AN EXPLORATION ON THE FACTORS THAT DRIVE MEANINGFUL CHOICES WITHIN VIDEO GAMES

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Abstract

Video games are interactive: by allowing players to make choices, they give players control over their own progression. This research study is focused on finding the factors that influence players' meaningful in-game choices within narrative focused and open world games. To gain insight on players' decision making process, data was collected through interviews to four participants with different backgrounds and with experience in playing narrative, roleplaying and open world games. A framework was crafted for analysing patterns regarding players' choices and its drivers. According to the study results, the more players can relate a choice to real life circumstances, the more important their beliefs and behaviors are for the decision making process, and the less important are game characteristics.

Keywords

Video games; Meaningful choices; In-game decisions drivers; Interaction in video games; Narrative focused video games; Open world video games; Identity choice within video games; Virtual world exploration; ethic choices in video games.

1. Introduction

Throughout the years there have been many efforts- coming from academics and non-academics- to define what a game should beF. Statements vary in form and substance but there is one propriety that most definitions seem to agree with: games are interactive. Some authors, like Costikyan (2002), mention this explicitly by saying that "(A game is) an interactive structure of endogenous meaning that requires players to struggle toward a goal" (p.405). Others, like Avedon and Sutton-Smith (1971), imply it sustaining that "Games are an exercise of voluntary control systems, in which there is a contest between powers, confined by rules in order to produce a (disequilibrial) outcome". The fact that games are interactive by definition that means they need an end-user in order to function. That is probably the main distinction between a game and other media such as films and books; they need someone, or something in the case of an A.I., to have at least some degree of control over its progression. Therefore, since there is no control without the ability to make decisions, games have to give choices to end-users. It is in their essence. The idea that games are interactive is also supported by key industry players such as renowned designer Sid Meier, who believes that games are a series of interesting decisions (2012). This last statement is particularly relevant for the purpose of our research and its meaning and implications are analyzed throughout this paper.

For this project, which is exclusively focused on video games, our goal was to explore what are the reasons that drive players' meaningful choices, whether they be identity-based, narrative-based or focused on the interaction with the virtual environment. In other words, we wanted to better understand why do players behave in their own particular ways and what makes them have a particular playing style.

The users' subjective experiences that result from their own perceptions and emotional reactions is not the only thing that changes each time a video game is played. Unlike what happens with traditional media, here the *content itself* changes every time it is being consumed. This is why, in a sense, video games are co-created with the users. As Rauch sustains, "Designers' power to shape their games only extends so far. Players can assign complex narratives to games in which they were not written, and can just as easily ignore the narratives that exist" (2007). This is why being aware of the reasons that lead players' to shape the content in particular ways is crucial to better understand the medium and how to manipulate it and tell better stories to build more compelling virtual worlds and characters.

We believe that this study's findings on motivation patterns for meaningful in-game choice making or interesting decisions- will be useful for both the academic sector and the industry. Regarding the former, our results can be used as an input for taxonomy construction on players' in-game decision making profiles. As for the industry, we trust that by better understanding users' choices, developers will be able to create more relevant and powerful decision scenarios while, at the same time, they will be able to improve audience target selection for their games.

We focused on video games with rich decision making dynamics; mainly those that give players considerable control over the narrative and those that allow for extensive interaction with the virtual environment, like most open world games do. We believe that the interview method was the most appropriate course to conduct this exploratory study since the goal was to understand personal, deep-level decision making motivations that cannot be perceived through mere observation. In others words, we believe that directly asking the players was the best way to understand what they *think and experience* when making in-game choices.

2. Background

According to Sicart "a game mechanic is the action invoked by an agent to interact with the game world, as constrained by the game rules" (2008). In other words, mechanics are actions executed by a player or the system and they can generally be represented with verbs (e.g.: jump, shoot, build, turn,

etc.). These actions, when carried out by players, are the direct result of the execution of commands provided by the game (i.e.: pressing a button on the joystick, clicking or touching a particular spot or digital button in the screen, making a control gesture or movement).

