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**AN APPROACH TO MENTAL DISORDERS IN  
VIDEO GAMES: A STUDY FROM CONCEPT TO  
DESIGN**



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Projeto apresentada ao IADE - Faculdade de Design, Tecnologia e Comunicação da Universidade Europeia, para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Design e Cultura Visual realizada sob a orientação científica do Doutor Pedro Mota Teixeira, professor auxiliar do IADE - Universidade Europeia.





## **Dedictory**

I would like to express my gratitude to my family in Perú and Portugal for all their support, to my closest friends for their constant encouragement, and to Doctor Pedro Mota for his guidance.

And last, a special thanks to my cat, who, even being very far away, continually supplies me with a boost of serotonin.



**palavras-chave**

Jogos de vídeo; Doença mental; Estigma; Jogadores; Design de jogo.

**resumo**

O estigma em torno da saúde mental é um problema significativo e os videogames são ideais para resolvê-lo. Esta tese pretende explorar como os videojogos podem ajudar a desafiar as percepções negativas da doença mental, espera-se que o desenvolvimento deste projeto possa conduzir os jogadores a caminhos para uma maior empatia e compreensão no que diz respeito aos problemas de saúde mental. Este projeto servirá de exemplo para outros que queiram desenvolver videogames relacionados ao tema para que também possam contribuir com suas ideias para incentivar hábitos saudáveis e crescimento pessoal entre os jogadores.



**Keywords**

Videogames; Mental Illness; Stigma; Gamers; Game Design.

**abstract**

The stigma surrounding mental health is a significant problem, and videogames are ideally suited to address it. This thesis aims to explore how video games can help challenge negative perceptions of mental illness, it is expected that the development of this project could lead players down paths towards greater empathy and understanding in regard to mental health issues. This project will serve as an example for others who want to develop videogames related to the topic so that they as well can contribute their ideas to encourage healthy habits and personal growth among players.



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## **Abbreviations**

*ADHD* – Attention Deficit Hyperactivity Disorder

*ASD* – Autism Spectrum Disorder

*PTSD* – Post-traumatic stress disorder

*PC* – Personal Computer

*MI* – Mental Illnesses



## **Chapter 1: Introduction**

### **1.1 Research motivation**

In recent years, the intersection of two unrelated fields – video games and mental health – has gained attention in academic and popular discourse (e.g. Poppelaars et al., 2018; Fernández-Aranda et al., 2012). This emerging connection presents an exciting opportunity for study and investigation. The starting point of this thesis tackled by a master's student is motivated by the desire to explore this growing field of academic research, shaped by a greater understanding and diverse personal experiences.

The main motivation behind this research is characterized by an important connection of factors. To begin with, in 2021, being diagnosed of Attention-Deficit/Hyperactivity Disorder, this according to the adaptation of the Encyclopedia of Psychology by American Psychological Association (n.d.), is a neurobehavioral disorder characterized by a persistent pattern of symptoms, including inattention, impulsivity, and hyperactivity; served as an significant aspect. The firsthand experience with this disorder has been a process of self-discovery, adaptation, and the development of techniques to navigate a social environment that often lacks understanding and is marked by the stigmatization of mental illness (Jamison, 2006). This mentioned circumstance has generated an intense curiosity toward diverse aspects of mental health engagement, education, and initiatives aimed at reducing stigma, for this research.

Furthermore, an observation originates from a profound interest in games, revealing an important trend within the gaming sector: the integration of mental health themes and narratives into video games. Such an interesting development implies that video game titles, commonly perceived as simply sources of entertainment (Cheng et al., 2015), may actually possess the potential to serve as influential tools for promoting empathy, comprehension, and awareness about mental health challenges (Boldi & Rapp, 2022). The convergence of personal experiences related to ADHD and a strong passion for video games has raised the determination to identify an association between these two realms.

As the research of Knifton et al. (2009) suggest, the topic of mental health problems is still widely misunderstood and subject to a great deal of negative stigma in many communities, and of course societies. This research seeks to demonstrate the potential of video games as a medium for combatting stigma and promoting a more compassionate society by examining the

representation and portrayal of mental disorders in the media and designing the concept of a video game project.

In summary, the combination of mental health and video games promises an exciting opportunity for studying, analyzing, and potentially transforming the way we perceive and engage with mental disorders, and based on the personal journey with ADHD, the objective of this study is to provide a meaningful contribution towards reducing the social stigma around mental health disorders through the video game design project. Additionally, hopes to encourage a more comprehension of these diseases by examining them from the perspective of video game development.

## **1.2 Thesis statement and objectives**

The main objective of this study is to provide valuable insights that can lead to the creation of video games that not only provide entertainment, but also become informative tools which inspire empathy, and eventually contribute to the development of a societies more inclusive and compassionate.

In order to achieve the overall purpose, this research project sets out its specific aims as follows: (1) Conduct an extensive literature review of current research in order to assess the present state of mental health depiction in media, video games and its influence on public attitudes; (2) Play and make an evaluation of selected video games taking into account the theme, their genre, and the aesthetics they reflect, finding their weaknesses and strengths, to then be able to integrate the best aspects to the development of the project; (3) Establish a framework for the creation and assessment of video games that accurately represent a mental disorder, while also prioritizing player engagement and emotional resonance.

The findings and insights derived from this study may benefit video game designers, developers, and advocates of mental health about the potential of video games as a platform for meaningful narrative and contribution to the wider conversation around mental health awareness and destigmatization.

### **1.3 Research questions**

Since the following investigation has as themes the mental health, the stigmatization of mental illnesses, and the influence of video games, it becomes crucial to comprehend the interplay of these factors to encourage a more informed understanding. Considering this significance, this master's thesis aims to address the following research questions:

**RQ1** - "How to take advantage of video games to talk about mental disorders?"

**RQ2** - "How to promote mental health through videogames?"

**RQ3** - "What role can video games play in promoting positive mental well-being and reducing mental health stigma?"

**RQ4** - "How much do video games portray mental health difficulties, and what potential effects may this have on players' views and beliefs?"

**RQ5** – "How to design a video game to achieve a correct information about mental disorders?"

By conducting research on these important questions, this research aims to expand on existing information in the fields of mental health, mental illness, stigma, and gaming.

### **1.4 Document structure**

The approach employed to achieve the project objectives involves an established sequence of steps:

- i. The first stage is to thoroughly investigate mental health, mental illnesses, and how they relate to media and video games. A first-hand evaluation will then be performed in collaboration with reference materials that have been recognized in recent years for their support of a realistic depiction of mental illness.
- ii. The next step consists of playing video game titles that have been praised in recent years for portraying mental illness accurately is the next step. The examination will provide findings and the strengths and weaknesses of these titles; it will also be a valuable source of inspiration and guidance for the project.

- iii. The achievement of the last step will be linked to the development of the project's general concept and design. To develop the narrative, we will use the previous research to choose a specific mental health condition as the primary subject matter, followed by brainstorming to come up with innovative and the best ideas.
- iv. The concluding stages will involve the examination and creation of design elements, such as character design, locations, graphic style, as well as the game genre, script, unique mechanics, and other features. Each aspect will be carefully investigated to guarantee an efficient and competent project.

It is expected that it will be relevant for people who suffer from a mental illness, and for those who are unaware of the subject, players could be able to see themselves in the characters they play and gain an understanding of what it is like to live with mental illness, and also this could allow people who suffer from mental illness to see that there is hope even if it may seem to be stuck in difficult times. This project will serve as an example for other researchers who aspire to develop video games or animation related to the subject matter, being also a contribution to encourage healthy habits and promote personal growth in players. In addition, it could be used in undergraduate courses on psychology, sociology, and game design.



## **Chapter 2: Literature Review**

### **2.1 Definition on mental illness**

Mental illness, as described by the source *Types of Mental Health Issues and Illnesses* (n.d.), consists of a group of illnesses that impact an individual's mental functions, perception abilities, emotional states, and behavior patterns. This extensive list of conditions can be diagnosed by contemporary psychiatric classifications; however, the comprehension of mental health disorders continues to be unclear in the minds of the general population (Rüsch et al., 2012). Mental disorders, with various manifestations, profoundly influence an individual's core by presenting a spectrum of sensations and occurrences that exhibit varying degrees of severity, these alterations involve an individual's cognitive processes, perceptual abilities, and awareness, influencing their comprehension of personal identity, interpersonal relationships, and the external environment (Malla et al., 2015). Furthermore, the significant influence is mainly observed in anxiety, mood disorders, eating disorders, and in other severe psychiatric diseases such as psychoses and bipolar disorders.

There are an extensive number of mental disorders, each characterized by a distinct combination of symptoms. According to (Mental Illness, n.d.; Mental Disorders, 2022; *Types of Mental Health Issues and Illnesses*, n.d.), some of these disorders may be classified into different categories based on a particular criterion. The stated classification is listed below:

- i. Mood disorders (e.g., Depression, Bipolar disorder)
- ii. Anxiety disorders (e.g., Generalized anxiety disorder, Social anxiety disorder, Obsessive-compulsive disorder)
- iii. Neurodevelopmental disorders (e.g., Attention deficit hyperactivity disorder, Autism spectrum disorder)
- iv. Personality disorders (e.g., Borderline Personality disorder, Antisocial personality disorder)
- v. Psychotic disorders (e.g., Schizophrenia, Psychosis)
- vi. Eating disorders (e.g., Anorexia, Bulimia nervosa)
- vii. Trauma-related disorders (e.g., Post-traumatic stress disorder)
- viii. Substance abuse disorders (e.g., Alcohol use disorder, Opioid use disorder)

It is important to acknowledge that the the mental disorders listed above are not exhaustive; the mentioned mental disorders are just mere examples of the most generally recognized ones. In addition, there exist additional terms within the field of mental illnesses, which refer to specific phobias, impulse control and addiction disorders, histrionic personality disorder, dissociative disorders, among others (WebMD Editorial Contributors, 2023).

### ***2.1.1 The importance of mental illness classification***

The categorization of mental disorders can be traced back to ancient cultures, early in human history, mental illnesses were often attributed to supernatural events such as demonic possession, however, in the contemporary context, there has been a significant shift from speculative explanations for insights that are based in data from science (Clark et al., 2017). Despite this, our understanding of the complex interactions between different aspects that contribute to the advancement of common mental disorders continues to be an active field of research.

A major challenge faced by those with mental disorders is the lack of understanding and isolation they face (Goffman, 1963, cited by Dinos et al., 2004). (Barney et al., 2006) People continue to believe that these disorders serve as indirect ways to seek attention, are indicative of mental weakness, or serve simply as excuses. A study conducted by Rüscher et al. (2012) examined the experiences of people with mental illnesses. In addition to rejecting the label because they viewed their symptoms as typical reactions to daily stressors, some participants with depression rejected the label for its potential stigma. In contrast, others accepted the term since it acknowledged their condition as a real illness. Additionally, it emphasizes the need for a deeper understanding of mental disorders and their impact on society, especially in light of how media portrays mental health.

According to Wright and Mackinnon (2012), enhancing the precision of mental disorder labels as well as considering additional factors that encourage seeking help can increase the efficacy of community awareness campaigns in promoting treatment among young individuals and the accessibility of treatment for them. As important as destigmatizing mental health discussions, improving access to mental health services, and making available resources more readily available, it is also important to take into account other elements that facilitate seeking

assistance. Unfortunately, the mere act of categorizing such illnesses in individuals might not be enough to address all associated challenges, as we have previously underscored, the societal stigma surrounding mental disorders is deeply rooted. “Depressed people may believe that others will view and respond negatively to them if they seek help” (Barney et al., 2006). The internalization of labels has the capacity to cause self-stigmatization, especially when individuals with mental illness begin to associate with the unfavorable stereotypes connected to stated labels (Ben-Zeev et al., 2010; Rose and Thornicroft, 2010 cited by Rüsch et al. 2012). The complex interplay between external categorizations and internalized interpretations indicates the profound influence that societal structures may have on an individual's self-concept.

The research conducted by Clark et al. (2017, p.131) presents an interesting analogy by relating a quote from T. S. Eliot to the central message of their study: "As we deepen our understanding of mental disorder, we will not gain knowledge that is altogether unrecognizable; rather, we will gain a new and clear perspective on what we now only dimly understand." As complicated issues of mental illness classification are explored, it becomes evident that awareness of all people needs an evolving and growing process, as well as communication and informative campaigns play an indispensable role in illustrating mental health issues, challenging prejudices, and promoting empathy (Malla et al., 2015).

## **2.2 Definition on stigma**

According to Thornicroft (2008), stigma is an intricate issue that encompasses the combination of several beliefs, attitudes, and structures, which interact on various scales, such as the individual, group, and institutional areas, resulting in the creation of a discriminatory environment, whereby individuals face discrimination on the basis of apparent social characteristics which separate them apart from the broader societal framework.

While exploring the topics surrounding the stigma associated with mental health difficulties, an intriguing worry arises, particularly within the context of public health, as clarified by Knifton et al. (2009). In addition, Knifton explains that the complexity of stigma and discrimination manifests in diverse patterns, moving not only among different communities

but also across them, and to comprehend the intricate details of stigma, it is necessary to embark on a study into the diverse narratives and perspectives that shape collective understanding of mental health. The tricky elements that compose the comprehension of stigma may possess a variety of features. Following Dinos' analysis, it is important to recognize that the concept of stigma is not a singular construct but rather adopts diverse manifestations encompassing several sectors, such as the domains of diagnosis, treatment, disclosure, and social interactions, thus emphasizing the prevalence of stigma. Interconnected with the societal values inherent to various communities, Schomerus and Angermeyer (2021) argue that compelling evidence exists linking traditional, conservative values with multiple facets of mental illness stigma. These manifestations include not only the perpetuation of negative stereotypes but also the intensification of negative emotional reactions and the exacerbation of discriminatory behavior towards individuals who are facing mental health difficulties.

Stigma is also an omnipresent force that quietly invades multiple areas of our society framework, imposing its influence on policy decisions, the accessibility of healthcare services, procedures related to health insurance, employment policies, and the allocation of priorities (Jamison, 2006). Unfortunately, persons who are dealing with mental illness also tend to internalize and perpetuate the societal stigma around it, resulting in a phenomenon known as self-stigmatization. As outlined by Corrigan and Watson, 2002, cited by Barney et al., 2006), the concept of self-stigma becomes important when individuals possess negative perceptions of themselves, which arises from the internalization of societal beliefs involving stigmatizing associations. This dynamic reveals the intricate nature of self-stigma within the context of mental health.

Certainly, stigma has been recognized as an obscured dimension of the emotional burden carried by those navigating mental illness (Weiss, 2006). However, despite the challenges presented by this societal stigma, a ray of optimism comes up from some profound observations made by dedicated researchers. The proposition suggested by Kingdon and Turkington (1991), as referenced by Rüsç et al. (2012), implies that creating a positive environment in which psychiatric symptoms are regarded as ordinary encompasses the potential to decrease the negative connotations associated with them. This perspective provides an opportunity for

reflection, leading human beings to consider how influencing societal perspectives may encourage an increased level of empathy and comprehension regarding mental well-being.

### **2.3 Mental illnesses represented in the media**

In recent years, there has been a significant increase in academic attention towards the depiction of mental illness and psychiatric care in mass media. The rise of interest was identified in the insights provided by Wahl (1992), as referenced by Buday et al. (2022). It is evident that mass media often portrays mental illness in a way that encourages ridicule; the representation of individuals dealing with mental disorders sometimes depicts them as different or, in extreme cases, as society freaks. As an example, news and entertainment media frequently portray individuals with MI in stereotypical roles, often employing clichéd tropes, and even on occasions, these portrayals tend to picture them as aggressive individuals marginalized by society, therefore presenting a narrative that provides few opportunities for rehabilitation (Anderson, 2020). Those depictions significantly impact how the general public perceives mental illness and those who are dealing with such disorders, leading to a complex relationship where media representations collide with society's beliefs and systemic decisions.

