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SHIFT

ART BOOK

martagg513@gmail.com
Marta Gavilán Gavira   **Graphic Design**

GRAPHIC DESIGN AND NEW TECHNOLOGIES.

THE VIDEO GAME AS A TOOL TO COPE WITH STRESSFUL SITUATIONS. SHIFT

Illustration - Psychology - Video Game - Stress - Concept Art

Abstract. Stress and anxiety problems are common in our society. This work aims to offer a solution through video game design. Over time, different classes of video games have been developed, some allow you to relax, such as Stardew Valley (Barone, 2016), while others create stress and anxiety, such as VVVVVV or Super Hexagon (Cavanagh, 2012). Despite this, no specific video games have been found focused on teaching users to manage their emotions. Taking advantage of elements of graphic design, such as interactivity, graphical interface and character development, we have generated an immersive, pleasant and educational experience. The result is an art bible that collects the graphics created, including sketches of the character, enemies, scenes and objects of the game, as well as interface designs; and a Game Design Document (GDD) where we will reflect everything necessary for the development of this video game.

Resumen. El estrés y la ansiedad son problemas frecuentes en nuestra sociedad. Este trabajo intenta aportar una solución a éstos a través del diseño de videojuegos. Con el tiempo se han desarrollado diferentes clases de videojuegos, algunos permiten al usuario relajarse, como Stardew Valley (Barone, 2016), mientras que otros crean estrés y ansiedad, como VVVVVV (Cavanagh, 2010) o Super Hexagon. A pesar de ello, no se han encontrado videojuegos específicos centrados en enseñar a los usuarios a manejar sus emociones. Aprovechando elementos del diseño gráfico, como la interactividad, la interfaz gráfica y el desarrollo de personajes, hemos generado una experiencia inmersiva, agradable y educativa. El resultado es una biblia de arte que recoja la gráfica creada, incluyendo bocetos del personaje, enemigos, escenas y objetos del juego, así como diseños de la interfaz; y un Game Design Document (GDD) donde reflejaremos todo lo necesario para el desarrollo de este videojuego.

1. INTRODUCTION AND OBJECTIVES

According to the Spanish Ministry of Health report (2021), anxiety disorder is the most common mental health problem in primary care medical records. This project seeks to offer an innovative solution through game mechanics studied for learning and gamification of mental health. Video games are an important part of many people's lives; according to the DFC Intelligence (2020) report, almost 40% of the world's population plays video games. For this proposal, the video game was chosen as an emotional management tool for various reasons. It offers us the opportunity to interact directly with the content, increasing the retention and understanding of information. On the other hand, it provides us with a safe and controlled environment to practice stress coping strategies. Being a fun and interactive way to learn such strategies. Video games have great potential as a tool for stress management, as they are an experiential and interactive learning method that allows players to learn skills in a safe and controlled environment. Besides, they are able to offer immediate feedback to the user and being accessible from a computer, making them useful for both professionals and the general public. We will bring innovations to the video game industry by using this technology in a therapeutic way.

From a technical point of view, similar products have been detected, but very few are focused on emotional management. This paper takes advantage of the inherent advantages of video games to assist an individual who operates in a constantly evolving society. This video game concept aims to be a useful tool to recover normal emotional reactions to stressors, leaving behind excessive anxiety, distress, high physiological activation, and behavioral problems that interfere with the most important areas of our life.

In order to develop our game concept effectively, we identified a set of objectives that serve as a roadmap for the project. These objectives allowed us to prioritize the main goals and understand the significance of addressing secondary ones to ensure the success of the game.

- **Objective 1:** Create a video game concept that helps the user to manage stress
- **Objective 2:** Create a story that didactically explains this psychological process
- **Objective 3:** Design a world with its unique characters
- **Objective 4:** Develop a distinctive graphic image for this video game
- **Objective 5:** Raise awareness about the importance of learning emotional management tools
- **Objective 6**: Teaching the player stress management techniques through the gaming experience

2. METHODOLOGY

We must begin by saying that stress in itself is not bad, it is a physiological response to a situation of overdemand, and it has been very necessary for our evolutionary development. We can understand it as the perception of a threat for which we consider that we have no resources (Peralta, 2019) (Folkman et al., 1986). However, when the body is exposed to prolonged and high levels of stress, it can have negative health consequences. When we are stressed our body consumes an increased amount of resources, leading to fatigue and exhaustion. And, if there is no rest, our ability to respond is diminished. It is crucial to have adequate strategies to avoid adverse physical and psychological consequences, considering that the stress response is contingent on our subjective interpretation of situations (Peralta, 2019). As it is a response, improving our coping strategies to that response may have a therapeutic effect. By using the immersive nature of video games, we hope to create a safe and controlled environment that allows players to learn skills in a fun and interactive way. We aim to teach individuals how to manage stress before it becomes a problem.

