Use of the Roguelike genre as a narrative tool: Memories and child development in The Binding of Isaac

Júlia Ruiz S. Goulin, Rosilane Ribeiro da Mota

Universidade Federal de Minas Gerais (UFMG)

Belo Horizonte, Minas Gerais, Brazil

juliaruiz.art@gmail.com, rosilane@ufmg.br

Abstract. *The use of mechanics to tell stories and enrich a narrative is not a new concept at all, it is commonly used in games to deepen the immersion and to create a more cohesive work. This paper however uses Piaget´s development theory to explore and understand the use of the game genre itself as a narrative tool to bring to life the view of a five-year-old child o n his own terms, not a look from the outside, but <u>from</u> inside the child's mind.*

Keywords — *Memories, Child development, Narrative construction, Roguelike, Game design*

1. Introduction

Usually, roguelikes are made to tell a story with multiple endings or to bring the narrative focus to the gameplay and its possibilities and not a so-called "final ending". It relies on keeping the player engaged and enlarging the player retention by providing a new experience of the game for each new playthrough.

In the digital game *The Binding of Isaac* [2011] however, the story remains basically the same and even though you may not achieve the same ending every time. All the endings are connected to the same bigger narrative that trespasses individual playthroughs. This makes the roguelike nature of the game a narrative tool to explore the process of the main character Isaac processing his trauma and uncovering his own story more than just a way to reset a story that resets every start.

The playthroughs are not trial and error to get to the same ending where the experiences in the player´s path do add nothing substantial to the story in and of itself and have no impact on the way things unravel. Even so, they are also not isolated experiences with a completely different story from each other.

Memories are volatile and the path of self-discovery is a tricky one, new questions always arise as well as priorities that can shift. Interactions with different people and objects may trigger different options and actions and contribute to moving the path to different outcomes.

This paper aims to demonstrate the role that the roguelike genre plays as a tool to present a different perspective and to create a more immersive narrative. It will be explored using Piaget's theory and the analysis of the construction of game mechanics and symbolism.

2. Methodology

The method of research used in this paper started with the exploration of the game itself with playthroughs as well as behind the scenes investigation with documentaries and interviews with the game's creator Edmund McMillen.

After establishing the main focus of the investigation on the use of the genre as a narrative tool, the choice of the base theory for analysis became clear. The narrative follows the perspective of a five year old character and his memories. The childhood development theory of Piaget goes in depth in the specific age range needed and describes the cognitive functions and evolution as well as describes how the child perceives and interacts with the world.

Since digital games are a medium of perception and interaction of a narrative, the research must include those as primary focuses of analysis. Through deep exploration of Piaget's literature and cross referencing with the behind the scenes and final presentation of the game, the connections and relationships between theory and practice came to light.

3. Game Analysis: The Binding of Isaac

In this section the construction of the game itself, it's resources and basic gameplay mechanics commonly associated with the Roguelike genre will be evaluated and linked to some of Piaget's points about childhood development.

3.1 Game Origins and Construction

The Binding of Isaac is a 2D shooter roguelike video game first released in Flash in late 2011 and in 2014 had a rework called "The Binding of Isaac: Rebirth" launched as a proper application for multiple platforms. The game follows the story of Isaac, a small child at the age of 5 [McMILLEN, 2020] that is running away from his mother who is trying to kill him because the voice of God told her to.

Being of the Roguelike genre, *Isaac* follows the characteristics of such ones as well. Roguelikes are games with specific similarities to the, at the time, very innovative logic of the game *Rogue [1980]*. *Rogue* is also a Dungeon Crawler, such as Isaac, with the player having to go through different levels of a dungeon in their path to finish the game. The innovation that defines and sets the genre apart from others consists of having procedurally generated levels with different enemies, items and maps from a pool appearing during each playthrough in different patterns and quantities.

Another key defining characteristic the game introduced is the idea of the "permadeath", the player's death meaning the end of that play, as an integral part of the mechanic of the game. Sometimes an item or another mechanic intervenes and gives the player a death save or extra lives, but that is limited to that one playthrough. Each time the player starts the game it's a new dungeon with different challenges to beat or die trying.

