Fragmented Mind: A Portrayal of Schizophrenia Through Interactive Awareness

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February 2023 - June 2023

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1. Introduction

This project aims to present a Unity game that simulates the experience of someone with schizophrenia, with the objective of raising awareness about this mental disorder. Schizophrenia is a serious mental illness that is characterized by symptoms such as delusions, hallucinations, disorganized thinking, and abnormal behaviors. Despite its prevalence, schizophrenia remains a highly stigmatized and misunderstood condition, which often leads to misconceptions and discrimination towards people who suffer from it (U.S. Department of Health and Human Services, 2023).

Our game aims to provide a unique perspective on schizophrenia by allowing players to experience firsthand what it is like to live with the disorder. This is achieved through our collective research into the common symptoms of schizophrenia, from existing games to books written on the matter. Through these, we decide to include features that will simulate the cognitive and perceptual distortions that people with schizophrenia often experience, such as altered sensory perceptions, paranoid delusions, and disorganized thinking. By immersing players in this simulated reality, the game seeks to raise awareness about the complexity and severity of the disorder and to promote empathy and understanding towards people with schizophrenia.

The project is of significant interest due to its potential to serve as an educational and awareness-raising tool for people who are unfamiliar with schizophrenia. It can also provide valuable insights into the experiences of individuals with schizophrenia and challenge the stigma and discrimination surrounding the condition, which aims to promote a more inclusive and supportive attitude towards those affected by it.

The background of this project is rooted in the lack of understanding and misconceptions surrounding schizophrenia. Despite being a highly prevalent mental disorder, schizophrenia remains misunderstood and stigmatized in many societies. This lack of awareness often results in individuals with the disorder being subjected to discrimination and social exclusion. Therefore, we believe in a need to raise awareness about the complexity of schizophrenia, its impact on individuals' lives, and most essentially, the importance of providing adequate support and treatment to those affected by it. We intend for our game to serve as a powerful tool to bridge this gap and create a better understanding of this mental illness.

2. State of the art

When seeking inspiration for our game, we turned to various sources that can show a realistic portrayal of schizophrenia. Thus, we have looked into existing games, scholarly articles, books as well as YouTube videos to inform and shape our vision. Indeed, we encounter a selection of sources that align with our objectives and serve as solid foundations to base our games on. Some of these include the books “No one cares about crazy people: the chaos and heartbreak of mental health in America” by Ron Power as well as “Me, myself and them - A firsthand account of one young person’s experience with schizophrenia” by Kurt Snyder with

Raquel E. Gur M. D. and Linda Wasmer Andrews. These gave us the ideas that would ultimately influence the core elements and design aspects of our games.

Some other prominent sources are also listed below:

- Video - Realistic Schizophrenia Simulation by Scissus Animus (19/03/2020)
  Realistic Schizophrenia Simulation

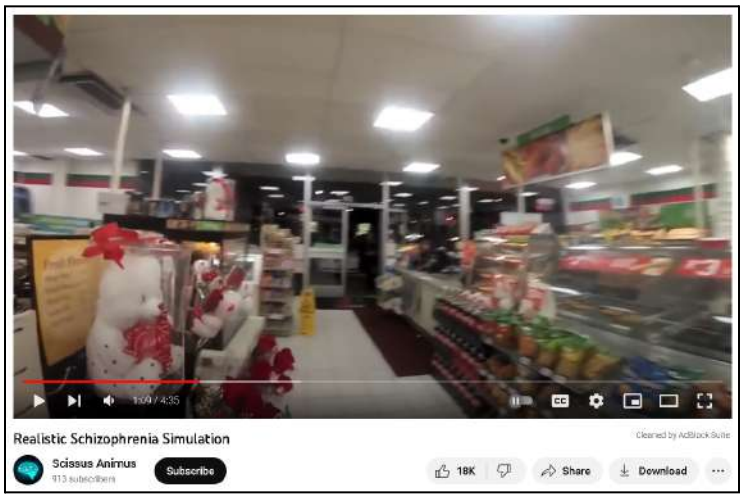

Figure 1: *A screenshot of the video "Realistic Schizophrenia Simulation", showing how schizophrenia negatively affects the individual's daily life*

Realistic Schizophrenia Simulation is a video post by Scissus Animus on youtube 3 years ago. So far, the video has reached 955,463 views. Merely judging from the visuals, this is just a video depicting a shopping scene at a supermarket. However, it is actually the viewpoint of an individual with schizophrenia. The video is permeated with inexplicable voices, creating an unsettling and chilling sensation, which truly represents the daily life experiences of someone with schizophrenia.From the video, we can observe that even when engaging in simple activities, there are voices that constantly criticize and haunt the protagonist, lingering in their ears. Interestingly, there is no visible "owner" of these voices within the perspective.