Usually, game mechanic actions are means to achieve an end within the game, like overcoming an obstacle or completing tasks required to carry out a strategy. Nevertheless, because of their utilitarian nature, oftentimes this kind of actions do not represent truly meaningful choices. If there is a definitive right answer to a certain situation (e.g.: to overcome a hole it is better jumping than ducking) or if the players is indifferent about the expected outcomes of the alternatives presented, then there are no meaningful choices to make. As Hiwiller explains, these decisions do not represent true control over the game and as a result they are not motivating for the players (2013, p.105).

Research studies such as the one conducted by Dominguez, Cardona-Rivera, Vance and Roberts (2016) attempted to explain some of the reasons that drive players behaviour within games by focusing on choices that, in our opinion, are not entirely meaningful since the choices given to players in their experiment were mostly game mechanics actions and their outcomes were essentially the same (a given choice only affected an immediate subsequent event). Instead, we aimed to analyze decisions made in games such as Mass Effect 2 where, according to Bizzocchi and Tanenbaum, players can choose how widely they enable the potential arcs of the game (2012).

In order to explore the reasons underlying players truly meaningful choices we first categorized these in three distinct but interrelated sub-groups:

Identity based choices:

Decisions that mold playable characters. Among others these can involve gender, personality and behavioral traits, physical appearance, class and moral alignment.

- Narrative based choices:

Decisions that have significant influence over the game's subsequent events and general progression. Among others these can involve events setting/location, selection of goals pursuited and type of relationship with other characters.

- Interaction-with-environment based choices:

Decisions with little long term impact over the game's progression that are oftentimes reversible. Among others these can involve degree of world exploration and ways of interacting with the virtual world.

This classification served as a framework for the data collection process and as a result it allowed us to better understand what lead players to do things such as: behave peacefully/violently (an identity based choice); kill a character/spare his life (a narrative based choice); or thoroughly explore -and interact with- the world he is presented with/go straight to the point (an interaction-with-environment based choice).

Previous studies show that players' identity traits such as their culture have strong effects on their game experience (Isbister, 2006). These, along with psychological and socioeconomic variables are all potentially *exogenous* factors -they are independent from the video game being played- that could influence in-game choices. In contrast, we also contemplated potentially *endogenous* factors -characteristics of the game itself such as plot, playable character traits and virtual world characteristics- that could shape players' decisions (for further detail on this, read Appendix B). Whether or not these factors actually affect players' decisions and whether or not this classification is relevant is what we hoped to reveal after conducting the study.

3. Method of Approach

Data collection was conducted in the form of one to one interviews with open questions, among players who play relevant video games. To have a reflective understanding of the players' in-game choices, we conducted semi-structured interviews with video game players. As mentioned before, we were keen to know why a player behaves and interacts in a certain way when playing games. Because of this, our research focused on identifying existing patterns behind their meaningful choices.

3.1. Context and Data Collection

Participants of the study consisted of four people who regularly play narrative and open world games. Because we were keen to involve players from varied backgrounds, the interviewees were also from different countries. In-depth interviews were conducted to have good insights on their personal experiences and feelings when making meaningful in-game decisions. Because interviewees were friends/family of some of us, we all analyzed and coded every interview in order to tackle the backyard research issue.

Data collection consisted of videochat interviews, which were video recorded and fully transcribed. The semi-structured interview format allowed us to explore topics with a good acumen. This way, questions asked had the primary purpose of collecting detailed information about the players psyche when he plays certain characters, makes particular decisions and behaves in explicit manners. The interviews were structured in a way to effectively identify the driving factors on each of the meaningful decisions players make. For this purpose, we elaborated a flexible questionnaire (Appendix A) based on the "type of meaningful decisions within games" framework and our guess on what factors influence these decisions (Appendix B).

3.2. Data Analysis

For the data analysis, the four interviews transcriptions were coded initially with the In Vivo-coding method. After careful examination and mutual agreement, we picked 79 instances in the interviews that referred to particular meaningful decisions made by participants and the driving factors behind them (which most of the times were explicitly mentioned).. These factors were classified as *pure exogenous* (out-of-game factors), *pure endogenous* (in-game factors) and *exogenous influenced by endogenous* (a mix of the previous two but with out-of-game factors being the ultimate driver).

