputation and what you do in each town is remembered. Which missions you choose to complete and for whom, will alter the system.

The main quest is to first locate the water chip. Asking characters for information helps the player locate the chip. There are also water traders who can send caravans to your home vault, increasing the time you have to find the water chip.

2.4 Companions

You can choose to recruit various companions in the game (4 in total), such as Dogmeat the dog and Ian, a hired gun. In Junktown you can find Tycho, who is aligned with the law. Katja, a scavenger living in the streets, is found in the town known as the Boneyard.

3 Impact on mechanics

Thanks to the game's systems, a player's decisions have deep consequences on the game's mechanics. In chaos-theory, every little change to a system can cause large changes down the line. This is known as the butterfly effect (Gardini et al., 2020). Fallout tries to be a chaos system, reacting in deep ways to the player's choices.

3.1 Weapons

What skills the character chooses to be good at and improve affect what weapons they should choose to use at any given time and how well the character fares with the selected weapon.

3.2 Combat

Fallout has turn-based combat, just like a board game or table-top game. The combat can be activated at any time. Instead of actions relying on dice rolls, characters are given a set amount of action points each turn. Randomness only plays a role when a character decides to attack.

The skills and attributes the player has chosen dicatates how well a character fares in combat. Special care was taken to use a random number generator better than the default one found in the ANSI C standard library (Cain, 2023).

3.3 Balance and difficulty

Having companions makes combat easier. Companion helpers attack and distract enemies. If you choose to kill the sheriff of Junktown, Killian, for the casino boss Gizmo, the recruitable character Tycho will refuse to join your team, limiting the possibilites in the game.

There are good traits and bad traits to choose from at the beginning of the game. Some traits intentionally poor, simply making the game more difficult.

If you are disliked by a faction, you will get attacked by them. The reputation you have therefore directly affects the mechanics. Cutting cornours and solving missions in an overly simple way can make playing more difficult down the line as you miss out on experience points and as the player makes new enemies in the game world.

3.4 Alliances

With a character with low intelligence (the I in SPECIAL), the player will not be able to choose all dialog options available. This can make it more difficult to start alliences with factions in the game such as “The Brotherhood of Steel” and the various towns found on the world map.

3.5 Game length and ending

The game ends if the player runs out of time, dies, or manages to complete the game’s main quest for Vault 13. When the game ends, you get a summary of the consequences your actions in the game have had on the characters you have met.

4 Discussion

French sociologist Roger Caillois defines a video-game as a voluntary rule-based make-believe activity (Caillois, 2001). A video-game should always react to the player. Reactivity is the most important aspect of a video-game. Gabe Newell says when a game does not react to something the player does, the player ends up feeling offended. He calls this a narcissistic injury, player

choices should always result in a reaction (Newell, 2023). In Gabe Newell's video-game Half-Life, this is demonstrated by, for example, the ability to hit the protagonist's crowbar on the walls. The reaction is a satisfying sound, and a mark left on the wall. In Fallout, you usually have something to do in every level or world you visit. At any time of the game, you can enter combat mode, and use the SPECIAL game-system to make choices, no matter how contrived the game otherwise feels.

Fallout can be considered one of the earliest sandbox games, a genre which rewards creativity and has no predetermined goals, as Fallout does not force any moral decisions on the player (Cain, 2014a). The core of the Fallout is figuring out how to spend your time, how to secure a new water chip or shipments of water to your home vault, to survive adversaries in the outside world, and mastering the SPECIAL role-playing system. Discovery is key. Finding what opportunities exist is fundamental to playing the game.

A game like Snakes and Ladders is very unsatisfying to play for adults as each player is completely at the mercy of the dice. Many players do not find such games rewarding as they feel no ownership of the outcome, win or lose (Hiwiller, 2016, p. 85). Fallout solves this problem by presenting the player with the SPECIAL role-playing system. The player gets a set amount of actions which they can use to make various choices. They can decide where to go on the map, what enemies to approach and attack, and which weapon to equip, as well as entering an inventory of player items and making use of various items such as health regenerating steam packs which can be picked up or bartered for in the game world. The player might choose to attempt to flee an enemy encounter. The outcome of the actions feel fair, they give the player a sense of control. As the player combats enemies, the various character attributes chosen by the player at the beginning of the game (strength, perception, endurance, charisma, intelligence, agility, and luck) dictate the outcome of a battles together with the PERKS and traits, the player gets to experiment and try new weapons and get ideas for new characters to try in the game world.