Now, let's delve into how we would accomplish this. In the following, we present the methods used to implement this project and ensure its effectiveness.
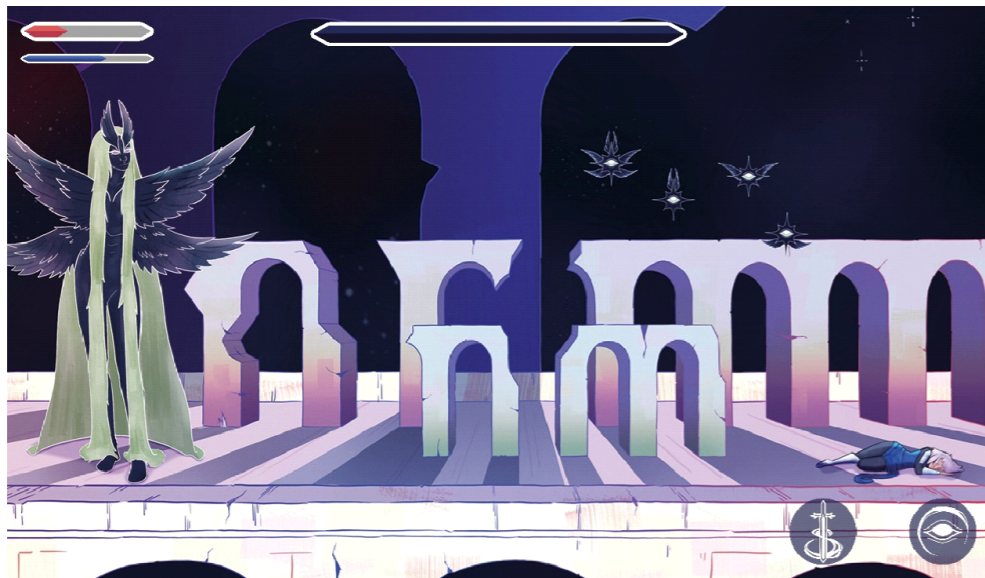

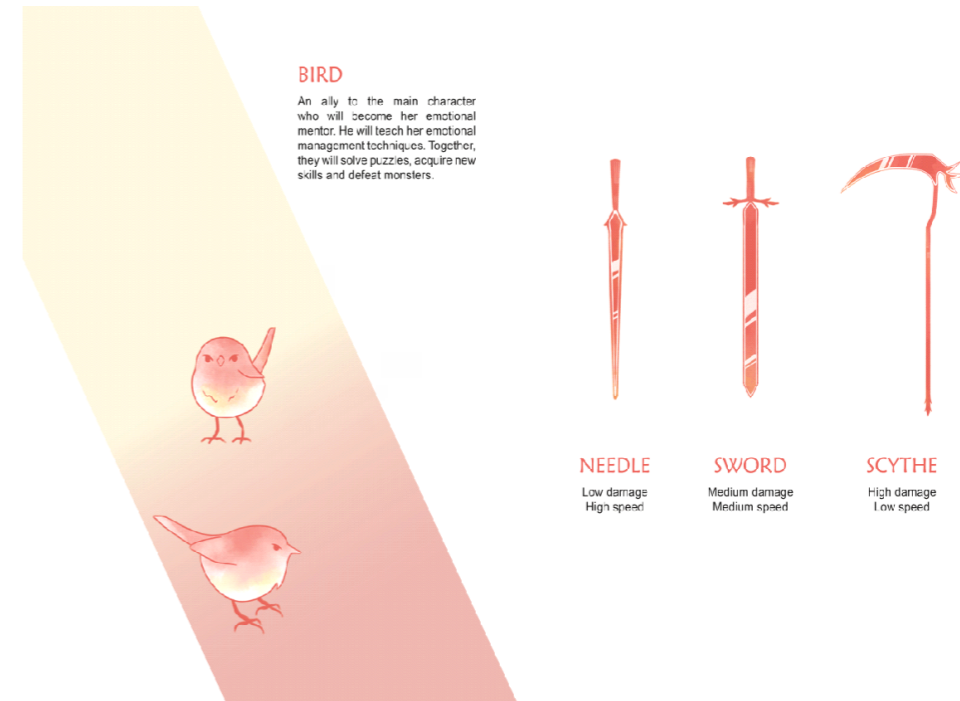**Image 1:** First fight in the game. Own production.

Image 2: Secondary character and its transformations. Own production.