Pure exogenous factors consisted of two sub-categories which are the players' worldview (political/cultural/idiosyncratic views such as appreciation on gender issues, among others) and psycho-social behavioral traits (e.g.: frequently trying to help those in need). Pure endogenous factors were conformed by the game's story and the playable character identity (e.g.: the playable character is evil and is looking for vengeance), and the game world characteristics (e.g.: the virtual world having a very realistic visual design style or being simple to walkthrough).

Regarding the mixed third category, we found that in many cases the story, the character's identities and the game world characteristics brought out certain reactions from the players, making them act according to their own psycho-social traits and worldview. In these cases, the game provided a stimulus for the players to choose according to their worldview or psycho-social behavioral traits, so these last two were chosen as subcategories.

Each of the instances were further coded and subgrouped into identity, narrative or interactive choices. This way, all decisions instances identified in the interviews were classified both according to their type of decision and their cause or driver. Furthermore, to guarantee a robust coding process, we did at least two rounds of coding according to this scheme.

3.3. Verification

Using Fleiss' Kappa inter-reliability test, the data coding was proven to be consistent across the three "raters" in all four interviews. The group used the Fleiss' Kappa inter-reliability test because it dynamically suited the amount of classifications and because it is the only Kappa test that could take into account more than two raters by itself. Because both the type of choice and its drivers are matters that are subject to interpretation, we faced potential divergence between each of our codings.

Our lowest "agreement rating" between all the interviews was a .61 Kappa value, meaning the team agreed with each other unanimously 61 percent of the time -which for a Fleiss Kappa test, is considered a "mostly acceptable" result-. The reason for this relatively low result, was that the interviewee in question tended to express abstract thoughts that could easily be classified in more than one category.

The second lowest result was .78. This rating was this "low" because there was only so much codeable data that we could extract from the interview, so even a single disagreement would have had significantly negative impact. Meanwhile, the best results were .86 and .93, which meant that the classifications made here by the team were close to perfect unanimously agreement.

Because Fleiss Kappa rating never fell under a .60, we achieved a substantial/high reliability and consistency in all interviews. One factor that might have helped improve the ratings in general was the fact that we discussed many of the classifications and made sense of them between the team members.

4. Results

As mentioned before, in total we identified 79 instances in which the interviewes were referring to decisions made within video games and its causes. In all 79 cases, at least two out of three members of the group agreed on the type of decision they were describing and its causes. With the purpose of drawing robust conclusions, our initial intention was to discard cases in which there were more than one disagreement but since that didn't happen, we ended up taking into account all the instances that involved meaningful decisions and its causes.

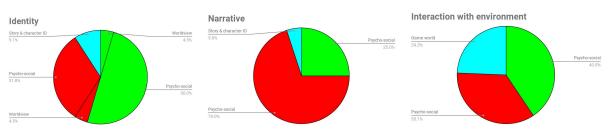
The results of the study are shown in the table and three charts that follow. These are the result of adding the classifications for all 79 decisions that we identified across the four interviews. In this sense, Table 1 shows the number of choices that fall into each classification (e.g.: five of the narrative-related choices mentioned were driven by psycho-social behavioral traits), while Chart 1, Chart 2 and Chart 3 show the proportion of each driver for a particular decision type (e.g.: 50% of the identity-related decisions were driven by "pure exogenous" psycho-social traits).

DECISIONS CLASSIFICATION (2+ MEMBER AGREEMENT)		Drivers						
		Pure Exogenous		Exogenous influenced by endogenous		Pure endogenous		Total
		Worldview	Psycho-social behavioral traits	Worldview	Psycho-social behavioral traits	Story & character ID	Game world characteristic	
Type of decision	Identity	1	11	1	7	2	0	22
	Narrative	0	5	0	14	1	0	20
	Interaction	0	15	0	13	0	9	37



Chart 2: share of drivers for narrative choices

Chart 3: share of drivers for interaction choices



Note: Green represents pure exogenous factors, red exogenous influenced by endogenous and light blue pure endogenous.