Through the analysis of media content, a comprehensive investigation revealed a total of 562 occurrences of mental health. These instances were categorized into five key themes: aggression directed towards others, the coverage that generated sympathy, depictions of self-harm, the presence of 'comic' pictures, and criticisms challenging existing definitions of mental illness (Philo et al., 1994). Mainly, these occurrences consisted of news articles that provided accounts of violent criminal acts, whereby the individuals responsible were described as having mental illnesses, often labeled with adjectives such as 'crazy,' 'maniac,' and 'psycho.' The frequency with which mental illness is linked to violent behavior highlights a troubling pattern in how the media depicts this issue, influencing public attitudes and potentially perpetuating stigmatization. An insightful finding from Dinos et al.'s (2004) study indicates that explicit discrimination and anxieties related to the media's depiction of mental illness are primarily limited to people with psychosis and substance dependence. This insight

exerts particularly on specific demographics struggling with unique psychological well-being difficulties.

### ***2.3.1 The impact of negative portrayal of mental illness in media***

The sensitive matter of mental illness is delicate yet frequently portrayed inaccurately through several media. According to the research conducted by the Social Exclusion Unit (2004), persons experiencing significant mental health disorders are more susceptible to being victims of violence. Paradoxically, media depictions frequently establish a strong correlation between mental health disorders and violent behavior, reinforcing inaccurate and prejudiced narratives that usually lack a balanced perspective.

Exposure to media representations of mental illness has been demonstrated in studies to contribute to negative judgments and stereotypes, which can lead to stigma and discrimination towards people with mental illnesses (Corrigan & Watson, 2002). This stigma can also prevent individuals from seeking treatment and may lead them to social isolation and low self-esteem due to fear or judgment. Holmes et al. (2018) examined at least 500 participants in a similar study. They discovered that these imperfect representations in media were related to negative attitudes towards people with mental illnesses and lower levels of empathy and understanding. As a result, people with mental illnesses may be perceived as dangerous or unpredictable, contributing to stigma and prejudice.

As we delve into this subject matter, we immerse ourselves in a narrative wherein the crucial function of the media in shaping public perception emerges as an indispensable aspect of the overarching discourse surrounding the destigmatization of mental illness. One potential answer is to employ positive and correct representations, honest and compassionate portrayals of mental illness, to help diminish the impression of them as "other" or "abnormal." Media producers must promote positive and truthful depictions of mental illness in their future projects, and this will provide a unique chance to encourage positive change. Knifton et al.'s (2009) research reveals that community development workshops, characterized by open dialogue and active participation, hold more significant potential in mitigating the prevalent stigma within communities than relying solely on national campaigns. Given the power of the media, this proposal raises an inquiry of why it is not currently an integral component of these efforts. Incorporating media into these initiatives increases the range and effectiveness of projects focused on reducing stigma. Philo's research (1994) suggests that to facilitate the destigmatization of mental illness and foster a more positive and accurate portrayal, actively

participating in discourse with the media is imperative. This argument emphasizes the significant impact that media may have on altering society's perspectives on mental health, underlining the significance of establishing collaborations to foster the distribution of well-informed and compassionate narratives on mental illness.

In contrast to the well-established disciplines of television and film studies, videogame studies are relatively new and have distinct features, such as theoretical flexibility and diverse research approaches. The fluid and constantly shifting nature of the area of videogame studies points out the importance of continuous research and academic discussion to comprehend the intricate details and distinctive characteristics that arise from the convergence of mental health portrayal and interactive gaming (Austin, 2021). The media of video games may have the potential to contribute to the deconstruction of societal stigmas associated with mental health by focusing on the importance of developing a community where individuals feel comfortable engaging in conversation without fear of judgment or disapproval.

## **2.4 Definition on video games**

The term "video game" refers to a category of electronic games defined by various visual representations with which players can control and interact (Milgram & Kishino, 1994, cited by Cheng et al., 2015). These games may be accessed and played on multiple platforms, including computers, arcades, consoles, and mobile phones. The use of visual presentations related to virtual reality (VR) and mixed reality (MR), which comprise augmented reality (AR) and augmented virtuality (AV), may be integrated. Video games offer users a versatile and engaging digital encounter on several platforms, offering various interaction modes and immersive technology.

The Entertainment Software Association (2016), cited by Hemenover and Bowman (2018), reports that the prevalence of video games extends into adulthood, with 30% of the gaming demographic ranging between 18 and 35. Surprisingly, a notable proportion of 27% of individuals who engage in gaming activities is documented to be beyond 50, presenting a persuasive reply to the current belief that gaming is predominantly centered around the younger demographic. Moreover, the average age of a gamer is 35 years, suggesting that video games have gained significant popularity as a form of entertainment and leisure across individuals covering different age sectors.

In their same study, Cheng et al. (2015) categorized video game genres, recognizing the possibility of mixing within these categories. The genres that have been delineated includes Adventure/Role-Playing Game, wherein players assume the persona of an in-game character within a constructed narrative; Simulation Game, which seeks to replicate real-life activities, phenomena, or mechanisms for training and learning; Puzzle Game, which demands to solve of well-structured challenges (e.g., Sudoku); Strategy Game, a game without a predetermined structure that is driven by autonomous decision-making and strategic planning (e.g., business games); Action Game, which emphasizes eye-hand coordination and real-time action (e.g., shooting games); Fighting Game, in which player-controlled characters engage in combat; and Platform, an intense match primarily employed as a design platform for an additional game rather than being intended for direct playability. The classification mentioned above exemplifies the diverse characteristics of video games, enabling different player preferences and gaming experiences.

Durkin and Barber (2002) conducted a study that revealed that those who engaged in video games to a moderate extent had notably reduced levels of melancholy mood compared to both non-players and those who were excessively involved in video gaming. Furthermore, according to Coles and Griffith (2007), participating in video games allows individuals to express themselves in ways that may be difficult in real-life circumstances, mainly caused by physical appearance, gender, sexual orientation, and age. The virtual universe of video games serves as a platform wherein individuals may traverse and manifest elements of their own identity that may encounter obstacles or limitations within the intricate dynamics of the physical sphere. This fosters a perception of empowerment and facilitates the unrestricted expression of oneself.

“Humans are drawn to video and computer games at least in part because such games provide players with access to ideal aspects of themselves; such access, in turn, can have short-term effects on emotion.” (Przybylski et al., 2011, p. 74). The evolution of video games has resulted in the emergence of fundamentally socially interactive experiences, providing unprecedented possibilities for interpersonal interaction. The development of internet gaming has facilitated the capacity of gamers to interact with people, including friends, relatives, and even strangers located in distant geographical locations (Granic et al., 2014). The concept of interaction with others described above transcends cultural frontiers, effectively connecting

individuals across different ages and generations, going over gaps in socioeconomic status, and overcoming barriers in language. This phenomenon of interconnection in gaming has not only brought about a new definition of the gaming experience but also served a role in deconstructing conventional divisions, where individuals from diverse backgrounds converge, exchange experiences, and establish relationships in previously unimaginable ways. Gaming groups are a significant means of social support and attachment for individuals who encounter challenges in establishing social connections in different aspects. Nevertheless, it is crucial to acknowledge that the capacity of gaming communities to offer social support and cultivate favorable social relationships may vary. According to Kowert and Oldmeadow (2015), stigmatizing or toxic gaming communities can amplify individuals' experiences of loneliness, social anxiety, and insecurity.

According to the research conducted by Yan et al. (2021), the act of actively playing video games presents a new and unique opportunity for learning knowledge and increasing cognitive development. Young teenagers showed interest in the idea of a casual video game with a mental health theme, according to the Pine et al. (2020) study's findings. The study proposes integrating a captivating interface and the discreet communication of mental health information. In brief, the study's findings indicate that the incorporation of mental health concepts into a casual video game is well-received by teenage individuals in the younger age group; this implies a promising opportunity to take advantage of video games to address and include individuals in mental health discussions, ensuring that the user interface is engaging and mental health information is thoughtful and detailed.

#### ***2.4.1 The potential of videogames to promote empathy and understanding***

Game developers frequently generate innovations that may possess a more limited reach; nevertheless, they are distinguished by an amplified presence of diversity, debate, and experimentation in contrast to conventional offerings. These consequences occasionally materialize in "art games," intentionally designed to provide players with an encounter that surpasses ordinary gameplay, fostering introspection and thoughtful consideration (Castaño Díaz & Tungtjitcharoen, 2014). The rise in the popularity of contemporary video games can be

attributed to an intentional determination by game creators to design games that inspire psychological reactions (Hemenover & Bowman, 2018). Concerning gamers' evolving demands and preferences, developers have increasingly emphasized including narratives, characters, and gaming mechanics that generate more profound emotional responses from players. The industry has experienced an exciting shift with a strategic focus on emotional connection, significantly contributing to modern video games' broad and diverse appeal.

There is a clear and indisputable emergence of commercial video games in mental health research and therapeutic applications. Boldi and Rapp (2022) argue that interactive digital platforms exhibit significant promise in enhancing mental well-being and effectively decreasing symptoms linked to mental disorders, such as neurodevelopmental and mood disorders, post-traumatic stress disorder (PTSD), and neurocognitive disorders. Furthermore, these settings provide an ideal framework for active learning, which is especially relevant for educational interventions for diverse age groups, including children, adolescents, adults, and the elderly who may encounter challenges associated with conditions such as dementia. The intersection of gaming and mental health underscores a dynamic connection that has the potential to impact those facing various mental health challenges positively.

Granic et al. (2014) argue that the persistent engagement of children and adolescents with video games presents an opportunity for collaboration between psychologists, clinicians, and game designers on a multidisciplinary team. The authors claim that this unique group has the potential to genuinely innovative approaches and strategies for mental health interventions via collaborative efforts. Games designed to enhance mental health serve a multifaceted function, as they possess the capacity to improve integrated well-being among the general population, offer moderate interventions for individuals experiencing mental health symptoms, and extend support to those afflicted by clinical disorders who may not actively seek professional help (Poppelaars et al., 2018). Mental health games can be a valuable tool for multiple purposes, including stress reduction, mild symptom alleviation, and supplementary resources for individuals to seek medical attention, implementing mental health games into one's strategies for mental well-being. Indeed, a significant imperative is cultivating favorable societal perspectives regarding mental health while concurrently augmenting self-perceptions (Barney et al., 2006).

As the gaming industry becomes increasingly focused on addressing mental health issues, there is a growing need for this topic to be represented in a fully developed and non-

stigmatized way (Parker, 2016). This trend can potentially increase mental illness awareness and understanding among gamers and reduce stigma and prejudice towards those with mental health difficulties. However, it can only be accomplished if the developers know how mental health is represented in their games and avoid spreading harmful stereotypes or building negative behaviors towards those with mental disorders challenges.

Ferchaud et al. (2020) state that video games have been identified as a unique medium that can contribute to actively mitigating mental health stigma. This objective is accomplished by facilitating player-character interactions with those experiencing mental health difficulties, promoting empathy and comprehension. Thanks to their innovative and audacious designs, art games provide players a platform to engage with topics and emotions that transcend ordinary entertainment. Additionally, these games can stimulate players to reflect upon their engagements with individuals with psychological challenges that differ from their own since the gaming environment works as a platform where individuals can develop and enhance their social aptitudes, including collaborative efforts, providing aid, and effectively expressing their requirements (Cade & Gates, 2016). Significantly, the social abilities developed in gaming can be transferred and utilized in interpersonal interactions conducted in person. Players may build a more profound sympathy and comprehension for those with mental health disorders by directly experiencing the problematic situations and emotions that these conditions involve and actively confronting any existing stigma or prejudice.

#### ***2.4.2 Different player's perspective on games related to mental health***

Caillois (2001) claims that the selection of certain games holds substantial influence over players since it inspires a multitude of consequences and involves them in many different kinds of activities, indicating that the characteristics of gameplay and the actions performed inside a game lead to a distinct and diverse player experience.

In the research study by Hoffman (2017), a comprehensive examination was performed to compare and analyze the experiences of individuals participating in two separate video games that centered on the theme of depression, namely titled "Depression Quest" and "Actual Sunlight." The research findings highlighted the importance of encouraging communication among individuals and their different social groups, including friends and family members; the

participants expressed that both games successfully promoted understanding and empathy towards their relatives who were experiencing this mental disorder. The interactive nature of the gameplay inspired a feeling of inclusion within a community that required support. Participants expressed that engaging in these gaming experiences led to a deep understanding that they were not isolated in their psychological struggles and that they were not lonely in facing the complex emotional landscapes represented in the narratives of these games.

The results of Hoffman's (2017) previously mentioned study shed light on the capacity of video games to serve as vehicles for fostering interpersonal comprehension and cultivating empathy concerning mental health concerns, including depression; this highlights the need to incorporate video games into the more comprehensive conversation surrounding mental health awareness and destigmatization.



## **Chapter 3: Research and approach**

### **3.1 Mental health in current videogames**

The evolutionary trajectory of video games transcends the domain of basic mechanics based on fast reactions and button presses (Oliver et al., 2016). Modern video games have surpassed conventional frameworks, delving into sensitive themes, and nowadays, health experts are increasingly interested in investigating novel and economically efficient treatment modalities (Fernández-Aranda et al., 2012).

Fitzgerald (2020), referenced by Kowal et al. (2021), states that some researchers and healthcare professionals acknowledge the potential of tailored video games to assist with managing and treating multiple clinical disorders. Significantly, these games demonstrated efficacy in improving mental health outcomes across several areas. Nevertheless, a notable limitation remains to be seen in supervising qualified professionals to utilize most therapeutic games successfully. The effectiveness of therapeutic games and other serious games, such as educational games and self-administered treatments, depends on their general accessibility and capacity to encourage players to take action and continue their connection with these interventions. Therefore, for a significant impact, these resources must be readily available to a wide range of persons and contain the ability to engage and sustain their attention (Poppelaars et al., 2018).

As stated by Anderson (2020), it has been argued that games can provide non-pharmacological interventions, thereby operating as a valuable instrument for those suffering from mental disorders as it is cases of games that aid individuals with illnesses like dementia, anxiety, insecurity, and sadness. Furthermore, Anderson highlights the crucial role of games as a mass-mediated strategy for amplifying public awareness of mental illness. Within these, current developers have begun incorporating mental health themes within their stories and characters dealing with psychological conditions. Most of them have addressed it in a more subtle way, and others let their characters reflect the symptoms of suffering from one or more of these diseases in their behaviors; these games reflect a growing societal awareness and interest in mental well-being. Following this literacy, let us explore games specifically designed to aid individuals in acquiring the appropriate skills to identify mental illness.

### 3.2 Case studies of the main references

After extensive research on titles addressing mental illnesses and mental health, a meticulous selection process identified three games regarded as especially pertinent to the project. "Gris," "Hellblade: Senua's Sacrifice," and "Celeste" will be analyzed and playtested. This evaluation, considering the background of the master student author as a gamer and designer, seeks to assess their strengths and potential shortcomings in depicting mental health themes. The analysis will be conducted via PC (Personal Computer) to carry out the procedures.

#### 3.2.1 *Gris*

The title "Gris" stands out due to its remarkable visual aesthetics, as each frame produces a sense of artistic masterpiece equivalent to that seen in famed museum paintings.



Figure 1 – Screenshot from the game “Gris” illustrating a scene inside the game. (Nomada Studio, 2018).

Adapted from *Creative Cloud*

This game is an outstanding example of frame-by-frame animation art, offering environments covered with dynamic watercolor textures, this artistic magnificent work captivates players with its stunning visuals and emotional depth, in addition, the watercolor-inspired graphic style creates a fascinating atmosphere that evolves next to the protagonist's journey. The integration of impeccable sound effects and a thoughtfully crafted soundtrack enhances even more this immersion.

The main character's design may appear basic since she wears a black cape which only shows her head and legs, however, she has an incredibly dynamic motion and mobility in the game, and this is also essential while those who plays learn new abilities through which the cape adapts different shapes.