STORYTELLING

We used storytelling as a key tool to build an exciting plot. To do this, we used the structure of the 'Hero's Journey'. In broad terms, our protagonist is a common person that faces a problem: a mysterious illness is affecting the habitants of her world. She embarks on a quest to find a solution and discovers that the cause of the problem is a monster that consumes people's vitality. This monster serves as a visual metaphor for stress, and the first fight cannot be won by the player. The initial defeat can remind us that failure is a natural part of the learning process.

From this moment on, the protagonist will come across a supporting character that becomes her emotional mentor by teaching her emotional management techniques. It also has the ability to transform into different weapons. Together, they will solve puzzles, acquire new skills, and defeat monsters.

The story will culminate in a final showdown with the initial monster that defeated the protagonist in their first encounter. However, thanks to the skills acquired, they will be able to overcome it and save their world. Through an attractive plot and visual metaphors, we can create a gaming experience that is not only entertaining but also educational.

STRESS INOCULATION PROGRAM

However, the question arises of how to incorporate psychological elements into our video game. In this context, we present the Stress Inoculation Training (SIT) (Meichenbaum, 1988). Its objective is to help people develop coping skills and increase their resistance to stressful situations. The underlying idea is that if moderate levels of stress are successfully faced, more extreme situations can also be tackled. The program is divided into three phases:

- **Conceptualization phase:** It is informative and provides the conceptual framework of stress so that the person understands how it affects them. In this context, the story of our game begins by explaining how this villain attacks the protagonist's world and how it affects its inhabitants. The first fight with a boss, which the player cannot win, serves to expose the negative effects that stress can have on a person.

- **Skills acquisition phase:** Stress coping skills and strategies are trained, and modifiable and non-modifiable aspects are differentiated. In the course of the narrative, emotional tools will be given to the player, through the secondary character, during the game's story.
- **Application and consolidation phase:** The learned skills are put into practice in real or simulated situations. To do this, we will use imagination exposure in the video game, creating controlled stress situations like boss fights. It is important to give the person the opportunity to put into practice what they have learned in successful experiences, so that they develop confidence in their own resources.

MDA FRAMEWORK

To better understand how to develop this game concept, the MDA (Mechanics, Dynamics, and Aesthetics) theoretical framework (Hunicke et al., 2004) for video game design was taken into account. It is a formal approach to understanding video games. It considers that, when developing a video game, we must take into account both the designer's perspective and the player's perspective.

The adequacy of mechanics is fundamental in defining the general dynamics of a video game, with them being the basic elements of the game. Similarly, dynamics correspond to the player's behavior in response to mechanics. On the other hand, aesthetics refer to the emotional and psychological response that the game elicits. In our case, we use elements of psychology to develop mechanics, dynamics, and aesthetics.

It is necessary to highlight that the main dynamic of our game is based on the concept of learned helplessness (Seligman, 1975). According to this theory, when a person experiences a situation in which they feel they have no control, they may develop a sense of helplessness that affects their ability to respond to similar future situations. Within the context of the game, by presenting an apparently invincible boss, we seek to provoke a sense of helplessness and vulnerability. We intend for the player to "unlearn" this helplessness as they progress through the game world and learn new skills.

In the context of a game designed to help with stress management, we developed the next chart with the main mechanics, dynamics, and aesthetics.

Table 1: List of mechanics, dynamics and aesthetics of this project Own production.

MECHANICS	DYNAMICS	AESTHETICS
The path is predetermined and there is no freedom to explore the world	The player will follow the desired path	Narrative
The game is slow while learning new skills and fast in moments of tensio	The player will feel stressed during fights, relaxed while learning	Sensation
The player will have to detect negative thoughts during game	May serve as training for detecting negative thoughts in everyday life	Sensation
The character can move left, right, jump, interact with objects in the world, and attack		
The secondary character can transform itself into different weapons, each with its own characteristics	The player may feel less lonely	Narrative
Each boss is different and has unique abilities	The player will adapt their weapons and behaviors to the different bosses	Challenge
The first boss fight cannot be beaten the first time	The player will learn to adapt and overcome difficult situations, instead of giving up	Sensation
The player can abandon the fight at any time	The player may recover and rethink their strategy	
Solving puzzles leads to obtaining new abilities. Failing a puzzle will force the player to start over the last auto-save	Encourage problem-solving, discourage random tries	Challenge

MECHANICS	DYNAMICS	AESTHETICS
The player has 100 health points. The first 75 will be easier to lose	The player will feel unprotected and will be forced to play more cautiously	Challenge
The camera use and the music will help us generate the different sensations we intend to evoke	May create a sense of awe and vulnerability by making the player feel small and powerless	Sensation

In our video game, the most important aesthetic objectives are sensation and narrative, above challenge. As a result, our dynamics will not be focused on winning, but on the player experiencing emotions such as stress and relaxation in different environments.