As Table 1 shows, out of the 37 interaction with the world choices we identified, 28 were driven by psycho-social behavioral traits (15 corresponding to the pure exogenous category and 13 influenced by in-game elements) and 9 were driven by the game world characteristics (a pure endogenous factor). Out of the 22 identity choices, 18 were driven by psycho-social behavioral traits (11 corresponding to psycho-social behavioral traits and 7 influenced by in-game elements), two by the players' worldview (one pure exogenous and one influenced by in-game factors) and two by the game story and the character's identity (a pure exogenous factor). Lastly, out of the 20 narrative decisions we identified, 19 were driven by psycho-social behavioral traits (five pure exogenous and 14 influenced by in-game factors) and one was driven by the game's story and the character's identity.

These results, show that at least for these particular individuals, both identity and narrative choices are driven mainly by psycho-social behavioral factors (in the case of narrative choices in-game factors influenced more this type of decision while in the case of identity choices it was more balanced). Also, the charts show that the drivers behind interaction-with-environment based choices are more balanced: 40.5% correspond to pure psycho-social behavioral factors; 35.1% to psycho-social behavioral traits influenced by in-game stimulus; and 24.3% to the characteristics of the game world.

As for the participant worldview and the game's story and playable character identity, they didn't play an important role on driving any of the types of decisions analyzed.

The exposed results allowed us to draw some interesting conclusions on the interviewed individuals' decision making processes. These are developed in the coming section.

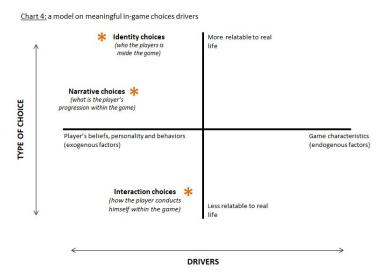
5. Discussion

Results show that the more players can relate a choice to real life issues, the more important their beliefs and behaviors will determine their decisions (illustration on Chart 4). In effect, choices related to character identity are those that players appear to take more "personal": when deciding who the playable character is going to be, they take into account mainly who they are and aspire to be in real life. This way, personality plays a major role on these type of decisions. As a result, identity choices made tend to be consistent regardless of the game that is being played. This process is clearly illustrated by two quotes that we bring from the interviews: "I play the good guy because that's just who I am... I can't just go around shooting people" and "I do like to choose to be the character that I want to see myself as".

Narrative choices were still relatable to real life situations but due to the oftentimes highly elaborated stories and worlds, drivers seem to be more influenced by game's characteristics than in the case of identity choices. This was evident in the interviews, where we found that players' narrative decisions are ultimately based on psycho-social behavioral traits (ethics view for example), albeit influenced by the context provided by the game (mainly the story) -"Because I saw a culture that was kind of destroyed and I felt empathy for the elf characters in dragon age"-.

Lastly, choices on the kind of interaction with the game's world were the ones where the game characteristics had more importance as drivers. Exogenous factors still seemed to be more relevant,

but in this case aspects such as the visual style or the NPCs' behavior played an important role as drivers -"When there is realism in the game you go into the game to explore it as much as you can"-. We believe this occurs because it is more difficult to draw parallels with real life when interacting with the game world since these kind interactions usually do not have long term effects and, most importantly, most of the rules that apply in real life are irrelevant in games (so, for example, because time runs differently in games, a player could spends "years" exploring a terrain, whereas in real life he would never want to do that because of the time costs).



If we could generalize this results to a broad population, then this research would show that in general, players do not experience the mimesis effect -when role-playing leads players to act according to the playable character's traits and story regardless of their personal real-life preferences and beliefs- as strongly as suggested by studies such as the one conducted by Dominguez et al. (2016). Furthermore, it would show that the more a player relates a choice to a real life situation, the less important is the role that the game itself plays in the resulting decision.