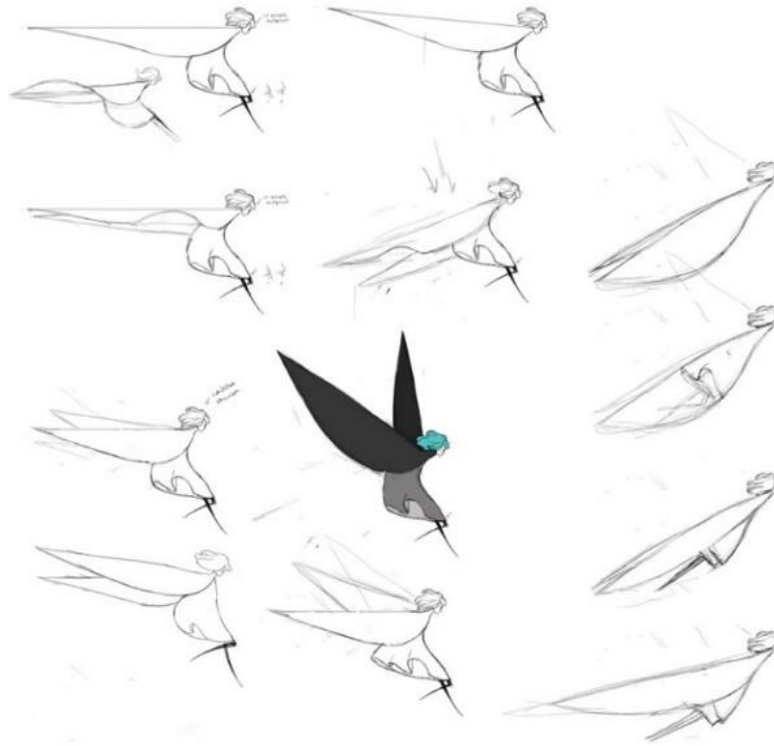


Figure 2 – Concept art of the skills expressed through the motion of video game "Gris" clothing. (Nomada Studio, 2018). Adapted from *Creative Cloud*

The game's emotional depth is further enhanced using powerful, dramatic frame by frame animations between stages that successfully represent the protagonist's mental states and progress. In the beginning, we must follow the protagonist's fall from a great height, introducing the game's main concept of “hitting rock bottom” to rediscover strength and self-improvement at the top. In terms of gameplay, "Gris" expertly balances its elements, offering a blend of platforming challenges and puzzles that harmonize with the overarching narrative, furthermore, the gradual introduction of new mechanics as the protagonist grows symbolizes personal development and maintains a sense of excitement throughout.

To help players on their way, subtle elements like the presence of little birds cleverly guide them in the direction they need to go through, as there is no dialogue involved in the entire game. The portrayal of the character's emotional healing process is well conveyed through the transformation from an initial monochrome world to a vibrant spectrum of colors. This artistic choice and the symbolic representation of emotions through changes in environmental colors, forms, and abilities significantly impacted the audience.



Figure 3 – Screenshot from the game “Gris” illustrating a scene inside the game. (Nomada Studio, 2018).

Adapted from *Polygon*

At the end of the game is cleverly incorporated the symbolism into its progression, creating the visual representation of the saying "What doesn't break you makes you stronger". "Gris" exemplifies the inherent creative capabilities of video games through the effortless combination of a meaningful narrative and innovative gameplay, thereby emphasizing its significant contribution as an art form within the world of interactive entertainment.

### 3.2.2 *Hellblade: Senua's Sacrifice*

“Hellblade” is a unique game that may appear to be merely another action-oriented title at first impression. However, it distinguishes itself by providing players with a precise representation of schizophrenia, it allows us to immerse them in the world perceived by someone who perceives reality in an extremely different way, and not even knows exactly what is happening.



Figure 4 – Screenshot from the game “Hellblade: Senua’s Sacrifice” illustrating a combat scene inside the game. (Nomada Studio, 2018). Adapted from *Hellblade*

A preliminary notification is sent to the player, explaining the expected meeting throughout gaming. Plus, a support website was specially offered for anyone requiring physiologic assistance. In this game, players assume the role of Senua, a young warrior who tragically deals with psychosis, a mental disorder characterized by unusual behaviors, visual and auditory delusions, irrational fears, an overwhelming feeling of being observed, and perception of non-existent things and connections (CITACIOOOM), and each of these elements are carefully incorporated into the game's narrative in a very genuine way. Senua begins a journey towards hell itself, carrying the head of her deceased husband, who apparently whispers to her like if he stills alive, so she will try to fight with all her might because she plenty believes she can revive him.



Figure 5 – Screenshot from the game “Hellblade: Senua’s Sacrifice” illustrating a scene inside the game. (Ninja Theory, 2017). Adapted from *Nintendo*

Just at the beginning, there is a narrator who we later realize is another of the protagonist's inner voices; these voices are just a common sign in people diagnosed with schizophrenia, persistently accompanying that person, that no matter where you go, they will always be there. Furthermore, these voices tend to increase with time, becoming more persistent, aggressive, and hostile. The hellish environment and the depiction of hanging persons accurately portray the character's situation, and the graphics could produce a strong emotional response characterized by shock and terror. However, it is essential to recognize that this intentional artistic decision contributes to creating a dark emotional state.



Figure 6 – Screenshot from the game “Hellblade: Senua’s Sacrifice” illustrating a scene inside the game. (Ninja Theory, 2017) . Adapted from *Hellblade*

The distinctive and identifiable personality of the character induces feelings of empathy within players as they see and actively participate in her multiple challenges and struggles. This statement highlights the game's basic premise, emphasizing the significant role of empathy for persons who have to contend with mental health disorders. Through the story, players begin to know Senua's as a free and happy soul, nevertheless, her parents treated her like a demon; Unfortunately, this narrative reflection is not too far from current social attitudes. On closer examination, gamers may see a significant parallel between the game's themes and the contemporary aspects, Senua's emotional journey links with relatable personal circumstances, such as loneliness, with comments that go from 'the gods abandoned me' to the awful isolated feeling of being misunderstood of how we feel.

The implementation of Senua's memories in the game is skillfully achieved, presenting interactive flashbacks that actively involve players. The protagonist's backstory is gradually unfolded in each section, providing insight into her personal experiences and the context in which she was treated by society in the Middle Ages. The use of interactive flashbacks in this narrative provides a means through which the reader gains a valuable understanding of the protagonist's interpersonal dynamics with her father, mother, and late husband. Furthermore, these memories reveal insight into the fundamental impulses that drive her never-ending pursuit

of her husband. The sensory sensation of hearing hundreds of voices constantly whispering in your ears is incredibly powerful and provides an approximate idea of what this kind of illness can do to people's minds, something that the game depicts very successfully. In addition, these voices work as functional features frequently providing directions or driving the player to run or focus, effectively integrating them into the gaming mechanics.

Despite the challenging situations she faces, Senua is always strong and determined, and her experiences are never questioned or denied by anyone; she basically perceives the world in an entirely different way, which she has learned to live with; For her, and for us as players, all the obstacles are true.



Figure 7 – Screenshot from the game “Hellblade: Senua’s Sacrifice” illustrating a scene inside the game. (Ninja Theory, 2017). Adapted from *Nintendo*

“Hellblade” succeeds not particularly by attempting to help people overcome the condition but instead by genuinely portraying the experience of living with a mental illness, providing insight for people who may have never considered the matter. The illness is never regarded as something to be studied; it merely exists as something that is part of the protagonist's mental nature; This being a great achievement since it keeps players interested in the theme without noticing it. The game facilitated self-education on the subject, enabling a deeper understanding of some of the more challenging aspects associated with this mental health condition.

### 3.2.3 Celeste

This game is a challenging pixel art adventure that narrates the journey of Madeline, a young woman on a quest to climb the huge "Celeste" mountain. While her specific motivation is unknown, her determination to reach the top can be seen as both a personal conviction and a method of demonstrating her worth to herself and others, the pursuit of this ambitious objective could be considered also an escape from her problems. From the start of the adventure, Madeline indicates a degree of self-doubt and fear, these emotions are a result of her anxiety and low self-esteem, revealed through the dialogues displayed in text boxes. In addition, some of these dialogues, are calls with other additional characters, and the recurrent matter is the same - the other individual consistently doubts the veracity of Madeline's struggles, often suggesting that she invents them for attention, and this repeated event depicts one of the most frustrating aspects of any mental health condition: the lack of comprehension and the overwhelming feeling of isolation it can generate.



Figure 8 – Screenshot from the game “Celeste” illustrating a scene inside the game. (Matt Makes Games, 2018).

Adapted from *Deconstructing Video Games*.

In terms of gameplay, "Celeste" offers an assist mode feature that enables players to customize their gameplay experience according to their preferences; this function is beneficial due to personal choices and skill level. Additionally, the game incorporates a useful mini-map that assists players in navigating their path and gradually introduces fresh mechanics as the player acquires more excellent abilities. Another interesting aspect of the game's mechanics is the extra strawberries, that may be collected throughout each level, but what distinguishes this feature is the constant message across the game's stages, emphasizing that obtaining these strawberries is entirely optional. The above mentioned strategies contrasts with the expected in many platform games, where players are frequently under pressure to collect every potential prize, in these cases, there is often a stigma linked to failing to achieve this, developing a perception of incompetence or inability to handle the game's more difficult stages.



Figure 9 – Screenshot from the game “Celeste” illustrating a scene inside the game. (Matt Makes Games, 2018).

Adapted from *PC World*.

The in-game messages also are regularly intended to motivate players, stating that there is no need to be worried by unsuccessful attempts within a level or even if they are inclined to quit the game, this technique offers gamers a sense of comfort and relaxation. During a crucial stage in the game, Madeline experiences an encounter with a panic attack that is provoked by a dangerous circumstance. This current event possesses considerable significance, not only

concerning its visual depiction but also in terms of its management inside the game. The game offers a valuable lesson by providing one of the frequent methods employed by people dealing with anxiety: regulated breathing synchronized with the movement of a feather; This support mechanism appears to be simple, but it sends a powerful yet efficient message.



Figure 10 – Screenshot from the game “Celeste” illustrating an intricate scene inside the game. (Matt Makes Games, 2018). Adapted from *Celeste Game*.

In terms of color palette, "Celeste" uses different schemes for each stage of the game, what is especially striking is the intentional transition in setting from a period characterized by gloom or despair to one with a significantly more optimistic color palette. These alterations provide players with greater incentive and strength, encouraging them to keep going and advance to the next levels. After overcoming multiple challenges, a tangible representation of Madeline's anxiety appears, encapsulating every emotion that afflicts our protagonist, this entity is distinguished by a dark color palette that includes purple, red, and black tones. It's crucial to emphasize that this part of Madeline isn't necessarily evil, instead, it intends what's best for both; However, it lacks the confidence required to realize their shared objectives, which causes it to always dissuade Madeline from trying, expecting her imminent failure and decay.

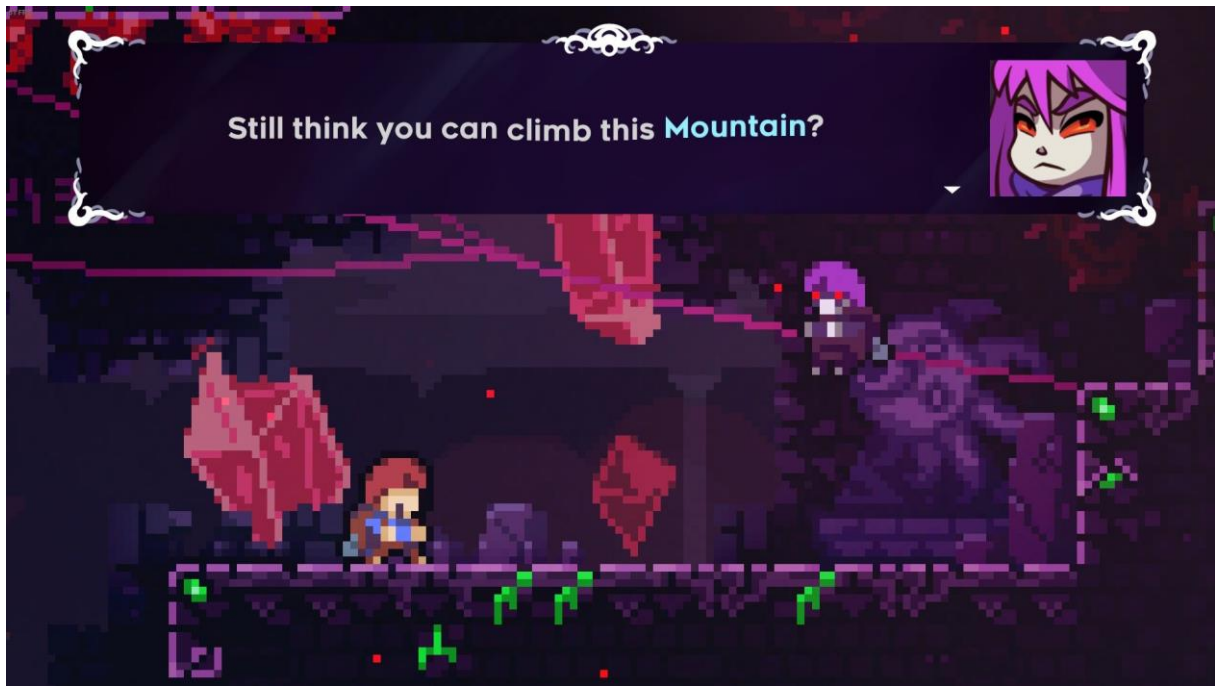


Figure 11 – Screenshot from the game “Celeste” illustrating a scene inside the game. (Matt Makes Games, 2018). Adapted from *PC World*.

In the end, "Celeste" seems to effectively portrays the idea that mental illnesses are not necessarily terrible monsters capable of destroying one. Rather, they are aspects of oneself that might be unpleasant to recognize but must be acknowledged. Depression and anxiety may not ordinarily go away immediately in the real world, but they could develop into something more manageable and healthier, similar to the transforming path presented in the game's narrative finale. Above all, it is the gaming mechanics and motivational aspects that have the potential to captivate players and deeply immerse them in the tale.

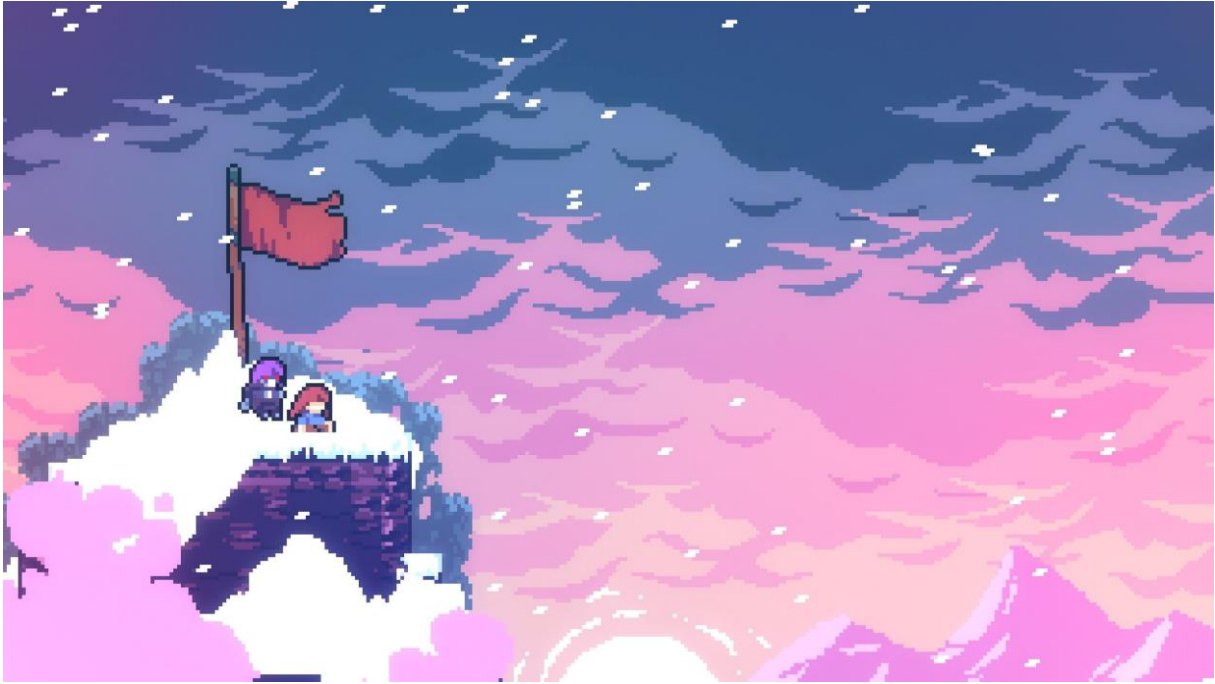


Figure 12 – Screenshot from the game “Celeste” illustrating a scene inside the game. (Matt Makes Games, 2018). Adapted from *Wallpaper flare*.