Many comments from individuals with schizophrenia have come forward to validate the authenticity of the video, while many viewers express fear and sadness, acknowledging the bravery of individuals with schizophrenia and empathizing with the torment they endure. The video aims to increase awareness of the real experiences of people with schizophrenia and foster understanding of the challenges they face. It appears that the video has achieved its purpose.

- Game - Schizophrenia Simulation (2018) by Choppy Pine Studio Playthrough (accurate simulation of schizophrenia) - YouTube

Figure 2: *"Schizophrenia Simulation" shown on the developer's website*

Schizophrenia Simulation is a game created by ChoppyPine Studio with the help of real individuals who experience schizophrenia. The game portrays many of the symptoms of schizophrenia such as anxiety, paranoia, nightmares, delusions, amnesia, sound and visual hallucinations. It has minimalist, monochromatic graphics and two possible endings.

Upon entering the game, the first thing noticed is the bleak lighting, eerie background music, and blurry edges of objects in the field of view, as if a certain noise filter has been applied. The walls are tinged with blue, which symbolizes depression and sadness, making the atmosphere even more ominous and helpless in the game. This is a simulation of schizophrenia, in which patients are tormented by visual and auditory hallucinations, and the world seen through their eyes is naturally not as warm and peaceful as that of normal people.

There are also some details in the game, such as the sound of the pendulum in the living room causing restlessness. When you see the eerie paintings, there are strange sound effects. Brief inner monologues appear in white text, giving players guidance and a glimpse into the mind of someone with schizophrenia.

3. Theory - development process

Our group has decided to use the Agile method for our project for several reasons. Firstly, we believe that Agile is the best approach to use when developing software projects, especially those that are complex and require a lot of iterations as well as constant collaboration between team members. This is because Agile methodology focuses on delivering small incremental changes and improvements in short sprints, which allows us to adapt to changing requirements and feedback from stakeholders.

Also, Agile methodology allows us to manage project risks more effectively by breaking down the development process into smaller, more manageable chunks. This approach helps us to identify and address issues early on in the development cycle, which reduces the risk of delays and unexpected problems later on.

Finally, by using Agile methodology, we are able to achieve greater flexibility and adaptability throughout the project. This is important for game development, as requirements can change rapidly as the game evolves and feedback is received from playtesting.

4. Theory – concepts

In this section an overview of different types of games are presented, followed by the main characteristics of the game as well as their linked concepts; the last section will also touch some theory aspects about sounds and lightning.

The definition and classification of a videogame is by no means easy and objective. With that in mind, to approach the classification with a solid base, we are going to use the classification based on the communication purpose of the author. To create this list we took information from “Works of Game” by John Sharp (Sharp, 2016). In this book, a variety of games are presented and analyzed, some are listed below:

- Experimental games are designed to explore new ideas, mechanics and forms of expression.
- Art games are created to inspire an artistic feeling and explore themes about emotions and feelings.
- Political games the author tries to engage the player with political issues.
- Documentary games use the medium of games to explore real-world issues or events.

It can be seen that documentary games are the most suitable to describe our project. The design is created to inform the player about a particular subject, often one that has received little attention in mainstream media, by presenting them with facts, data and real-life scenarios. Indeed, the scope of this game is giving the player the chance to understand some underlying characteristics of schizophrenia , focusing on a “real scenario” experience, everything supported by visual and sound effects to communicate in the most efficient way possible the “authentic experience” of someone affected by schizophrenia during a crisis.

Regarding the gameplay, we decided to make tasks and pathways as clear as possible through a combination of good user interface (UI) design, audio inputs such as voices, and nonverbal communication. This is usually a good strategy to make the player less lost and confused, and overall create a more enjoyable experience (Nuernberger, 2009). The use of lights in contrast with the rest of the ambience is also a proper way to avoid explicit commands to the player.

To portray in a proper way a schizophrenia crisis, a group of different effects, sounds and situations are needed. This can be archived by using a combination of the 4 main polishing techniques(Swink, 2008):

- Animation
- Visual effects
- Sound effects

- Cinematic effects

As mentioned before, the two types we used the most are sound effects and visual effects due to the nature of the phenomenon that we want to display. During the schizophrenic crisis, three different levels of intrusive voices overlapping each other were used, in an attempt to give the player the sensation of multiple uncontrolled inputs and confusion during everyday situations. Some minor visual and cinematic effects were also used to amplify the player's perception of the crisis.

Another important aspect of the game is to focus on how the majority of the time the life of a person with schizophrenia, given the proper treatment, might help reintegrate into the society, pursue their dreams, engage in relationships and experience joy. This crucial aspect is brought into the game by adding some everyday tasks and situations.