As stated in the background section, one of our goals was to find out if the factors that influence in-game choices could be classified into just exogenous and endogenous ones. After conducting the study we realized that this was too simple of a model to represent decisions drivers. That is why we added a third category (exogenous factors influenced by endogenous ones) to try to reflect the mixed causes of many of the decisions taken. Furthermore, we also found out that factors such as culture (and worldview in general) may not be as influential as suggested by studies such as the one conducted by Isbister in how players experience games (2006). Rather, we found out that the way they interact with games is mainly influenced by very personal matters such as who they aspire to be or what they consider ethical and unethical independently of their social background.

6. Conclusion

In light of the results obtained and the conclusions drawn from them, we believe that the questions asked by this exploratory study are worthy of a more thorough and comprehensive research. If future studies were to reaffirm the theory here presented, a new model for interpreting meaningful choices within games and its drivers could emerge, benefiting both the academy and the industry by allowing future game designs to make in-game decisions more compelling and relevant for players. In this sense, taking into account characteristics of a specific game audience, designers could better mold choice alternatives and manipulate players' decisions with the purpose of creating more engaging experiences.

Among others, potential future investigations on the subject should work on both qualitative and quantitative research in order to (a) improve the data collection method by conducting interviews on a bigger group of people that is more representative of the general population and (b) test the resulting theory with experiments that shed more light into how players make their decisions within and across games.

References

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www.gamasutra.com/view/news/164869/GDC 2012 Sid Meier on how to see games as sets of interesting decisions.php

This article explains how in-game decisions lead to interesting choices and how a game as a whole can be defined as a series of the same.

Avedon E. and Sutton-Smith B. (1971) The Study of Games. New York: John Wiley & Sons.

This is a comprehensive study of all games, board games, card games, strategy games, children's games and sporting games such as baseball.

Costikyan G. (2002). I Have No Words & I Must Design: Toward a Critical Vocabulary for games.

Proceedings of Computer Games and Digital Cultures Conference, ed. Frans Mäyrä. Tampere:

Tampere University Press. Retrieved from http://www.costik.com/nowords2002.pdf

This paper explains the term "game-play" and breaks it into several kinds. It gives a brief understanding of interaction and how the game-play incorporates it.

Sicart M. (2008). Defining Game Mechanics, *The international journal of computer games research*. Retrieved from: http://gamestudies.org/0802/articles/sicart

This article defines game mechanics in relation to rules and challenges. It explains how different mechanics invoke interaction.

Hiwiller Z. (2015). *Players Making Decisions: Game Design Essentials and Art of Understanding your Players*: New Riders. Kindle Edition.

This book explains how and what should be kept in mind while designing games so as to invoke certain reactions from the player.

Dominguez I., Cardona-Rivera R., Vance J. and Roberts D. (2016). The Mimesis Effect: The Effect of Roles on Player Choice in Interactive Narrative Role-Playing Games. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (CHI '16). ACM, New York, NY, USA, 3438-3449. DOI: https://doi.org/10.1145/2858036.2858141

This study investigate the unexplored relationship between a player's sense of her narrative role in an interactive narrative role-playing game and the options she selects when faced with choice structures during gameplay.

Isbister, K. (2006). *Better game characters by design: A psychological approach*. San Francisco, CA: Elsevier.

This book explains the psychology behind a player's choices while choosing a particular character or avatar in the game.

Bizzocchi J. and Tanenbaum J. (2012). Mass Effect 2: A Case Study in the Design of Game Narrative. Bulletin of Science, Technology & Society. 32, 5, 393--404. DOI:10.1177/0270467612463796

This paper specifically talks about story-world, narrative, character choices in the game Mass Effect 2 which is a narrative-focused game.

Rauch, P. (2007). *Playing with good and evil: Videogames and moral philosophy.* Masters Thesis. Massachusetts Institute of Technology. Retrieved from: https://dspace.mit.edu/bitstream/handle/1721.1/39151/166227874-MIT.pdf?sequence=2

This thesis is an in-depth investigation about the effects that videogames have on human behavior and if the games make a moral argument through texts and speech.