### 3.3 Case studies by game genre

Upon careful examination of several titles, two games have been selected as noteworthy exemplars for studying the "Decision-making" game genre, emphasizing their representation of mental health topics. The games chosen for analysis are "Life is Strange" and "Night in the Woods," and similar to the earlier section, an investigation will be conducted on both titles; this evaluation considers the background of the master student author as a gamer and designer to assess their respective merits and possible limitations. The analysis will be conducted via PC (Personal Computer) to carry out the procedures.

#### 3.3.1 *Life is strange*

From the very beginning, the game establishes itself as a narrative that focuses on the concept of decision-making and the subsequent consequences, addressing sensitive subject matters. The immersive experience is further enhanced by the player's capacity to interact with a diverse range of items present within the game's virtual environment. This story introduces players to the life of Max, a young girl who returns to her hometown after being away for a few years, to pursue her passion for photography at a prestigious university. Right from the outset,

players are instantly presented with an uncomfortable situation characterized by distant colleagues, a mundane class that fails to hold anyone's interest, and even individuals attempting to obtain the teacher's validation. Just these early minutes the game certainly displays quite an understanding of the feelings of an ordinary life. After class concludes, players have the option to investigate the school's hallways and encounter other students, and this particular experience evokes a profound sense of familiarity and nostalgia, effectively engaging players in the mundane reality of Max's life.

After these establishing moments, Max experiences a turning point as she enters the bathroom. In this particular scenario, a significant and disconcerting incident unfolds, in which an agitated young guy ends up involved in a fierce conflict with a girl with blue hair, the fight reaches its climax with the girl getting a gunshot injury to her abdomen area. Max is shocked when she suddenly finds herself back in her classroom as if the events of the previous scene had been rewound in time. At first, Max is shocked and confused, which is a natural reaction to something so strange, nevertheless, when the unquestioned reality of the situation becomes obvious, she struggles with the realization that the occurrences that she witnessed were real. Gifted with this new power to modify temporal circumstances, she proceeds on a quest to change the course of events, including the unfortunate meeting in the bathroom.



Figure 13 – Screenshot from the game “Life is Strange” illustrating an important scene inside the game. (Square Enix, 2015). Adapted from *The Mary Sue*.

The main gaming mechanism in 'Life is Strange' focuses on the temporal manipulation of time, which not only allows players to revert events but also enables them to strategically shape their interactions within the game's environment, this concept of feedback is essential since the decisions we make have the ability to modify the subplots, which, in turn, improve the overall story and strengthen the emotional connections we develop with each character. Due to this dynamic, we might feel like we have some control over what happens to us as we work towards what would be the "best" end, this does not, however, completely remove the chance of making the "wrong" decisions, as there is still uncertainty about the long- and short-term effects. The fact that this predicament can coexist so naturally with the normal course of the protagonist's life as a teenager is one of the things that sets this adventure apart from others, players can easily relate to the emotions and situations that confront each character, engaging deeply with a narrative that captures the essence of one's most educational adolescent years, characterized by an overwhelming feeling of vulnerability and limitless possibilities and navigating the complexity of our existence. It is also noteworthy that the game promotes a feeling of community collaboration among its players through the disclosure of the choices made by other participants, facilitating debate and establishing connections that extend beyond the limits of it.

Everything related to time manipulation in the game is symbolized by a butterfly, which serves as a reference to the butterfly effect—a theory that suggests even the smallest action can have a profound impact on the course of events in the world, influencing the trajectory of events. This concept emphasizes the idea that seemingly insignificant actions in the past can have profound consequences, resulting in substantial alterations in the present and future. One of Max's classmates in the game, Kate, undergoes a painful experience, facing persistent bullying as a consequence of a sexually suggestive video of her that gained viral attention on the internet, this incident indicates the beginning of her emotional degradation and progression into an episode of depression. The game offers players a very profound experience, depicting one of the most touching scenes found within the universe of video games, while also presenting a deeply significant message: The primary objective of the game is the manipulation of time and an examination of the repercussions resulting from different choices, however, the most important situations of the game are those that are inherently unchangeable.



Figure 14 – Screenshot from the game “Life is Strange” illustrating how decision making was performed from a console. (Square Enix, 2015). Adapted from *Polygon*.

The title employs nostalgia not merely as a practical strategy, but additionally as an opportunity to generate deep emotional resonance, provoke a sense of nostalgia among players, and evoke feelings related to topics of friendship and love, which have enormous popularity and are frequently regarded with high value. The game skillfully portrays memories of adolescent worries, the excitement of returned friendships, and interactions with individuals whose personalities are completely contrary to the protagonist. Max herself is characterized as introverted, passionate, and exceptionally composed, therefore, the establishment of a natural connection between players and Max, as well as the other characters, results in a true sense of friendship, creating an illusion of genuine friendships, these are folks for whom players sincerely develop empathy and an instinctive desire to protect. The story develops slowly and thoughtfully, with a strong emotional undercurrent, and the player is given opportunities to step back from the action and reflect on Max's deep ideas. The inclusion of this concept choice incorporates cinematic scenes that effectively illustrate the game's artistic potential, thereby creating an interesting contrast between its authentic atmosphere and the dynamic cartoon visual style that embraces a diverse range of brilliant palettes, beautiful sunsets, spooky silence, picturesque landscapes, and surreal scenarios all work together to

create an immersive visual experience. In addition, the examination of the surroundings and other in-game elements holds considerable weight, although not crucial for the progress of the game, these assessments offer a substantial amount of information on the characters, their viewpoints, and the protagonist's relationships, thus enhancing the narrative's credibility.



Figure 15 – Screenshot from the game “Life is Strange” illustrating the mechanics options of examining the surroundings performed on PC. (Square Enix, 2015). Adapted from Polygon.

In many ways, a photograph is the nearest approach we have to a direct gateway to the past, allowing us to experience some of our most treasured memories, the purpose of these images is to facilitate commemoration, since recalling these memories has the potential to encourage a deeper understanding and admiration for the variety of events that have had an impact on our daily lives. Notably, photography emerges as a recurring theme over the whole of this narrative journey, every scenario within the game exhibits parallels to a photograph, capturing special moments that are suspended in time. Despite the game's impressive plot, which includes supernatural aspects and touches on political topics, its actual value rests in the tiny moments where the attention is just on a few people enjoying life, these instances inspire a profound perception of meaning and emotions. Following a period of conflict, the game provides contemplative moments in which players can simply observe the scenery, these interludes remind us that, although the trials and struggles of life, the beauty and magic of

existence persist, highlighting the concept that life continues, and even challenging situations are unable to reduce the captivating and wonder of existence.



Figure 16 – Screenshot from the game “Life is Strange” illustrating a scene inside the game. (Square Enix, 2015). Adapted from *The Mary Sue*

From a visual perspective, this game may be described as a remarkable aesthetic masterpiece, in which its visual appeal is significantly improved by its outstanding plot, the game's graphic direction shines brilliantly, and it seems to succeed in creating a universe that completely absorbs the player. Furthermore, it is important to recognize that the music assumes an essential role, equivalent in significance to both the story and the artistic creation, the well-selected soundtrack, which includes a variety of songs and compositions, effectively complements the visual and narrative elements of the game, it successfully captures the emotional and mainstream teen atmosphere that characterizes the story and its contextual background.

'Life is Strange' captures the adolescent experience with a mature undertone, converting it into not only a video game but also a profound experience, a work of art, and a life lesson. The objective is to reinforce the significance of the current moment, since life, despite its peculiarities, is also characterized by its beauties. Events like those surrounding Kate

illustrate an example of the difficulties associated with addressing mental health concerns, while simultaneously providing a message of optimism, yet, what stands out as perhaps the most significant takeaway is the game's emphasis on appreciating life's small details, passing along the sensation of fully appreciating the current moment, as it is these seemingly little instances that provide significance into our lives.



Figure 17 – Screenshot from the game “Life is Strange” illustrating a scene inside the game. (Square Enix, 2015). Adapted from *Hyper x Gaming*

### 3.3.2 Night in the woods

In this game, participants assume the role of Mae, a young cat who decides to leave her university studies behind and return to her hometown in search of a simpler, carefree life free of adult responsibilities. However, when she returns to her young surroundings, she realizes that her friends and neighbors have inevitably moved on in her life; This is a phenomenon that is an expected part of a person's life, but she finds herself stuck and unsure of her path forward.

The visual style of the game is vector-flat artwork with subtle gradients that emphasize character and environmental characteristics, this visual decision aims to help to the game's unique look, producing a world that seems welcome and different. In terms of dialogue delivery, characters speak with different noises rather than vocal communication, while players

read their conversations in text balloons. This game can be described as an adventure title, primarily due to the great freedom of movement it allows, as players can jump and climb roofs, discover hidden corners, play retro mini games displayed on the protagonist's computer, and even play songs after learning them. The story isn't conventional; Instead, players are free to explore the environment at their own speed, giving them plenty of opportunity to interact with other residents around town.



Figure 18 – Screenshot from the game "Night in the Woods" illustrating a scene inside the game. (Infinite Fall, 2017). Adapted from *Night in the Woods*

While "Night in the Woods" is not predominantly a decision-driven game, it does include elements of this genre in its dialogues, these mechanics are brought into focus by slight changes in the protagonist's choice of words or minor behaviors, which introduce delicate variations to the narrative, it subtly reinforces the idea that even minor decisions can have an impact. This strategy enhances the storytelling experience by allowing players to interact on a deeper level with the other game's residents and situations, this approach underscores the game's commitment to character development and world-building, inviting players to immerse themselves in the lives of Mae and her friends.

In a specific scene, the protagonist looks at herself in a body mirror, just a few minutes before she was excited to join her friends to go out, but finding herself in the mirror causes a tremendous change in her, her enthusiasm diminishes when she faces her fears, your self-image

that affects your judgment; Her original motivation completely fades away and is replaced by a self-critical attitude that questions every detail of her appearance. The presence of an interesting diary gives players an excellent peek into Mae's inner thoughts and viewpoints, is a delightful element of the game, her journal entries are visually created as drawings and notes, giving players a glimpse into her distinct worldview. The diary not only contributes to the tale, but it additionally allows players to connect more closely with Mae's character.

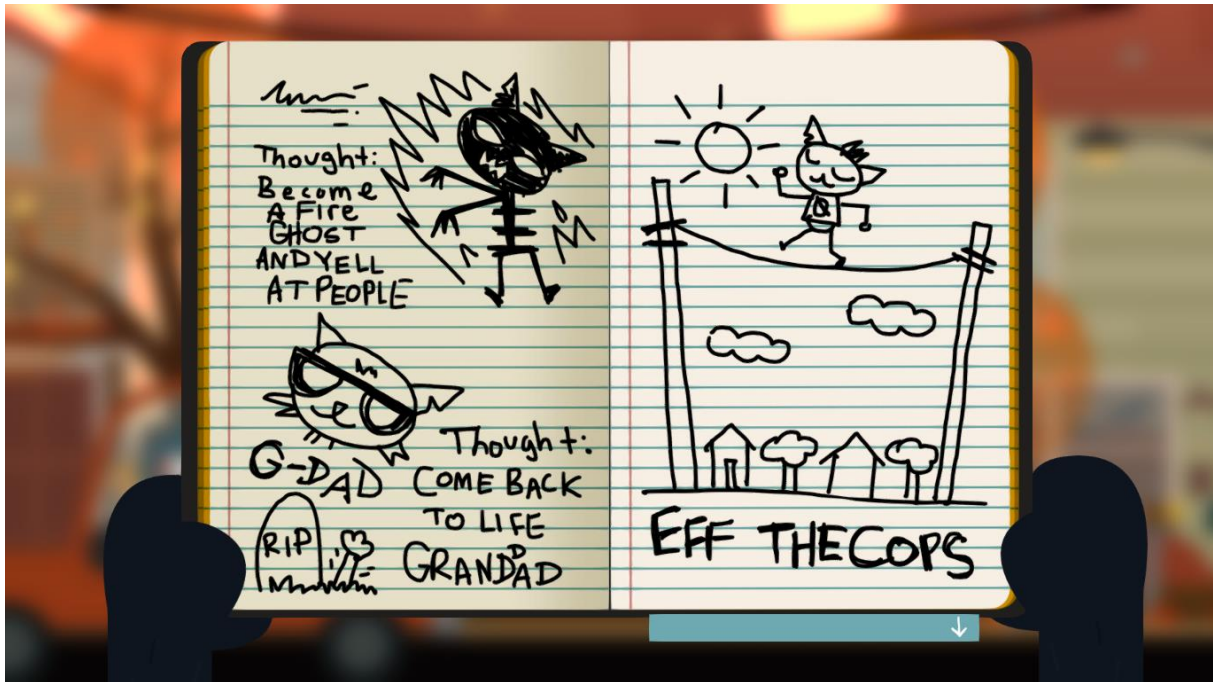


Figure 19 – Screenshot from the game “Night in the Woods” illustrating main character’s diary with her notes. (Infinite Fall, 2017). Adapted from *The daily Fandom*.

Its most distinctive feature is its ability to communicate an interpersonal feel to the narrative, even though we see how the story is developed through Mae's perspective, this particular approach is highly effective at addressing mental health difficulties without directly describing them. These concepts are effortlessly integrated into the structure of the game and become clear by the interactions with the game environment, each character Mae meets is dealing with their own issues, and normalizing what is frequently stigmatized, emphasizes the need to address those sorts of themes, like mental disorders. The ability of video games to deeply engage players in virtual environments and establish a sense of empathy toward

their characters facilitates the acceptance of their perspectives (Hoffman, 2017). It presents opportunities for promoting positive changes in attitudes about mental illness.



Figure 20 – Screenshot from the game “Night in the Woods” illustrating a scene of the game. (Infinite Fall, 2017). Adapted from *Night in the Woods*.

Interacting with the environment in 'Night in the Woods' provides an immersive experience, but it also presents obstacles, the lack of indicators or a helpful HUD sometimes resulted in periods of incertitude and disorientation, making possible for me to get lost or stuck in the large landscape. Likewise, the lack of clearly stated tasks added to my sense of disorientation and left me confused about how to proceed.

Daily routines in the game sometimes veer into monotony, especially in the interactions with Mae's parents, even after finishing a day, Mae's return to her room to sleep, while the dream scenes are fascinating, they may get tedious after a while. These elements, combined with the game's open-ended structure, might not be suitable for those who prefer more structured gameplay experiences; In essence, 'Night in the Woods' demands patience and an appreciation for its deliberate, slice-of-life storytelling style.

This game is very striking on an emotional level since it relates to the genre of games that aim to provide hope. It skillfully brings a range of emotions, from agony, and despair, to

the similarly powerful sensations of warmth and comfort. The game's ability to evoke such diverse emotions is credited to its narrative dimension and ability to engage players on a very intimate level. From my perspective, 'Night in the Woods' illustrated the potential of video games as a storytelling medium, it depicts how interactive tales may address the intricacies of human emotions, allowing players to engage in reflection.

### **3.4 Case studies for its aesthetics**

In this last segment, a single game has been chosen as an interesting example mostly due to its visual and narrative qualities. While this particular game does not explicitly address mental health, it seems to effectively portrays serious issues that significantly influence the existence of a child protagonist, and last, this adventure is also characterized by having a decision-making dynamic. The subject of analysis is the game "Little Misfortune", and similar to the preceding section, the game will be played on a PC for evaluation.

#### ***3.4.1 Little misfortune***

This horror-themed adventure prioritizes exploration and decision-making as key components, to fully explore the game's narrative, players must engage in an intensive examination of their surroundings, carefully seeking out hidden dialogue options and actively interacting with a range of events, all of which have the potential to result in significant consequences depending on the choices made. The main character of this story is a young girl afflicted with exceptionally bad luck; however, her vibrant imagination and lack of social experience pour vitality into the overall narrative. Despite the difficult conditions she encounters, she is not alone; she is consistently accompanied by Mr. Voice, a character who breaks the fourth wall and serves as the guiding presence throughout the journey, this voice not only guides players' direction but also supplies essential tools to facilitate advancement.