USER FLOW

User flows are diagrams that show the path a user takes when using a product. They visually represent how the user interacts with the product, in this case, a video game (Browne, 2023). They are of vital importance, as they help us to visualise the sequence of actions that the player performs within the game. The user flow allowed us to analyse the navigation and user experience to ensure that the usability and menus are easy to access and understand. The better someone understands how to play, the more likely they will spend time with the product and share it. In Figure 3 we can see the different ways the player can interact with our game.
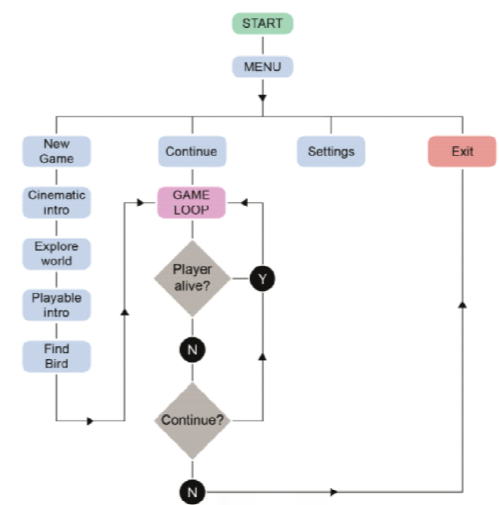

Image 3: Shift user flow. Own production.

GAME LOOP

Game loops are a series of repeated actions that serves as the foundation for everything the player does in the game. They are the essence of why players engage with a game and can captivate players for hours, despite being repetitive cycles of actions (Millard, 2020). The nature of gameplay loops varies across different game genres, for example the main game loop of League of Legends (Feak et al., 2009) consists of selecting a champion, purchasing items and confronting the enemy team. Understanding the desired experience of our game helped us define our game's core gameplay.

As we can see in figure 4, our core loop consists of exploring the world, killing monsters, completing puzzles and collecting rewards. Typically, game loops encompass smaller, more defined loops within them. However, to align with our schedule, we focus on the core game loop.
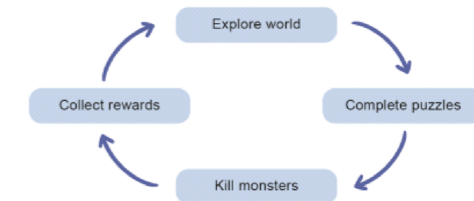

Image 4: Shift game loop. Own production.

CHRONOGRAM

For the organization we mainly used a paper calendar in addition to a daily planner. The paper calendar allowed me to have a visual overview of deadlines. The daily planner was useful for breaking down larger tasks into smaller, manageable steps and scheduling them throughout the day. This helped us stay on track and avoid feeling overwhelmed by the workload. They allowed me to prioritize tasks and manage my time effectively, which ultimately contributed to a successful outcome.

The project has been divided into two parts. In the first one, we developed the basics, including the different researches, theoretical framework and so on. On the other hand, we developed the game mechanics and story. The first sketches were made to start the layout of the Art Bible. In the second part, we finished developing all the graphics, including characters, backgrounds and interface. We will also wrote the conclusions and made the final mock-ups of the Art Bible.

Table 2: First half of the calendar.
Own production.

	FEBRUARY	MARCH	APRIL
WEEK 1		Theorical framework State of the Art Target	Graphic Style Concept Art
WEEK 2	Timeline Investigation	DAFO, CAME User Flow Customer Journey	Concept Art Dossier
WEEK 3	Investigation Dossier	Game Mechanics Dossier Art Bible	
WEEK 4	Objetives Justification	Game Story Sketches	

Table 3: Second half of the calendar.
Own production.

	APRIL	MAY	JUNE
WEEK 1		Methodology Concept Art	Dossier Art Bible
WEEK 2		Dossier Art Bible Concept Art	Print Presentation
WEEK 3	Concept Art Brand Identity	Art Bible Panel Concept Art	
WEEK 4	Cover Interface	Art Bible Concept Art	

3. CONCLUSIONS

From the results obtained we can draw the following conclusions:

Firstly, the main objective of our proposal was to create a video game concept that would help the user to manage stress, we successfully developed a didactic storytelling approach to depict stress through our video game concept, utilizing the "Hero's Journey" structure and incorporating specific mechanics, dynamics, and aesthetics.

Furthermore, we have created an unique universe with its distinct characters, showcasing our ability to design a cohesive graphic identity for this concept.

However, it is not possible to claim that we succeeded in raising awareness of the importance of learning emotional management techniques, nor can we claim to have successfully imparted these techniques to players at this stage.

This raises possible lines of further research into the potential of video games as therapeutic tools. We highlight the importance of testing this concept with the support of a dedicated development team and rigorous testing procedures to ascertain its effectiveness. Thus, we extend an invitation to other researchers to explore and expand upon this area of study.

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