Psychologist Mihaly Csikszentmihalyi proposed the concept of flow to explain the feeling some artists have when they are completely lost in their work (Csikszentmihalyi, 1990). Csikszentmihalyi defines pleasure as the feeling of contentment one feels when ones biological programs and social conditioning have been met, which is felt when you experience something new or have accomplished something. Pleasure improves a person's quality of life and experiencing it consists of the following components:

1. Tasks with a reasonable chance of completion.
2. Clear goals.
3. Immediate feedback.
4. Deep but effortless involvement that removes from awareness the frustrations and worries of everyday life.
5. Sense of control over our actions.
6. No concern for the self.
7. Alteration of the concept of time, hours can pass in minutes and minutes can look like hours.

A good game should be pleasurable, or as the late Nintendo CEO Satoru Iwata would put it, games should be fun (Iwata, 2006). What that entails varies from person to person. Since Fallout gives the player a sense of control, and it is possible to complete the game, it has clear goals (get the water chip, defeat the mutants) and reacts to our decisions, the game can easily distract from the everyday worries of life. However, a game about nuclear war might not be the perfect distraction in this very day and age.

If you make your own character in Fallout, you will need to retry the game many times to find a character which works in the game world. At the very beginning of the game, you need to make it out of a cave full of rats. This gives the player an opportunity to learn the combat, and test how well the character fares against the easiest enemies in the game. This early mini-climax is an important early payoff for the player which is important in video-games to make players interested while learning the game (Hiwiller, 2016, p. 98).

You can replay the game many times to change how the game ends. The game has an ending, and you get a summary of the consequences your actions in the game have had on the characters you have met. This can motivate the player to play again, and see how the game system changes if they make other choices. Fast turn around times allows for experimentation, I would like to see more this in video-games.

Many older video-games had the ability to save the game state to disk and load your game to continue playing, or playing from an earlier time of playing. Fallout has this feature. The game is notorious for its crash bugs, but saving often is a good idea also because one can

easily make regretful and unsatisfying decisions, which can be changed by loading the game from an earlier save. Rewinding time might be a mechanic which could be brought back in contemporary video-games.

There are design flaws in Fallout, such as objects blending in with the environment and clunky user interfaces where affordances are unclear and the signifiers are poorly designed. Great designers produce pleasurable experiences (Norman, 2013, p. 9). Experiences, or sensory analysis, are experienced all the time and determines how people remember interactions. Discoverability is key to good design, it must be possible to construct a conceptual model (a simple explanation of how something works) of a product or system to be able to then use it (Norman, 2013, p. 24). Without knowing the affordances (the possibilities present to you) and additionally being presented with cumbersome ways of discovering them (poorly designed signifiers), the experience becomes frustrating. There are also unnecessary constraints left in Fallout. Constraints restrict how you interact with a system or product (Norman, 2013, p. 67). For example, there is no “take all” button when you pick up items, making it cumbersome to loot fallen enemies.

The game world in Fallout has been authored. In authored games, every map or world in the game has been designed by a human-being (Hannemyr et al., 2015, p. 87). This is in contrast to sandbox games such as Minecraft or Dwarf Fortress, where the game world is automatically generated by a computer when you start a new game. Authored games become more polished and have a human touch. Furthermore, the game is completable as it does not have any auto-generated content. It does, however, limit the amount of things one can discover in the game.

5 Conclusion

Fallout is a game you can replay many times to change how the game ends.

You need to try many times to find a character which works in the game world.

You find you need to make many saves, partially because of crash bugs, but also because one can easily make regretful and unsatisfying decisions.

There are design flaws, such as objects blending in with the environment and clunky user interfaces where interactivity points (signifiers) are unclear.

Fallout is authored, it has no procedurally generated world. This might limit the enjoyment of the player as it limits re-playability.

During my research I could not help but think how lucky human beings currently are. As the late mathematician Paul Erdős said, God must have created us to enjoy our suffering (Hoffman, 1998, p. 4). Art tends to be overly soft. Children outgrow many of the games they play as they become older, as they become better equipped to handle greater difficulties (Hiwiler, 2016, p. 99). The choices and experiences in Fallout are dark. Our modern lives are light in comparison.

Fallout is built around a system. As you make choices, the system reacts and continues to react. Your enemies grow stronger. Your factions will agree to help. The results of your choices and the effects they have on the system are felt by the player from start to finish.

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