The main theme of the story centers on Misfortune Ramirez Hernandez, an imaginative and friendly little girl of eight years old, hailing from a less-than-ideal family background. Next to the mysterious invisible narrator, Mr. Voice, they begin a journey with the objective of procuring a present for her mother, one that involves nothing else but eternal happiness. Their adventure takes place in a vivid and colorful environment, yet it may also take on the characteristics of a nightmare realm filled with anguish and suffering.



Figure 21 – Screenshot from the game “Little Misfortune” illustrating the main’s character room scenery.  
(Killmonday Games, 2020). Adapted from *Adventure Gamers*.

The game starts with the narrator, who proceeds to immediately engage with the player, offering a warm welcome to their participation in his game and announcing that today is the day Misfortune will meet her ultimate fate. This captivating premise instantly captures the player's interest, evoking a sense of wonder over the progression of events and the possibility of altering the course of fate. As the game progresses, players are led by Misfortune as she navigates around her personal space, her home, offering valuable information about her past and character traits, like the regular use of alcoholic beverages by her mother and her father's habit of sleeping in a car as a result of his aggressive conduct, provides an insight into the difficult circumstances inside her family. After departing from her house, the narrator proceeds to provide more guidelines for the game, placing emphasis on the concept that the decisions made by players are not necessarily characterized as either correct or incorrect, but rather, will result in different results.

The story gradually explores the fundamental aspects of Misfortune's psychological state, examining major subjects such as the loss of childhood innocence, fractured familial relationships, alcohol and drug abuse, and neglect. What I find captivating is the unique dynamic of humorous elements mixed within the narrative, predominantly pushed by

Misfortune's tendency to interpret all circumstances with a positive and optimistic perspective, even when dealing with devastating incidences, the phenomenon seen might be characterized as a contradiction between elements of humor and despair, in which instances that may first look comical are, upon closer examination, shown to possess a profound underneath sadness. Throughout the game, our protagonist is confronted with a multitude of dark and melancholic situations, however, her unbroken innocence and her persistent desire for enjoyment remain evident as she strives to apply glitter as a means of infusing her surroundings with a semblance of brightness. This stark contrast between the youth protagonist's innocence and the obscure issues surrounding her remains a prominent and enduring aspect of the narrative until the conclusion of the story.



Figure 22 – Screenshot from the game “Little Misfortune” illustrating a scene inside the game. (Killmonday Games, 2020). Adapted from *Adventure Gamers*.

It is imperative to underscore the noteworthy efforts of the art and sound teams since both play an integral role in enhancing the game's immersive atmosphere, letting players navigate in a realm that may first exhibit children's features but delves deeper, capturing the delicate balance between the innocence of childhood and the complexities of the adult world. The graphical elements of the game are presented in a 2D side-scrolling viewpoint and

visually appealing hand-drawn art style, which in my opinion stands out as one of its most prominent strengths, this artistic technique employed in this work a resemblance to illustrations seen in literature intended for young readers, establishing a visual appeal that is simultaneously captivating and filled with a subtle sense of discomfort. There's always something happening in this world, whether it's birds, other people, the wind blowing through the leaves, or something completely out of the ordinary like a hamster driving a vehicle, in addition, the game applies subtle camera movements, such as a gradual zoom during narrative sequences and character conversations, empowering a cinematic dynamism that captures the essence of a film. The game also has fully animated cutscenes that are randomly interspersed and have the same attractive and high-quality look as the rest of the game, although the graphic style of these episodes might show minor inconsistencies in comparison to the whole game, it is interesting that the protagonist, Little Misfortune, maintains a wonderfully expressive attitude. The previously mentioned expressiveness has significant value as she actively participates in ongoing discourse throughout the game, ensuring that players don't tire of watching her. Regarding the musical aspect, the game showcases a soundtrack of outstanding quality that covers a diverse array of genres, the majority of the tracks are in accordance with a comical and charming atmosphere, effectively functioning as a customized melody that reflects the personality of the protagonist, nevertheless, the soundtrack also incorporates delightful dance music and more threatening harmonies strategically to enhance its depth and variety.



Figure 23 – Screenshot from the game “Little Misfortune” illustrating one of the unlockable animations within the game. (Killmonday Games, 2020). Adapted from *Adventure Gamers*.

Regarding the weaknesses of this game, it is necessary to start the analysis by examining its duration. Even if you take your time to explore the various interactions and dialogues, the duration is unlikely to exceed three to four hours, the possibility for replayability may be encouraged by the presence of choice-based mechanisms and sequences that are conditional upon one's actions. However, it is worth noting that the experience may exhibit a certain degree of simplicity over subsequent playthroughs, moreover, the choices that the player makes may create the illusion of several potential outcomes, although, in fact, there exists only one conclusion. Finally, the control system of the game is fairly restricted, mostly encompassing basic actions such as horizontal movement, object interaction, glitter throwing, and decision-making.



Figure 24 – Screenshot from the game “Little Misfortune” illustrating how decision making was performed from PC. (Killmonday Games, 2020). Adapted from *Game Play Tips*.

The game ranges from mysteries involving missing children to whimsical hamster parties, macabre amusement parks to adults donning masks to portray perpetual happiness. The central narrative consistently retains a prevalent and slightly dark undertone, nevertheless, the enduring optimism exhibited by Little Misfortune is what sustains its intrigue and enjoyment,

the plot becomes more enjoyable thanks to her presence, and the players are more likely to follow it through to the end because of the character's upbeat attitude. In summary, this video game demonstrates a remarkable ability to effectively manages to strike a delicate balance between its more melancholic themes and the contagious optimism embodied by its main character. The presence of duality inside the game creates a distinct narrative encounter that motivates players to traverse the game's frequently scary and mentally stimulating environment until it comes to an end.

### **3.5 Considerations**

#### ***3.5.1 The challenges of designing mental health's video games***

How can you describe a condition to another individual using only words?

According to Boldi and Rapp (2022), the primary objective of commercial video games is to provide an entertaining experience focusing on business-oriented strategies. However, they can also serve as "pre-made tools" to assist those suffering from specific mental disorders. Nevertheless, it is imperative to acknowledge that these games function just as a singular element inside a more comprehensive approach and ought to be incorporated with collective undertakings, pharmaceutical treatments, or other targeted interventions.

Game producers must be cautious not to perpetuate harmful stereotypes towards persons suffering from mental illnesses since this can reinforce existing stigma and discrimination. Instead, games ought to attempt to represent mental health issues in an accurate, sensitive, and non-stigmatizing way, while also provide a greater understanding for those who do not have a mental disorder, demonstrating that the medium has the potential to change our ways of thinking. One of the objectives and challenges to combat stigma through this project is that there will be open conversations about mental health and mental illness, normalize and inform/educate. Furthermore, get the player to empathize with the main character and build a connection that is memorable; it is a main concern for the project that the design of the game is expressed artistically and represent, through its aesthetics and design, the problems of the mental illness that it will deal with.



## **Chapter 4: Game design overview**

### **4.1 Introduction and context**

As we transition from the theoretical framework to the practical execution of the project, the following sections of this research will elaborate on aspects of the game design process. As seen before, this thesis research attempts to investigate the connection between game design and mental health, providing gamers with a unique opportunity to get insight into the real-life encounters of those impacted by a mental disorder, particularly Attention Deficit Hyperactivity Disorder.

The selection of this disorder as the main subject of the initiative has been mainly motivated by personal experiences, the variety of obstacles it presents throughout multiple age populations, its potential to encourage discussion on mental health, and the lack of associated video games in the commercial industry focusing on this particular condition. The latest research successfully identified just one video game that tackles the previously mentioned problem (EndeavorRx - ADHD Video Game Treatment for Kids, 2023); nevertheless, this game is an interactive treatment that medical professionals prescribe to improve attention in minors. The primary objective of this thesis project does not revolve around attempting to "treat" the disorder in question. Instead, it seeks to significantly contribute to reducing the social stigma associated with mental health issues; this could be achieved by addressing the subject matter subtly, like the previously analyzed reference titles. Then, the proposed contribution is to lay the foundations for the development of a video game, providing an immersive and empathic experience, subsequently illustrating some of the obstacles confronted by those struggling with ADHD.

In summary, the project intends to cultivate comprehension feelings of empathy, eventually combat the cultural discrimination linked to mental health illnesses, and employ video games as a platform to build an engaging and attractive adventure beyond mere entertainment. To start the process of developing a video game that accurately represents the experiences of those diagnosed with ADHD condition, it is crucial to possess a solid knowledge of the condition throughout the whole production stage.

#### ***4.1.1 Definition of ADHD***

Attention-Deficit/Hyperactivity Disorder is a disorder that affects individuals, characterized by a consistent set of difficulties, including deficits in retaining attention, hyperactivity, and impulsive behavioral habits (Wilens & Spencer, 2010). This mental illness, is widely recognized as a majority medical neurodevelopmental condition that manifests primarily throughout childhood and frequently persists into adulthood, impacting several aspects of an individual's personal, social, academic, and vocational functioning and development (Cabral et al., 2020). Therefore, it is crucial to have a complete understanding of the disorder in order to manage and provide assistance for individuals effectively.

#### ***4.1.2 Narrative analogy: Symptoms, current stigma, and coping mechanism***

To create a video game that accurately reflects the experiences of people with ADHD, it is essential to thoroughly examine the narrative analogy of this illness symptoms, current stigma, and coping mechanisms. This part is an essential bridge between the comprehension of clinical details and the creative pursuit of developing a captivating, compassionate, and informative gaming environment. As well as through a careful examination of the symptoms linked to ADHD, the goal is to blend the main character with a sense of genuineness, effectively portraying the complicated issues that arise from navigating daily life with this particular disorder. The narrative parallel employed in this context has a purpose beyond mere storytelling, as it represents a conscious effort to convey study findings in a medium that promotes knowledge and empathy.

According to the findings presented by Sedgwick-Müller et al. (2022), university students diagnosed with ADHD may exhibit symptoms related to anxiety and/or sadness. The distinctive obstacles posed by the academic environment might substantially contribute to the mental health difficulties encountered by these individuals. In addition, it has been observed that individuals diagnosed with this disorder may experience challenges in effectively regulating their emotions, particularly concerning anger or sadness. Consequently, they may employ diverse coping strategies to manage these difficulties, using substances such as tobacco,

alcohol, cannabis, or other drugs and engaging in attitudes characterized by excessive participation in sexual activities, gambling, or gaming. Understanding these multifaceted challenges is crucial for devising appropriate support strategies within the university context.

The following list, collected from the insights of Alice (2023) and Hsieh (2023), describes some common stereotypes about ADHD in current society:

- The popular notion that peoples with ADHD are hyperactive is inaccurate since it mistakenly assumes that they perpetually engage in physical activity and are unable to maintain sitting down.
- The misconception that individuals with ADHD are incapable of maintaining focus on any work for more than a few seconds inaccurately generalizes their ability to maintain attention. In fact, individuals with ADHD have the capacity to experience hyperfocus, which has been defined as a profound preoccupation with a particular interest or activity over an extended period of time (Flippin, 2023). This attribute can be considered both advantageous and unfavourable as it enables individuals with ADHD to complete tasks effectively and exposes them to neglecting essential responsibilities and interpersonal connections.
- The belief that ADHD is caused by poor parenting or laziness places blame on those with ADHD, suggesting that the disorder is a consequence of inadequate parenting or a lack of motivation. Nevertheless, it is essential to note that ADHD is a neurological condition not associated with parental practices or a lack of ambition.
- The idea that persons with ADHD are forgetful and disorganized all the time inaccurately imagines they continuously struggle with remembering information and maintaining order in their things around.

Promoting accurate information concerning ADHD is necessary to mitigate the negative impacts of these misconceptions effectively, address misunderstandings, and cultivate an atmosphere characterized by more comprehension and encouragement for persons with ADHD (Lovering, 2022). The recognition of the misinformation and potential damage associated with ADHD stereotypes is of the highest priority. Challenging these misconceptions demands a

collective initiative to enhance education and foster heightened awareness. Through the distribution of precise and reliable information and the promotion of greater awareness of the condition, it is possible to minimize the negative social perception and improve the overall understanding of ADHD (Alice, 2023).

Lovering (2022) highlights several fundamental points related to the stigma surrounding ADHD. First, it is essential to note that the consequences of stigma are evident in all aspects of life, including struggles with social interactions, work opportunities, and academic aspirations. Moreover, persons diagnosed with ADHD may experience the internalization of social discrimination, leading them to accept negative assumptions associated with the disease. This internalization can hurt their self-perception and may result in a refusal to seek the necessary support and therapy. The consequences of ignoring this disorder are diverse, including multiple outcomes such as depression, anxiety, lower self-esteem, adverse effects in interpersonal relationships, and an elevated risk of drug use disorders. Furthermore, a prevalent stigma is associated with medication, ideas characterized by believing that ADHD drugs serve as a simplistic answer.

The following compilation of practical strategies for handling ADHD is supported by the research of Kaur (2021), Godman (2021), and Wilens & Spencer (2010).

- i. Individuals diagnosed with ADHD may experience external judgment, leading to a negative self-perception. The development of skills in framing opinions and the cultivation of self-confidence has the potential to improve both confidence levels and productivity.
- ii. Participate in self-care and establish healthy habits by prioritizing enough sleep, performing regular physical activity, consuming a balanced diet, and correctly drinking water. These actions are important contributing to general wellness and facilitating the management of symptoms associated with ADHD.
- iii. Being involved in regular physical activity has been associated with several cognitive advantages especially for people with ADHD, such as greater motivation, improved

memory, and reduced impulsivity. These positive effects have been shown in both children and adults with the condition, even with slight and consistent physical exercise.

- iv. Emphasize the importance of organization, employing various organized instruments, such as lists, calendars, and reminders, to effectively prioritize and monitor daily or incoming tasks. To effectively manage time and meet deadlines, putting effort into a realistic assessment like a calendar is imperative, considering particular limitations.
- v. Establishing an attractive work environment involves optimizing home and workplace settings via several strategies, such as consistently cleaning the surroundings, maintaining easy access to needed objects and reducing visual and auditory distractions.
- vi. To reduce the possibility of overwhelming feelings, persons diagnosed with ADHD may implement the technique of task segmentation, in which more significant tasks are divided into smaller, more manageable parts. This approach facilitates the initiation and completion of activities.
- vii. It is advised to consider engaging in therapy or consulting to address the challenges associated with ADHD. Research has consistently demonstrated that psychological procedures, including cognitive-behavioural therapy, have proven to be successful in assisting patients with ADHD in effectively managing their symptoms.
- viii. Medication is a scientifically proven strategy for treating symptoms associated with ADHD and should be discussed with a qualified healthcare professional.

It is important to highlight that the clinical interview is considered a crucial component of the evaluation procedure, as Wolraich et al. (2019) and Cabral (2015) highlighted. The diagnosis of ADHD must be conducted by a healthcare practitioner who possesses the necessary skills and knowledge, a professional with qualifications as a pediatrician, psychiatrist, or psychologist.

By the conclusion of this critical research, let's proceed with the conceptualization and development of the design project.

## 4.2 Project Description

Title:

- “Goofy Little Thing - Inside Alex’s mind”

Plot Idea:

In this story the main protagonist, Alex, faces an unexpected obstacle, a perpetually present companion in the form of a tiny copy of herself, which profoundly affects her personal development and transition into maturity. The little "thing," however invisible to external people, exerts a significant impact on Alex's lived experiences, this enigmatic presence serves as a representation of her internal struggles. Accompany her as she navigates an intricate web of decision-making situations that will eventually determine the trajectory of her destiny.

Characters:

- Protagonist - Alex
- Antagonist - Mini-she

Theme and Genre:

The proposed video game project places itself within the genre of graphic adventure games, drawing inspiration from titles mentioned before, such as "Life is Strange" and "Night in the Woods." This project employs a one-player game mode, emphasizing creating an engaging narrative experience.

The game incorporates several genres, mixing drama, humor, and suspense to create a complex story structure. Combining many elements in this context generates a dynamic and emotionally evocative setting for gamers. One major characteristic of the game is its discussion of mental health, particularly ADHD. Incorporating mental health as a central theme is the project's main objective of promoting awareness and understanding of mental health. As an approach similar to the narrative strategy employed in "Hellblade: Senua's Sacrifice," the presence of ADHD is carefully displayed, omitting overt references yet lightly defining the trajectory of the protagonist's adventure.