Kelling G. and Wilson J. (1982). Broken Windows: The police and neighborhood safety. Retrieved from: https://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/

This article explains about the basic study of broken windows where it studies the common human behavior of people on the streets and how and when people broke normal informal rules.

Appendix A - Interview questions guideline

The questions asked in the interviews were partially based on the following guideline. Due to the exploratory nature of the study and the fact that interview progression change with each participant, questions asked varied.

Introduction:

- How long have you been playing games?
- What kind of games have you played in the past?
- Do you play multiplayer games? Why yes/no?
 - Do you play co-operative games?
- Describe games mentioned (if interviewer does not know them).

Personality:

- Do you like watching other people play games? (does he/she enjoy witnessing other's experiences? Or he/she needs first-hand experiences in order to enjoy?)
- Do you consider yourself an introvert or an extrovert?
- Why do you play games? What are your expectations when you play a particular game? Does this expectation varies from game to game?

<u>Identity based choices:</u>

- What kind of avatar/character do you choose to play with? Are your decisions consistent across games? (the idea is to understand if the game setting and backstory influences avatar choice or not)
 - Do you relate with the characters you choose or you choose to play with completely different characters?
 - When given the possibility, do you always choose to play with the same gender?
 - What about your avatar's physical traits and clothing?
 - Do you choose characters with traits that you wish you had? (does he/she plays to escape "imperfection" or to experience personal fantasies?)
- What drives you to behave the way you do when playing as this character so different from you? (the idea is to find out if behavioral drivers differ when playing with a character that's very different from himself/herself vs. when playing with a character that the he/she identifies with)

Narrative based choices:

- Would you say you play in-character or according to your own personality and preferences? Is it always that way? In what circumstances is it not?
 - Do you think your character motivations/background story influences ethical decisions you make?
 - When playing with characters that act "immorally", do you tend to feel regret or satisfaction?
- When given the chance to choose alignment, what factions do you tend to veer towards? (lawful good? chaotic evil? true neutral?). Why do you think you make this choices? Is it always this way?
- What are you feelings towards in-game non-player communities/characters presented in a game's story? (does he/she cares about them and their fate or is he/she indifferent?)

- When playing a game that's part of a series, would you be bothered playing the prequels to the game you intend to play in the first place? (the idea is to find out how much importance does the player gives to the story)
- When playing a game with a lot of characters, do you tend to favor the "majority" or the "minority"?
- What do you consider to be more important: immersion in the game's story or in the game's virtual world? Is it always this way? Why?

Interaction-with-environment based choices:

- Do you like to explore the game's world? (*if yes*) How frequent and how thoroughly? (*if no*) Do you go straight to the missions?
- What are the reasons that make you want to explore the game? (the aesthetics, the story, other characters? Others?)
- Do you interact with only the necessary elements in the game or you interact with other elements too? What drives you to make that choice?
- In sandbox games where you are allowed to do as you please, how do you play? Give examples. (e.g.: does he/she tend to behave as "criminal" (destroying and kill) or as "a good citizen"? The idea is to see if particular world settings influences his/her behavior and if there's a pattern in this behavior).

Other questions:

- If he/she plays multiplayer games
 - What attitude do you tend to take towards others? (does he/she cooperates or tries to outshine others?)
 - What do you think influences changes in this attitude?
 - Do you think you take decisions based on your personal relationships with the other players?
- Do your personal real world beliefs (cultural and/or religious and/or political) affect your choices throughout the game?

<u>Appendix B - Factors that may influence meaningful choices</u>

What follows is a classification of factors that may influence meaningful in-game choices. It is based on speculatory assumptions and it is by no means exhaustive. Its only purpose was to serve as a base framework to guide the interviews.

Endogenous factors:

- Game's background story and overall plot
 - E.g.: players could choose to behave in accordance with the character's motivation.
- Identity and physical traits of avatar
 - E.g.: gender, race, physical aspect or clothing could influence the actions the player expect the character to execute.
- Cost of decisions
 - In-game consequences
 - E.g.: empathy towards NPC's could drive players' to behave kindly to them.
 - Real life repercussions

E.g.: if there's money at stake, players could tend to be more risk averse / if a certain user is playing against real life friends, he may try to avoid in-game conflict.