Isaac has both the permadeath, even though there are items that can give you extra lifes for that specific run, and the procedurally generated levels. The game is structured with a linear path of dungeons consisting of a compilation of thematic rooms across different floors. The rooms will have different designs from a pool of already set ones that follow different rules for each type of room. There are also preset rules to the amount

and probability for each "special room" to appear, some are luck based and some will always appear in the same quantity but at a random location in the map.

Some rooms will have enemies that may provide random collectable loot (collectables include: coins, keys, bombs, hearts, cards, runes and trinkets) or a chest at completion. Some examples of "special rooms" are: the Shop, the Item Room, Devil and Angel rooms (Figure 1) and the Boss Room (one for each normal floor, some have a chance of appearing) are almost guaranteed to provide Isaac with an item or a possibility to trade for one. There are also other rooms with different utilities and possibilities of appearing such as Sacrifice room, Dice room, Chest room, Bedroom, Planetarium, etc.
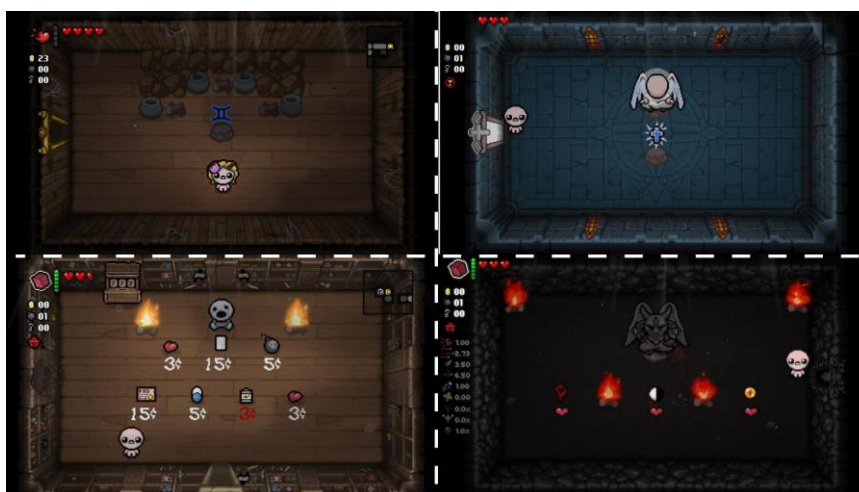

Figure 1. From top left to bottom right: Item Room, Angel Room, Shop, Devil Room

The player navigates through those rooms by moving with WASD and shoots with the directional arrows, but instead of bullets Isaac shoots out tears from his eyes. As Isaac collects different items his appearance as well as his tears will change. The extensive possibilities of different combinations created by the randomly generated rooms, random items from the preset item pool that extends with new achievements that are needed to unlock some of them, and opportunities for different types of exploration will end up creating a new and different experience every time, such is the concept of a roguelike.

Edmund McMillen, one of the two creators and the single mind behind the base story and gameplay mechanics, started right away wanting to focus on two key points: the plot inspired by his own childhood growing up in a family of "born-again Christians" [NOCLIP – Video Game Documentaries, 2021] , and the genre he wanted the game to be, a dungeon-based roguelike inspired by *Zelda [1986]*.

The game was intended to be McMillen's recollection of his own childhood, all the trauma, pain, insecurities, fears, and all the creative expressions he used to cope with all of this [NOCLIP – Video Game Documentaries, 2021]. As a child he used to draw a lot, especially monsters and self-portrayals showcasing his isolation and phobias [Indie Game: The Movie, 2012]. The starting point was from the start a child's point of view.