Target:

The planned video game project is primarily intended for those with mental health disorders and those without such conditions who appreciate video games. The particular demographic of interest in this broader range refers to those whom identify as gamers and enthusiasts, with a specific emphasis on those aged between 18 and 24 years. This demographic segment comprises a substantial proportion of the gaming community. It stands out among persons generally involved in advanced education or specialized academic pursuits at the university level (Stallman, 2010). The technological inclination and digital affinity exhibited by this particular group provide them with a suitable audience for a video game that explores and discusses subjects related to mental health.

#### ***4.2.1 Story structure***

The narrative of "Goofy Little Thing" may be adequately organized using a three-act framework, which incorporates the story's beginning, middle, and finish.

Act 1: The Unwelcome Goofy Companion

Alex, a typical adolescent on the edge of adulthood, faces a hidden companion that appears to intensify her difficulties. In the beginning, the protagonist considers the presence of this creature as a frustration, as it disturbs the ordinary course of her existence with its

unpredictable effect. The game starts with players engaging in a series of situations in which Alex tackles and deals with minor consequences, offering an insight into the influence imposed by her companion on her decision process. The purpose of this phase is to provide players with an introduction to the dynamic decision-making mechanism and the enigmatic characteristics of the little enemy.

## Act 2: Intensifying Struggles

As Alex and the players move on through the narrative, the intensity of her struggles amplifies. The mini-she progressively becomes more disruptive, manifesting the symptomatic characteristics commonly linked with ADHD. The tension level increases as players face crucial decisions that substantially influence Alex's interpersonal connections, educational pursuits, and psychological wellness. The unfolding of dramatic events would allow players to observe the repercussions of their choices, which involve tragic and heart breaking situations that significantly shift the trajectory of Alex's narrative. The middle act delves into the depths of Alex's internal battles, showcasing the gravity of living with this annoying being. Participants are presented with challenging situations that require them to navigate through times characterized by despair, heartache, and self-discovery, leading the player to engage even more with the characters.

## Act 3: Embracing Growth and Hope

In the finishing act, players guide Alex through a turning point where she begins confronting and understanding the little mini-she. This section illustrates that mental challenges are not antagonistic forces but essential components of our true selves. Alex develops the ability to live peacefully with her main struggle, thereby evolving its disruptive impact into the driver for her personal development. The tale culminates in an optimistic outcome, demonstrating that there is always a path toward progress, whatever the adversity and challenges experienced. The journey chosen by Alex represents the qualities of resilience, self-acceptance, and the profound impact that comes from gaining insight into one's struggles. The game conveys that mental health challenges do not serve as defining characteristics of persons but rather present chances for personal development and the cultivation of awareness.

## Epilogue:

The game's epilogue strengthens the notion that Alex's challenges are not lonely. The result is that the mini-she "thing" has now transformed into an empowering in Alex's adventure. The narrative culminates with an optimistic tone, prompting players to contemplate the fundamental notion that it is possible to cope with the intricacies of mental health effectively and ultimately emerge with increased strength.

The proposed video game's narrative framework is influenced by the storytelling techniques employed in recognized titles such as "Celeste," "Gris," and "Hellblade." These references function as points of comparison for constructing a narrative trajectory that revolves around the thematic concept of "descending to the lowest point to ascend to the highest." The thematic framework aligns with the characters' journeys in the games above, whereby beating obstacles and experiencing personal development are intimately intertwined. The game underscores the need for support, self-acknowledgment, and perseverance as crucial factors in navigating challenging circumstances.

### 4.3 Creative process

The beginning of the main character's design involves an early phase of conceptualizing her personality. The initial idea will assist in the identification of an effective color scheme, forms, and other design components that shape her representation.

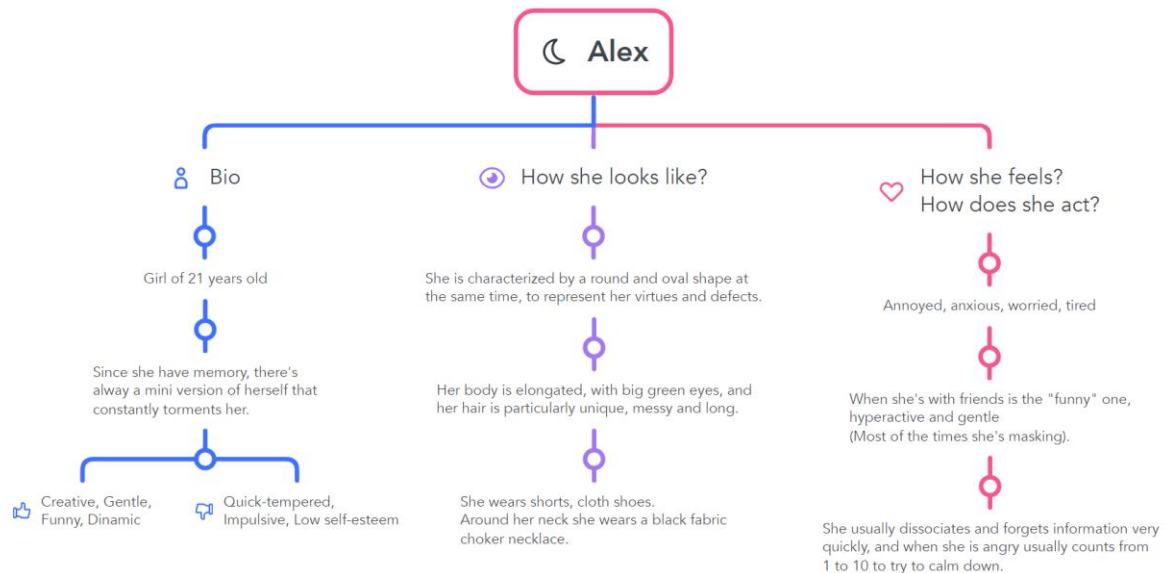


Figure 25 - Scheme of ideas based on the main character's Bio - Image developed for the project of this research.

#### Main character Bio:

- Age: 21 years old.
- Emotional Characteristics: Characterized by heightened emotional sensitivity, prone to irritability and sadness.
- Interests: Exhibits a strong passion for music and gastronomy.
- Musical Engagement: Actively plays the electric guitar as a member of the all-girl rock band "Konflikt."
- Social Behaviour: Demonstrates high activity levels and outgoing behavior within her friend circle, often assuming the role of the group "clown." However, she tends to develop social anxiety, making her uneasy to meeting new people.
- Internal Struggle: Battles social anxiety and an internal "mini-she" entity that plays pranks, causing embarrassment. Wishes for a life without this internal presence to conform to societal expectations.

- Family Dynamics: Faces discomfort within her family, dealing with pressure, and being labelled as lazy, leading to a tendency to emotionally detach.
- Physical Consequences: Physical harms due to the pranks of her "mini-she," leading to feelings of frustration and desperation.

Including these aspects in the protagonist's story highlights the existence of a symbolic being known as the "mini-she," which illustrates the difficulties associated with ADHD. The depiction underscores the protagonist's internal struggle with her attempt to overcome the challenges posed by ADHD and conform to society's standards.

#### Key Design Considerations:

A careful analysis of critical variables influenced the protagonist's development in the proposed video game project. In contrast to specific gameplay mechanics observed in popular titles, which involve users applying direct control over characters during combat and platform navigation, our project adopts an original approach. The character's design and the game's general features have been deliberately crafted to reflect a 2D style by avoiding the complex details of three-dimensional elements observed in games such as "Life is Strange" or "Hellblade." Using a 2D technique in this project is a deliberate decision that aligns with its intended objectives, facilitating a more efficient and concentrated game encounter.

- Style. The character design is 2D, with geometric but irregular shapes. It must be a fun and dynamic character that has a lot of mobility, even though, she is usually irritated.
- Character. She's the main character, she must have messy hair, and look like she doesn't fit in with the world around her. Her clothes must be like those of a teenager, since the character is afraid of growing up, in addition, must reflect her taste in music, art and her desire to express herself.
- Limitations. The visual elements should be synthesized to achieve a more precise and solid goal, consistent with the overall stylistic approach. In addition, she must be tall, so she won't be mistaken for a girl or younger.

The selection of the protagonist's gender is a deliberate choice influenced by two separate determinants. First and foremost, it is a significant gender-related concern linked to ADHD. The problems in diagnosing ADHD in females might be attributed to the intricate manifestation of symptoms, as discussed by Quinn and Madhoo (2014) and Young et al. (2020). The prevalence of gender biases and misunderstandings may lead to the under-recognition of symptoms in females, particularly when enhanced by the coexistence of other disorders, including anxiety, depression, and eating disorders. These additional conditions might mask the core symptoms associated with ADHD.

The decision to have a female protagonist in the narrative serves a double objective: challenging the misconception that ADHD is limited to or more commonly observed in males and enhancing the portrayal of the disease to align with its actual prevalence. Furthermore, the decision is also influenced by a sense of self-portrait, with the master's student, one of the authors of this research, being a female person living with ADHD. By recognizing variations in personality and physical attributes, selecting a female character improves the genuineness and individual connection of the portrayal.

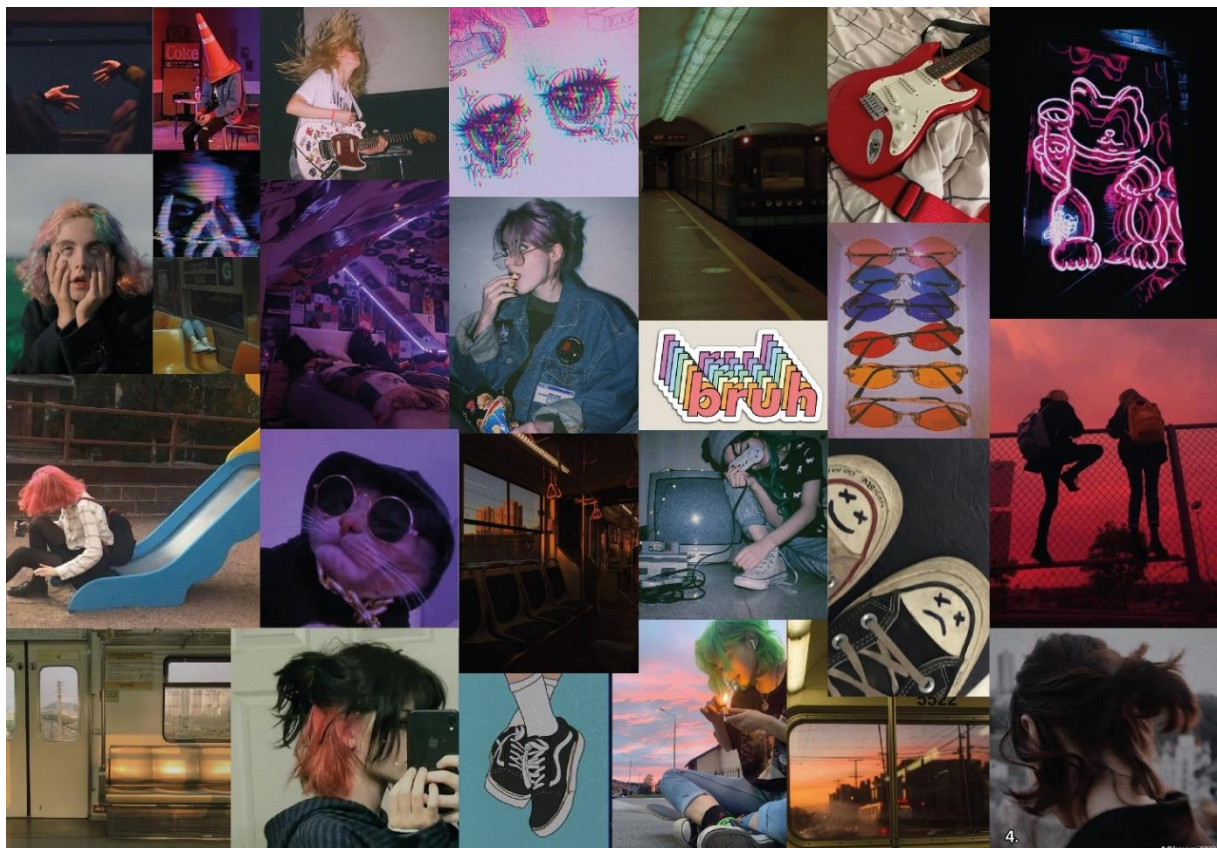
#### Character Story:

- Personality. Funny, very emotional, irritable, sad (don't like to demonstrate it).
- Conflict. Between isolating herself, having social anxiety and being outgoing with her friends, between being very handy with some things, but being distracted and clumsy even when walking.
- Desire. Become a responsible and functional adult, to do so want to get rid of what apparently hurts her all the time (mini-she).
- Defects. She does not accept herself as she is, suffers from low self-esteem and is a pessimistic person.
- Good features. She really likes to compose music and cook, is creative and empathetic.
- Subtext. Probably her desire to become a functional person to be in the expectation of other people, for they to "value her". She does not think she is a good person.

#### Antagonist – Mini-she:

Since this character is essentially a scaled-down version of the main protagonist, we didn't observe any need to give it the same design treatment twice.

The mood board, which visually represents the project's initial concept, employs a digital collage technique to combine different pieces. This approach explores potential color schemes and styles that can be implemented.



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Ideas and visual reference style:

This project has been inspired by the iconic video game "Little Misfortune," previously analyzed, and as a result, it implemented a visual aesthetic that shares similarities to the abovementioned game. This aesthetic choice involves intentionally contrasting the graphic style with a rather unexpected story. Positioned within the context of decision-making, as previously established, the principal aim is to produce an interactive environment that reminds one of a television cartoon. This approach aims to encapsulate the fundamental aspects of observing and enjoying excitement in an animated series, wherein the characters possess facial features that are distinguished by humorous or exaggerated expressions. The selection of this particular style is also driven by personal sentiments of nostalgia associated with early exposure to animated shows such as "The Powerpuff Girls," "One Piece," "The Fairly OddParents," and "Sakura Card Captor," among others. Furthermore, other modern television shows such as "Adventure Time," "The Amazing World of Gumball," and "Gravity Falls" serve to actively induce a feeling of nostalgia, explicitly targeting the target audience of those who had experienced the transitional period of adolescence.



Figure 27 – Mood board created for the main visual style idea references - Image developed for the project of this research.

Alex's Playlist:

In a creative and innovative move, the project incorporates a playlist, going beyond the visual inspirations supplied in picture mood boards. "Alex's Playlist" includes a carefully planned selection of songs that harmonize with the character's musical preferences, representing musical choices she might potentially associate with in her day-to-day existence.

Link: <http://bit.ly/3OeZLPI>

#### 4.3.1 Main character design

After the generation of visual and audible guidelines, which served as beginning points of reference for the project design and style, the initial phase of the process required a comprehensive examination of diverse shapes and proportions. This phase emphasized essential structures rather than unnecessary details, facilitating the conceptualization of the primary components for the character's depiction. The selected pictures enabled the exploration of combining critical characteristics to achieve a persona that embodies both a 21-year-old girl and an adolescent aesthetic, all within the context of a punk/rock style.



Figure 28 – A compilation of the main character's first sketches - Image developed for the project of this research.