Virtual world characteristics

Particular environments could produce particular stimuli for certain behaviors. An example from real-life behavioral studies is the one provided by the Broken Window theory, which argues that people tend to commit more acts of vandalism in poorly maintained public environments (Kelling and Wilson, 1982).

Exogenous factors:

- Psychological and behavioural traits

E.g.: players' behaviour outside and inside the game could be very similar. If the opposite was true, player may be looking for escapism.

- Socioeconomic status and overall social climate

E.g.: players in poverty situation could tend to be more careful when using in-game resources.

- Culture/religion/idiosyncrasy:

E.g.: type of worldview could persist within games and influence moral choices and type of interaction with the environment.

- Other factors:
 - Time of the day/week/year

E.g.: players could be more violent at the end of weekdays, when they come back from work or school because they play to let off steam or seasons could trigger specific behaviours, like those associated with winter depression).

- Relation with family and peers

E.g.: players with healthy relationship with peers could tend to try to build healthy relationships with other players when playing in multiplayer mode.

: Peer Reviews :

Anthony Calabresi: I hope this helps

Introduction Paragraph 1: Grammatical mistake - "... game are interactive ..."

Introduction Paragraph 1: Improper use of Parenthesis. APA style quotations state that all text altered from the original quotation be encapsulated with square brackets. – (A game is) ... should be [A game is]

"Disequilibrial" should also be surrounded by square brackets to alert the reader that the writer is aware that this is a purposeful grammatical mistake on the part of the author that is being quoted.

Introduction paragraph 2: Grammatical mistake – "... means that they need of ..."

Grammatical mistake – "... book: ..." – should be a semi colon not a Colon.

Grammatical mistake – " ... -or something in the case of an A.I. - ..." Commas should be used instead of hyphens.

It appears that you always use italicize quotations. I do not believe that this is technically incorrect but you do not have to do it either. So, this is a personal preference.

Introduction paragraph 3: Grammatical mistake - Dangling phrase

"...; how to tell better stories and build more compelling virtual worlds and characters."

The use of the semicolon is the issue. Maybe just write "and" rather than use a semicolon. That would clarify that sentence.

Background – APA Citation Style.

When citing a direct quotation from text you are required to give the page number in which the quotation appears. So, "According to Sicart (2008) "a game mechanic is the action invoked by an agent to interact with the game world, as constrained by the game rules" — requires a parenthetical page number after the quotation. NOTE: This problem also exists throughout the paper. You need only give the year of the document, book, etc... when you are paraphrasing the overall meaning of the entire work. Any direct quotation or paraphrase requires the actual page number, so that readers may verify that the author in fact said what you say they said.

Background – Use of Hyphens instead of Parenthesis. You should be using parenthesis in situations such as: "
-they are independent from the video game being played-" instead of hyphens.

Method of Approach – Grammatical Mistake:

" ... takes particular decisions ... " should be "makes particular decisions"

Context and Data Collection section: paragraph 2

"... what factors influence this decisions ... " should be changed. Maybe, "what factors influence these decisions ..."

Data Analysis section:

Paragraph 1 – "... coded initially with the Vivo-coding method." Vivo Should be "In Vivo". In Vivo coding refers to generating codes from the transcription text itself.

Your Verification mechanisms are applied well. Excellent!

: Results section :

The first paragraph of the Results section really belongs in the Verification section. The Results section should only report results and not offer any type of explanation or elaboration of the data.

Paragraph 2 – grammatical mistake

"...number of choices that falls..." - should be "...fall..."

: Discussion section :

Grammatical Mistake:

"Results show that the more these players can relate a choice to real life issues, the more important their beliefs and behaviors are to determine what will the decision be." – Please re-structure this sentence.

Grammar – "... on this type of decisions." Should be "decision".

You are using quotations from the transcripts (I think) within this section. You should introduce these quotations as being from participants in the study. Otherwise, it is unclear to the reader who is making the statement (Did you make that statement or the participant?).