"The basic concept of Isaac was to make a seemingly endless experience. Roguelikes are notorious for being able to do this very well, so I pull a lot from the core design of them in Isaac to create a dynamic world that feels endless, surprising, and mysterious. The player can keep replaying the same game with different results every time." (McMILLEN, VENTUREBEAT, 2011)

The choice of theme and genre as the base is already a good indication of the connection between both as well as the importance of the mechanics and the game design in the telling of the story. Edmund ended up joining up a passion for game design, mechanics and gameplay exploration and building as well as his personal story. He chose to challenge himself by balancing the narrative and mechanics simultaneously.

"I think the thing that's most appealing about retro games of the early '90s is that the gameplay of those games were pushed to the top above all else: The gameplay is what mattered most, and that's where all good games shine." (McMILLEN, VENTUREBEAT, 2011)

It's now important to determine the relationship between the genre and its characteristics and how it was actually used to represent the perception of the protagonist and create a more involved and meaning world for player immersion.

3.2 Preoperational Stage and Perception

For the matter of the abstraction of symbols and stylized items, enemies and the confined dungeon space that construct the diegetic world of Isaac and their importance as they are constructed in the narrative of the game it is important to try to understand how a child's mind work and how they view the world.

During the time period of the game, Isaac is canonically 5 years old, which puts him in the preoperational stage of the child cognitive development according to Piaget's theory [PIAGET, 1929]. A couple of key concepts presented in Piaget's theory for the preoperational stage, stage of development that starts from age two and lasts until age seven, will be the main focus during this research: the child's egocentric perception of the world, the symbolic representation.

The egocentric perception of the world of children this age according to Piaget is marked by the incapability of understanding fully the concept of self. As the self-perception at this stage is still developing the child cannot yet identify others as separate self-functioning and thinking individuals. A child at this age cannot comprehend, for example, abstract concepts that cannot be connected to a physical form. They can of course feel and experience abstract aspects of life such as fear, love, insecurity and sense of belonging, but they are not yet equipped to describe it and explore meaning outside of present feeling and memories associated to places, people and objects [PIAGET, 1951].

Another important point of development is the self-perception that at this point is not yet developed as they cannot yet distinguish themselves from others and from the world around them [PIAGET, 1929]. The aspect of egocentrism and the representation of self is a key process and one of the most representative of the whole process. The investigation of the self it's the next step in the exploration.

3.3 Egocentrism and Characters

The Binding of Isaac has a lot of different playable characters that you can unlock as you progress in the game and acquire new achievements. All of those characters have different stats and a unique appearance as well. They all have biblical names (ex; Judas, Cain, Eden, Samson, Eve, etc.) but the most important characteristic to analyze is that they are all, canonically, Isaac.

"That the child shows a keen interest in himself, a logical, and no doubt a moral, egocentricity, does not prove that he is conscious of his self, but suggests, on the contrary, that he confuses his self with the universe, in other words that he is unconscious of his self." (PIAGET, 1929, p. 125, The child's conception of the world).

Figure 2. Character selection screen

The question on top of the crude child-like drawing, also canonically made by Isaac as seen in the cutscene for ending 20 [SAXU, 2021]gives great insight to how even the character selection is integral to the narrative of the game, the questioning made in first person and the illustration that what you see in the game is being drawn by Isaac himself. It is a clear indication of the self-discovery journey the player is about to embark as they press play, it's a deeper question that has no clear end goal or answer, but is a continuous questioning of the self that loops eternally.

Following the perspective of the egocentric view of the world as previously discussed, the list of playable characters is a lot more comprehensive as it is all made up of Isaac in different costumes. In a way he's interpreting others from his life or from the biblical stories he grew up listening to as well as phobias developed during his lifespan. That play pretend can vary from dying to being actually a devil on the insight and really being what his mom is accusing him of being and hurting because of that.

At this stage in the cognitive development the child can only see the world with their own perspective and assumes all others can only share the same perspective, as shows the Three Mountain Test [PIAGET, 1950, page 133]. The symbolic significance of the costumes is just that, others are all viewing the world, interacting with it and perceiving the same reality as Isaac.

At the same time as the characters are all Isaac, he is still capable of assimilating symbols and linking them with bigger patterns or groups [PIAGET, 1954] creating so a distinctive and cohesive personification of a different and unique character.