## Character Outfit Exploration:

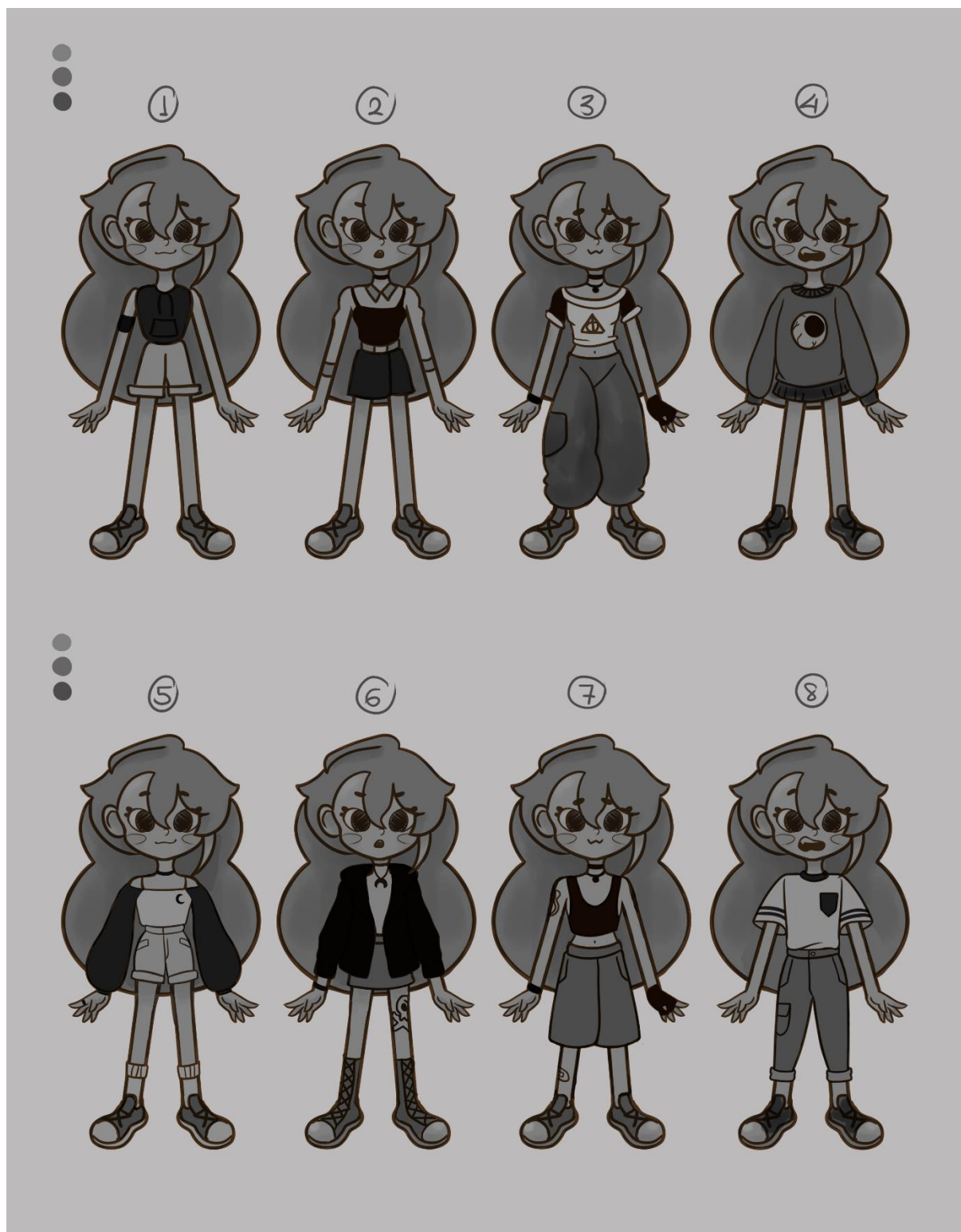


Figure 29 - Compilation sketches of the character outfit exploration - *Image developed for the project of this research.*

Main features:



Figure 30 – Visual compilation of the shapes and color palette applied for the main character design, and the silhouette - Image developed for the project of this research.

Model Sheet:

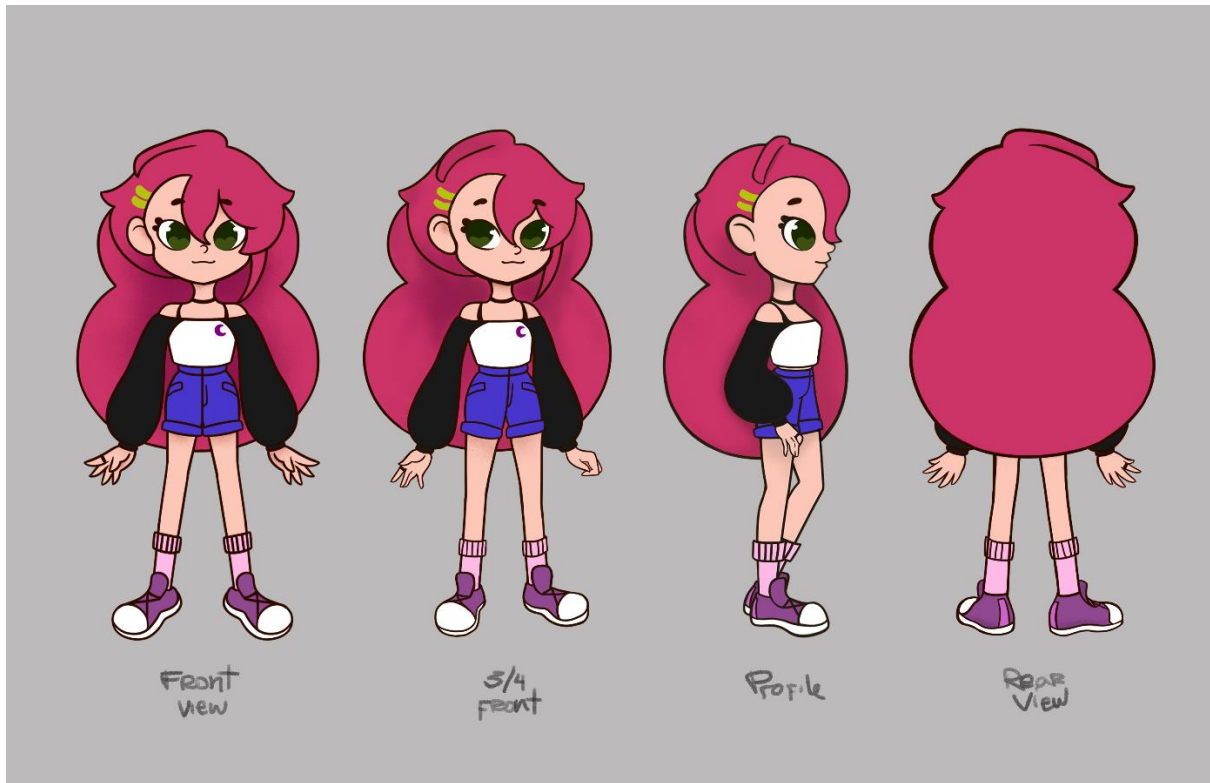


Figure 31 – Reference Sheet of the main character - *Image developed for the project of this research.*

“Alex” Poses & facial expressions:



Figure 32 – Main character Poses and facial expressions - *Image developed for the project of this research.*

### 4.3.2 Antagonist design

As mentioned before, the design of the "antagonist" has a strikingly similar design to Alex, but in a smaller version. As a result, an analysis was initiated to assess the relative sizes of different anatomic portions. The aim is to portray the character as maintaining a little scale that allows it to perform moves efficiently within the context of scene animations. It also avoids the notion that it is a younger stage of the protagonist.

Mini-she sizes exploration (based on Alex Design):



Figure 33 – Antagonist sizes and exploration based on main character design - *Image developed for the project of this research.*

## Main Features:

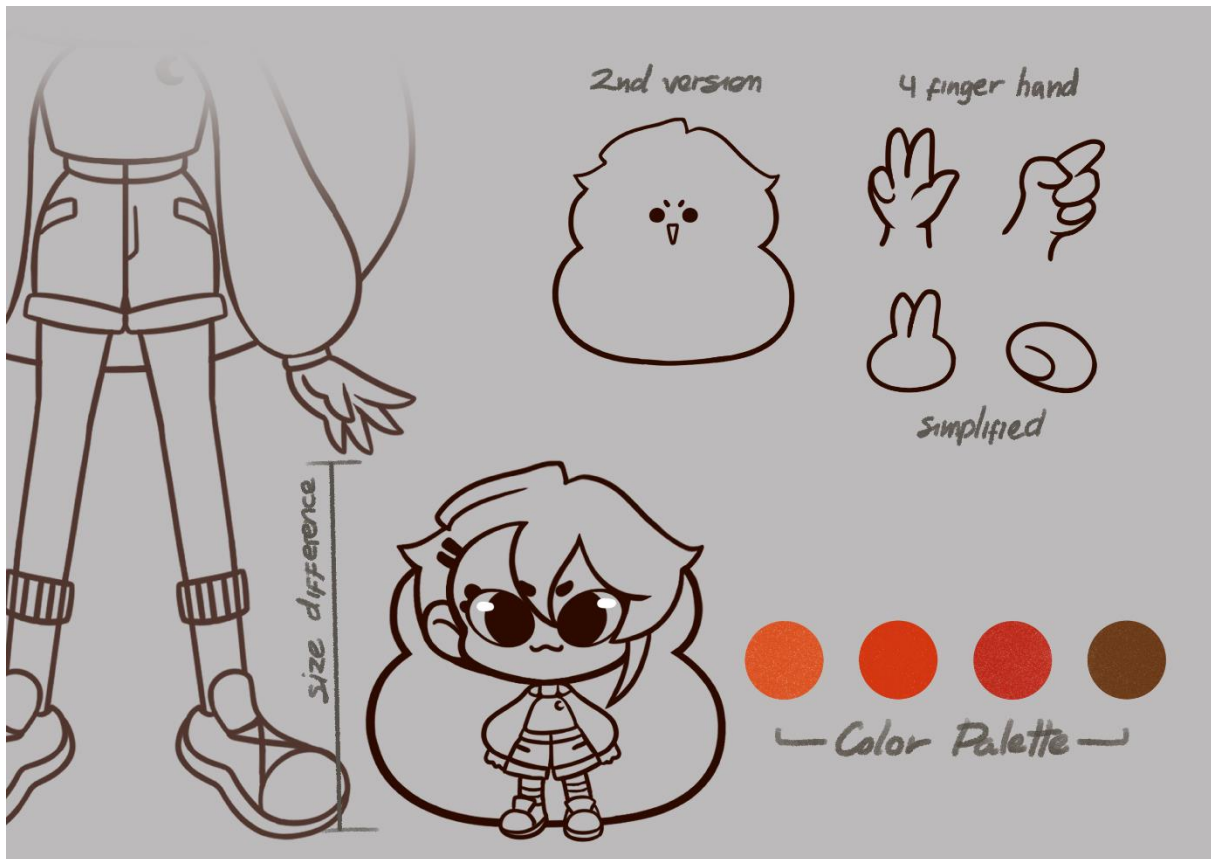


Figure 34 – Visual compilation of the main features and color palette of the main character - Image developed for the project of this research.

## Detail of the character's color saturation changes:

In circumstances where a scene exhibits high-intensity levels, the monochromatic color saturation of the mini-she will also be heightened. This boosting, which may start at an average intensity level of 5%, will gradually and subtly manifest on the screen. The player may see an increased saturation level that could reach 100%. This visual representation reflects the characteristic of individuals with ADHD to experience difficulties in regulating their emotions. The study conducted by Walter et al. (2023) investigated emotional processing in people diagnosed with ADHD, finding a significant rise in the generation of arousing emotions compared to persons without this condition. This particular attribute will manifest across several emotional states, just to mention a few: sadness, excitement, embarrassment, frustration, and rage, as seen in Figure 35.

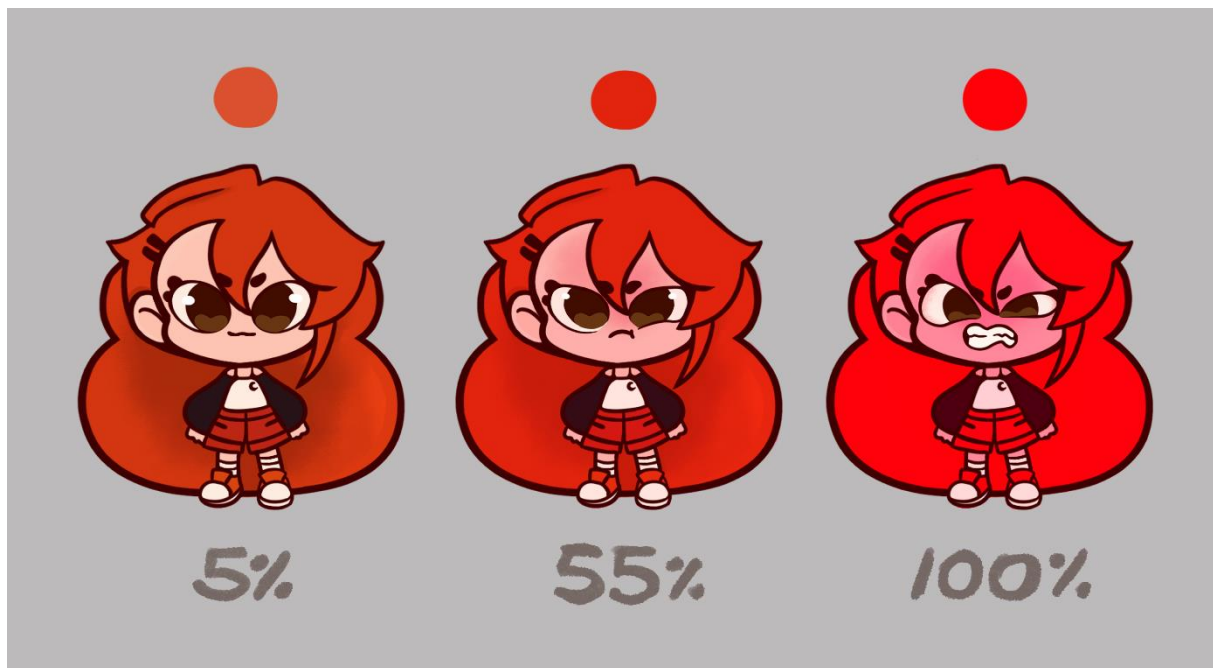


Figure 35 – Example of saturation intensity changes in the character "mini-she"- *Image developed for the project of this research.*

Mini-she Reference Sheet:



Figure 36 – Reference Sheet of the antagonist "mini-she"- *Image developed for the project of this research.*

“Mini-she” Poses & facial expressions:



Figure 37 – “mini-she” Poses and facial expressions - Image developed for the project of this research.

#### 4.3.3 Environment



Figure 38 – “Adventure Time” animation series, environment examples. (Cartoon Network, 2010). Adapted from *Wallpaper Cave*

Furthermore, the examples provided within the current investigation exhibit features seen in animated programs, drawing inspiration from the mentioned cartoons' aesthetic style. Figure 38 depicts an artistic representation of the abovementioned scenarios, using flat colors with minimum rendering and gradients primarily employed in the sky. Therefore, the primary focal point for this project would be the interior of a train, which serves as an essential part of the game. After reaching the end of each of the three stages, players will have to navigate through a tunnel setting, where the color scheme of the surroundings experiences tonal variations that match the concluded vibe phase.