You should define the "mimesis effect". I do not believe that you do in the paper. So, in the last paragraph of the Discussion you should have a brief explanation of this when you introduce it.

Overall, I believe your discussion section would benefit from using more quotations from applicable references to help strengthen your case. This would also eliminate the reader's possible confusion. So, a short explanation as to why/how you came to the conclusion that you did; or perhaps a brief nod to a source that describes a relevant point of the discussion. So, for example; "<Dr. So and So> says that <something> drives players. Knowing this we conclude that <etc...>" These types of statements make your analysis appear more informed and coherent.

: Conclusion section :

"... should work on both qualitative and quantitative researches ..." researches should be "study" or "research" etc..

: References section :

Your references are not annotated. The prof. specifically states that we need to hand in an annotated Reference list. I realize that his directions also state to remove this annotation in the final document. But we are expected to peer review an Annotated Reference List. So, I am just as confused as you. I would include it and ask the prof. a question about this in class.

As you no doubt know already, you only list 9 references. The prof. requires us to reference at least 10 sources in our papers. I assume you will be locating additional references prior to submission.

Peer Review - Erinc Argimak

Research Design

The research bases itself on a few widely recognized remarks in the literature. The question seems to be emerging from the literature, and the methods that were used to answer it both intuitively made sense and they were mostly clearly justified.

However, there was not sufficient information about several decisions regarding the coding scheme, such as the classification of the factors that affect the decisions, and the method to decide how it was coherent with the subjects' predispositions is not enclosed. I have marked and commented on the corresponding parts.

The motives and the potential benefits of the question, as well as the possible implications of the results and the next possible steps are clearly and logically described.

The research's emerging point, the literature and the main methodology look coherent, while data significance, description and analysis techniques seem a little bit unsatisfying in terms of justification. That is probably mostly because of the limited amount of time that was available, but the paper could express the extent of the data and the results of the research a little bit more accurately.

Analysis & Results

The semi-structured interview data collection method fits well with the kind of data that was sought. Another option could be an unstructured interview where the interviewer talks about their own decisions in the game and encourages the interviewee about talk about theirs, and their choice of significant actions could give an insight about their exogenous factors, i.e., their norms.

The analysis process of the data is well described, although the decisions about coding player decisions as well as the classifications of the game's aspects from this research's perspective are unclear. The reliability of the results were well explained and they were reported to be within the field standards.

There is not a lot of visualization, but the visual that was used is able to clearly describe the results and makes way to easy interpretation. There could be more numbers reported within the text, because I remember one remark about writing a paper saying, "the text itself in a paper should include all the information that needs to be communicated."

Discussion and conclusion sound coherent with the question asked and they seem on the right track. However, they include some bold claims that might not be convincing enough due to the scale of the research in real life.

Also, the distinction between worldview and psycho social traits are mentioned and even used in the coding, but the particular meaning of the distinction within the context, and how each of those were extracted from subjects' was not clear to me.

Reporting

Overall, the entire process is explained in good enough detail and well placed justifications. However, the ordering or categorization of some parts look a little bit off to me, such as the categorization of decisions being in the background section, which I commented on. It is partly related on the background, but you can always refer to former sections.

The grammar and spelling, although I am not an expert, seemed to be put in perfect use. There were no particular errors that caught my eye, and the text overall was definitely readable, it was plain and informative.

References were clear and correctly indicated, the few mistakes or inconsistencies are probably because they were overlooked. I commented one that I guess is incorrectly quoted and that was the only one I could see.

One thing is, the paper makes complete sense in retrospective but while I was reading it linearly, I was confused about several terms and they were only described after a long time. I think the abstract can host a few hints about the terminology and concepts it contains. I have provided several comments on there. Explanatory parentheses would be enough for me.

Peer Evaluation

Hey are we doing this stuff right here, right now?

Other

The presentation was brief, clear and precise. The use of visuals was on point, and the presentation was overall informative, it gave me a useful insight into your research, which helped me while I was reading the paper.

Rating

My rating for the document is 8. Overall it is a great paper, with a few unclear points and slightly imperfect ordering.