The play pretend can and will involve others, but as the perspective remains, the enemies, challenges and resources all remain the same, the story that enrolls does not change at all as it is the play pretend of Isaac trying to make sense of his traumatic reality.

3.4 Items, Environment and Fantasy

Following the same cognitive pattern for grouping and symbolic representations that was used for the personification of characters and their place in the "play pretend", the environment and the objects are also of most importance to create narrative cohesiveness in the storytelling of the child.

The child's mental library of objects, people and places is what dictates the scenario that can be created during play, and it is usually very limited due to their lack of experience and experimentation especially in the outside world. For Isaac this is of particular importance since a big part of the story revolves around his isolation and fears. He is mostly familiar with his house, especially the basement and his room, and with school, where it seems that he had the only opportunity to experience the outside world.

Figure 3. Screenshot of Isaac in the first room of the first floor (basement)

For dungeon-based roguelikes the room structure is not only fitting but very important to provide the sense of isolation and of being locked inside with no escape and it's another key point that locks the narrative perspective and construction to the genre and game mechanic. To accompany the continuous loops, progress, and resets, as well as the randomized nature of roguelikes, not only the consistent theme of the map that can have different patterns and paths, but the items are also a huge part of the renovation of gameplay.

Figure 4. In-game map of the current floor

The game has an expressive number of items (Figure 5) that increases with each DLC, and the different combinations of items during different runs of the game change the whole experience and can even interfere in the difficulty, the paths the player is able to pursue and the ending. All items are related to common objects Isaac could have easily interacted with them in his house, school or on the outside as well as some religious iconography, and each one has a description and definition that can either explain what it does in a broader concept, no exact numbers, or with a phrase attributed to it.

Figure 5. Screenshot of the second page of the in-game *Items list*, selection on "Dad's Key".

From even the simple text for the item "Dad's Key" can be implied and explored, from the simple and objective side that this is exactly what the item does, it's an active item that when used opens all doors featured in the current room, as well as the figurative meaning of power the father had and the domain of the home environment only an adult in charge can possess. Children do not have the capability to access or deny access to all doors in the house as the parents can and the object holds the significance of a concept the child is not yet capable of conceptualizing as it is without physical form and representation.
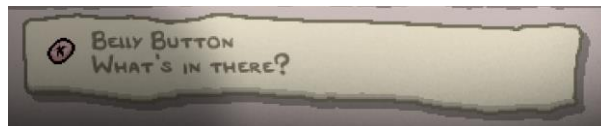

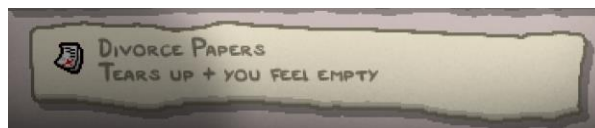**Figure 6. Screenshot of the item name and description for "Belly Button"**

Figure 7. Screenshot of the item name and description for "Divorce Papers"

From the childish curious interpretation and questioning of what can be hiding in their belly button to a more sentimental impression of what divorce papers can represent, described by the impact it has on Isaac as well as an insight on what the item does. The description is always vague enough so you can imply the effect for the status and game mechanic, but it never leaves the realm of the narrative conceptualization of a child in this early stage of cognitive development.

Figure 8. Item pedestal close to the character Apollyon, another version of Isaac

Another indication of this kind of interaction and assimilation of the world is that items are always found on pedestals and don't possess any name or indication of what is attached to it besides their visual representation. The name and small description only pops up once the item is picked up. It's important to remark that this is not an exclusive thing in Isaac, other roguelikes also have a minimal or non-existent description and naming of items. This is another close link that uses the nature of roguelikes themselves and the specific narrative of the game.

The lack of proper explanation or conceptualization of the items before actual physical interaction with it serves to illustrate not only the visual and physical way of assimilation of objects and their concepts by the child but that in the play pretend all objects are more than their objective description.