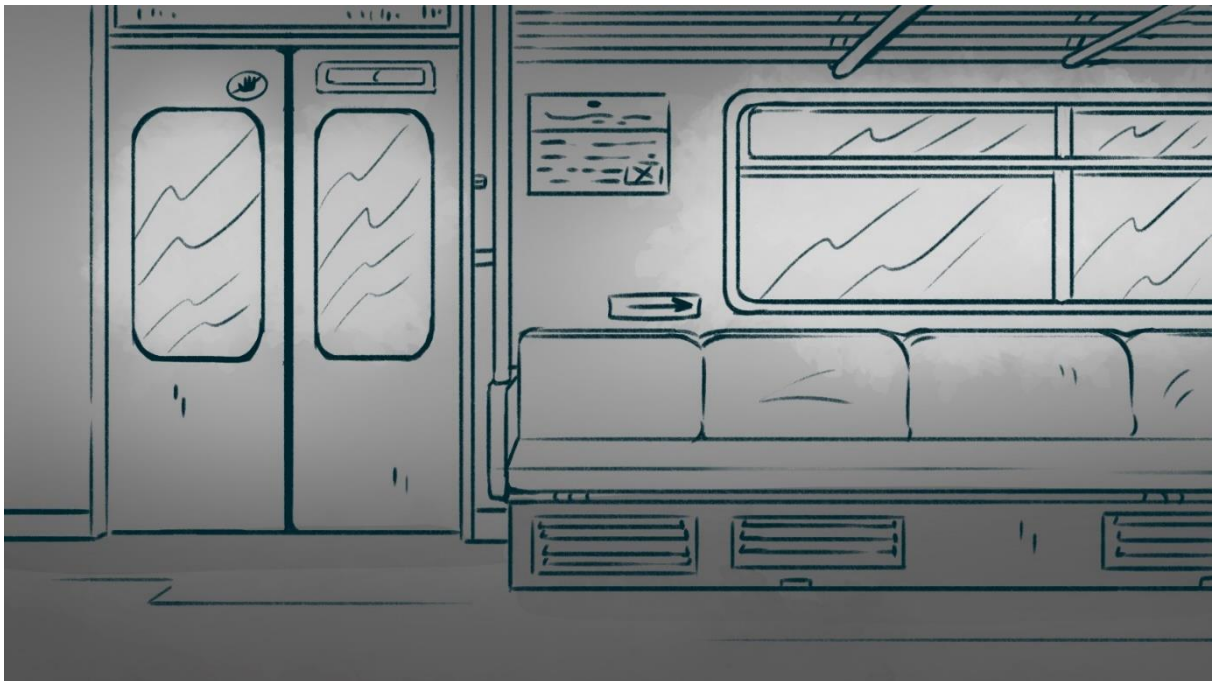


Figure 39 – First sketch of one of the scenarios that will be most recurring in the game - *Image developed for the project of this research.*



Figure 40 – Example of two different variations in the tonalities of the scenario - *Image developed for the project of this research.*

#### 4.4 Game genre and mechanics

The study conducted by Rogers et al. (2016) highlights the significance of gamers' perception of a video game's value based on their ability to connect with the characters, gain interest in the storyline, and firmly believe their in-game decisions have meaningful effects. This emphasizes the need to develop engaging characters and an appealing narrative during the conceptualization phase of a video game; the objective is to captivate the player's focus and sustain their interest within the game's immersive world.

##### 4.4.2 Decision-making genre mechanics for the project

The fundamental mechanics of the gameplay are centered on a framework for decision-making, in which players assume the role of guiding the character Alex through a multifaceted series of challenges commonly faced throughout adolescence and adulthood. Every decision the protagonist makes has an immense influence on the invisible antagonist, shaping its actions and impacting Alex's overall adventure. The story exhibits dynamic adaptability, leading to a different and personalized experience for every player involved in decision-making.

The potential narrative direction of the story can be influenced by the choices made concerning Alex's actions or conversations. The decisions made by the players have a significant impact on the responses of secondary characters, resulting in many narrative paths. Due to video games being interactive, players seem to get involved in the shape the narrative of in-game representations of mental health, providing for a more personalized and meaningful experience.

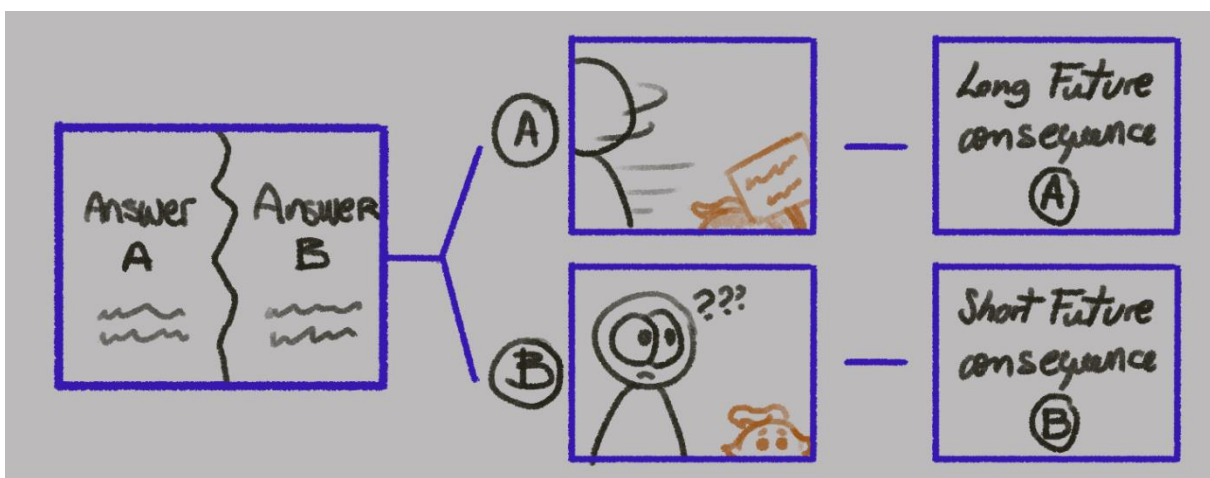


Figure 41 – Prototype scheme with conventional decision-making options - *Image developed for the project of this research.*

At this point, the inquiry arises: How may the game distinguish itself from other titles within the same genre? One such strategy as part of the integration of symptom representations associated with ADHD would be to increase the range of conversation options and actions beyond conventional binary options to encompass 4 to 6 additional possibilities, which apart from increasing complexity and innovate the mechanics of decision-making within the game, also works as a reflection of the mental hyperactivity that people with ADHD have (Alice, 2023).

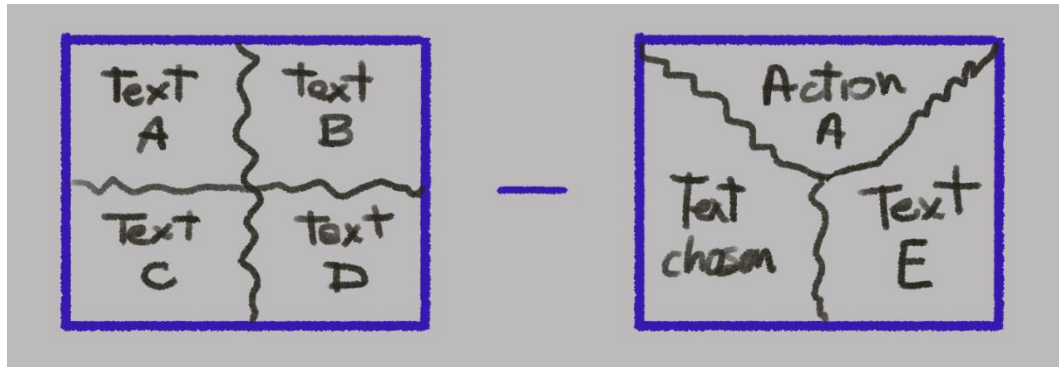


Figure 42 – Prototype scheme of texts and actions with different possible results - Image developed for the project of this research.

Following selecting a response or thought, the analysis and other reviews unfold quickly, representing a fundamental characteristic of a cognitive profile associated with ADHD. Certain decisions may require a mental process characterized by a fragmented distribution of ideas when the individual engages in introspection and deliberation over their actions. These ideas may exhibit interconnections similar to threads, giving rise to insights that may not be directly connected. After the character finishes this period of mental disengagement, they become aware of the progression of time, represented by an animated depiction of a playful miniature figure moving the clock forward.

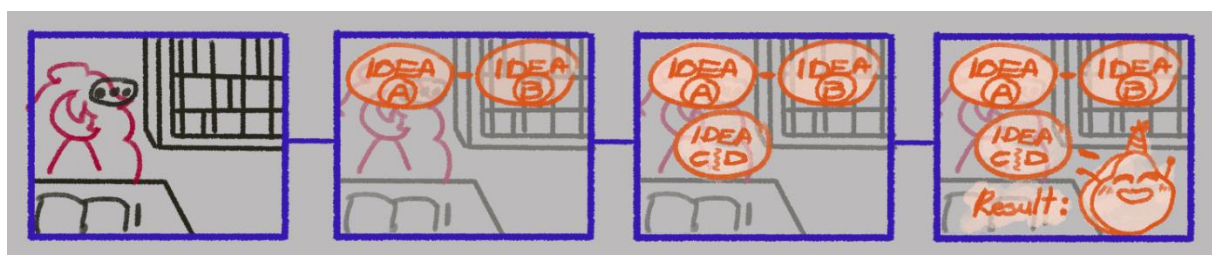


Figure 43 – Prototype scheme of multiple thoughts, which form a thread, ending in an idea - Image developed for the project of this research.

## 4.5 Other visual plugins

### 4.5.1 Rewards and collectives

Motivated by the incentive system depicted in "Little Misfortune," our game design integrates mementos that serve a dual purpose. The primary aim is to enhance the game's replayability by enticing players to revisit the narrative, delve into different plot lines, and acquire distinctive stickers that symbolize significant events within the story. Overall, these treasures serve the purpose of unlocking an additional chapter that may be likened to an epilogue, providing a more comprehensive exploration of the character's path following the discovery. This serves as a gesture of appreciation towards players for their active involvement in the game. The second objective is to employ these pieces as emoticons customized for the Twitch streaming platform. Using account connection, gamers can effortlessly include these emotes in Twitch chats and channels, indirectly promoting and cultivating a feeling of community centered around the game. The use of this dual-purpose design not only enhances the overall gaming experience but expands the game's scope by utilizing social networks to facilitate genuine and deep player interactions.

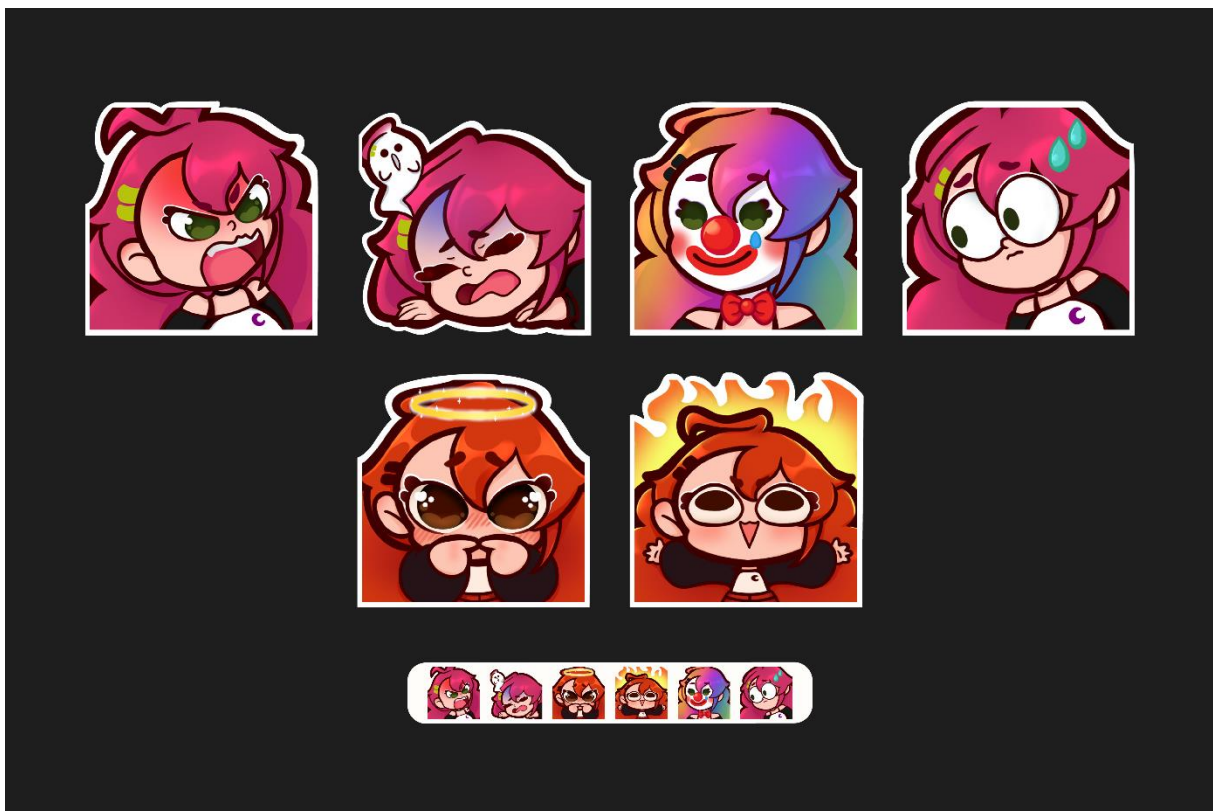


Figure 44 – Rewards stickers & emotes that for the inside game and streaming platforms - *Image developed for the project of this research.*

## 4.6 Animations

In our mission of creating "Goofy Litte Thing," an innovative video game that seeks to shed light on the intricate difficulties associated with mental well-being, we acknowledge the significant influence that animations hold in effectively communicating the core message of our storyline. In order to achieve a visually compelling and emotionally evocative experience, a deliberate animation method has been carefully selected and implemented. This approach goes beyond primary aesthetic appeal; it functions as a dynamic medium, giving vitality to the hidden challenges faced by our protagonist, Alex.

### 4.6.1 *The main idea*

- A scene for the intro: In the first scene of the animation, Alex is positioned on a train, an important location that will be of substantial importance throughout the narrative. She exhibits a sense of tranquillity, fully absorbed in her musical playlist. Nevertheless, in an unexpected instance, an overwhelming number of little "mini-shes" manifest, dispersed over diverse areas, each immersed in separate activities. The illustrated visual representation serves as a symbolic representation of the protagonist's quick and unceasing thought processes.

## 4.6.2 Story board



Figure 45 – Story board for the intro - Image developed for the project of this research.

#### **4.6.4 Final Animation**

- *Animation intro*

*Link:* <https://vimeo.com/871240066?share=copy>



## **Chapter 5: Conclusion**

### **5.1 Suggestions for further research**

In the coming period, it will be a focused effort aiming at the practical development of the suggested video game project, facilitating its transfer from a conceptual framework to, at the very least, a prototype. The primary objective of this developmental phase is to actively include a wide range of participants, including students in game production, financial research centres specializing in mental health, and well-established video game companies. It is imperative to collaborate with these organizations, as doing so is essential not only for capitalizing on their experience but also for obtaining the necessary support and resources required for the successful implementation of the project.

The main aim of this developmental phase is to convert the concept into a physical prototype suitable for thorough testing. The primary emphasis will be increasing participation and involvement among persons within the specified age group, specifically those with mental health disorders. The testing phase is vital in evaluating the game's efficacy in effectively communicating the intended story, fostering empathy, and making a meaningful contribution to understanding mental health. The feedback from the community testing will be utilized to make gradual enhancements and changes to boost the game's effect.

Furthermore, investigating potential partnerships with academic institutions and research centres specializing in mental health and gaming could produce significant findings about the game's effectiveness as a tool for teaching and therapy. The objective is to present the project as a gaming experience and as a potential asset for mental health research. Future research activities seek to validate the game's impact by expanding its reach to diverse stakeholders and actively involving the target community. Additionally, these efforts aim to contribute to the broader discourse on mental health in gaming and cultivate a collaborative environment that promotes the ongoing development of narrative-driven, mental health-focused video games.

## **5.2 Summary of the main findings and contributions of the study**

This thesis conducted an in-depth investigation of mental health narratives in the context of video games. The study started by revealing the significant lack of discussion regarding mental disorders and the subsequent repercussions on mental health awareness. One of the primary findings from the introduction chapters is the considerable potential of video games as an effective medium for addressing these concerns. The transformational potential of gaming experiences induces cognitive empathy, which has been recognized, highlighting their ability to influence individuals' lives substantially.

The research findings indicate that a substantial number of commercial video games address mental health. However, it is essential to note that the selection of games for analysis in this project was made carefully and intentionally to serve as references. The industry's increasing focus on mental health promotion is evident. Nevertheless, the research emphasizes the necessity for a sophisticated methodology beyond the essential incorporation of mental disorders as narrative tools. There is an expectation that the trajectory of the business will persist in its evolution, prioritizing storylines that promote comprehension and empathy while avoiding the unintentional reinforcement of stigma.

The video game project, titled "Goofy Little Thing," presented in this thesis, demonstrates a worthy effort despite the inherent limits imposed by time and financial constraints. This project serves as a prototype, providing significant insights into the potential of video games to make essential contributions to discussions surrounding mental health. While recognizing the limitations of the research, it serves as a spark for subsequent investigations, offering a framework for those interested in embarking on related initiatives. The weaknesses that have been found serve as an impulse for further research, stimulating potential researchers and game developers to engage in innovative practices within video game design.



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