All attached significance and impact from those objects are directly tied to memory, rational and mostly emotional, and it triggers changes to Isaac that will impact on the story, the memories brought up and the endpoint of that specific playthrough.

The idea of Magical Thinking [Piaget, 1951] is important to this point, even if people mature into adults, objects will have definitive concepts and limitations to their power of change and influence in the real world. In the mind of a child everything can be more than it is and can wield significant power, sometimes becoming a coping mechanism with material representation with the use of imagination.

"Magical thinking, as we shall see, consists in attributing to our thoughts, wishes, and feelings powers capable of producing or preventing the events which are the objects of our desires or fears. According to this type of thought, which dominates the child's

behavior during the magical phase, anything he thinks about is real and can influence reality." (Piaget, 1951, p. 55)

3.5 Loops and the Nature of Memory

The final important aspect and most notable trait of roguelikes is the repetitive and renewable way players can play and re-live the same story in different ways and get different experiences from each attempt. This characteristic is similar to how memories are processed in the brain, as they are not always reliable and can have different triggers that awaken them in the conscious mind.

The child's memory in specific relies heavily on feeling and physical representation, since as it was discussed previously and showcased in Piaget's studies, the child still cannot properly understand abstract concepts, and that also applies with the notion of time itself.

"The child lives in a world that is very close to him, and he is little concerned with the remote, the future, or the past, except in so far as they immediately touch his present." (Piaget, 1929, p. 118)

Memories are much easier to live in the present in the form of play pretend to the child. As the concept of time is still too abstract and unreliable at this stage, it is slowly starting to develop and their recreation in play and with sensorial stimulation is very important to this maturing process. Their unreliable nature is also very present and can also explain the somewhat contradictory nature of different endings, some sad, some hopeful and some lacking.

"I therefore must have heard, as a child, the account of this story, which my parents believed, and projected it into the past in the form of a visual memory, which was a memory of a memory, but false. Many real memories are doubtless of the same order." (PIAGET, 1951, p. 188, Play, Dreams and Imitation)

Roguelikes fit perfectly with reliving the past as the present in the form of play pretend, as Isaac's dad narrates at the end of the final ending of the game [SAXU, 2021]. This is his story to tell and there are other ways to play it and tell it, each one progressing his own understanding of time, self and memory.

"Isaac is hard, but it only gets harder the more you play — and the more you play, the more the game unfolds and unlocks new bosses, items, and levels. Isaac is hard, but it only gets harder the more you play — and the more you play, the more the game unfolds and unlocks new bosses, items, and levels." (McMillen, 2011)

The deeper introspection, the questioning and more resources to amplify experiences and different inputs and the more complex combinations that overall narratives gets, Isaac is slowly developing and using skills and resources he has, and with that difficulty and challenges also increasing as he continues to discover himself and the world. It gets harder at the same time as it widens the overall picture.

4. Conclusions

The game *The Binding of Isaac* is a masterful example that the game design and narrative goes way beyond the universe you create your story in, but the mechanics and the genre itself can be a huge part of the narrative. Using the tools and resources that designers have

as a base to create, it is possible to tell stories from different points of view even with their own challenges and unique characteristics.

Videogames are a unique interactive experience in which the player does not only watches idle while the main character decides and does stuff for themselves, but they are also active participants in their story and so the immersion is key to this type of experience.

The ability to create a world that can represent and simulate different points of view and even different cognitive stages of comprehension requires in depth perception of the medium being used and the exploration of its capabilities in full. That extends to the choice of genre and the overall combination of mechanics, art, story and balancing.

Being presented with so many different genres and mechanics the creation of videogames has become a more complex art form that can exude creativity and can go way beyond market choices for its format genre. With this paper the intent to demonstrate the power and potential of decisions usually not directly related to the narrative construction offers a new point of consideration for designers looking to deepen their connection between narrative and design.

For future works it would be interesting to expand into experimentation with different cognitive stages of perception as well as different views such as some outside of the neurotypical spectrum to include narratives of a broader group of people with good representation and deeper immersion.

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