5. Process description of the development work

Idea Generation

The ideation process involved a group of six members who met up to generate ideas for a project. The first step in the ideation process was individual idea generation. Each member was given a piece of paper to write their ideas on. This process allowed every member to brainstorm ideas independently without external influence or pressure. After the individual idea generation, each member took turns presenting their ideas to the group. This allowed the group to hear all the ideas and to understand them in more detail. Members were given a chance to ask questions and clarify any aspects of the ideas.

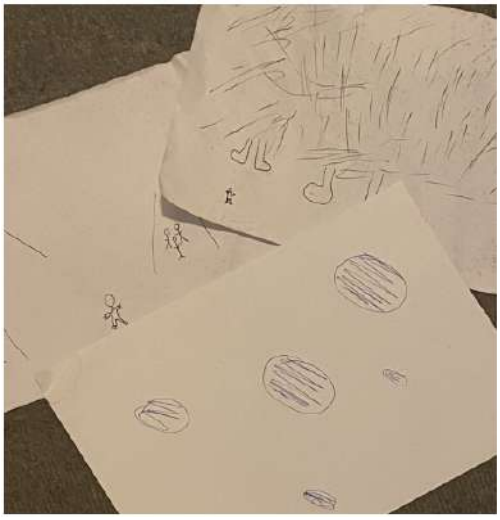

Figure 3: *Sketches of some initial ideas*

Following the presentation, a group vote was made to choose the preferred idea. The vote was based on the criteria of feasibility, interest, group competencies, and novelty. After the vote, the group narrowed down the ideas to three. To further illustrate the three ideas, each

member sketched them, which allowed the other members to visualize the concepts in a more tangible form and understand the ideas more concretely.

To pick the final idea, the group used a point system based on the votes cast in the group vote. The ideas were voted on anonymously, and after counting the points, the idea with the most votes was picked as the final project idea. Overall, this process also allowed each member to contribute to the ideation process independently and collaboratively and come to an agreement on what project to work on.

Once the votes had been counted, the winning idea was developing a game with the goal to raise awareness about mental health disorders.

Idea Development

- Brainstorming and Research:

The initial phase of the idea development process involved extensive brainstorming and research. Precisely speaking, we want to focus on a specific type of mental illness rather than just group several of them together. For this purpose, we conducted thorough research on the different types of mental illness, their symptoms, and impact on individuals' daily lives.
Upon extensive research and discussion, we have chosen schizophrenia as the central topic of our game for several reasons. Schizophrenia is a complex mental disorder, whose symptoms can include delusions, hallucinations, disorganized speech, trouble with thinking and lack of motivation. Yet, there remain widespread misconceptions as well as stigma against those with schizophrenia. By creating a narrative-driven game that immerses players in the daily life of a person with schizophrenia, we aim to evoke an emotional connection and foster empathy. Through the firsthand experience of symptoms such as auditory hallucinations and visual distortions, players can gain a deeper understanding of the challenges faced by individuals with schizophrenia.

- Conceptualization:

Based on our research and objectives, we began conceptualizing ideas for the game. We wanted to create an immersive and relatable experience that would allow players to step into the shoes of someone living with schizophrenia. We envisioned a narrative-driven game that would take the player through a day in the life of the main character, gradually introducing the symptoms associated with schizophrenia.

- Game Flow and Mechanics:

After multiple iterations and discussions, we developed the following game flow and mechanics:

1. Introduction: The game would start with the player waking up in their bedroom, establishing a sense of familiarity and normalcy.
2. Daily Life: The player would engage in routine activities such as buying groceries, cleaning, and interacting with non-player characters. These tasks would serve as a backdrop for the gradual introduction of schizophrenia symptoms.
3. Symptom Experience: As the game progresses, the player would begin to experience symptoms such as auditory hallucinations, visual distortions, and heightened anxiety.

These experiences would be presented through immersive audio and visual effects, aiming to convey the disorienting nature of schizophrenia.

Research

Upon delving into the research on schizophrenia, we were aware of the varying presentations of the condition among different individuals while acknowledging the fundamental similarities. With that in mind, we decide to focus on the common symptoms of schizophrenia, which we study through the books “No one cares about crazy people: the chaos and heartbreak of mental health in America” by Ron Power as well as “Me, myself and them - A firsthand account of one young person’s experience with schizophrenia” by Kurt Snyder with Raquel E. Gur M. D. and Linda Wasmer Andrews. Through an in-depth study and discussion of these books, we were able to identify the one common factor among people with schizophrenia, which is the impact of their symptoms on their daily lives. Specifically, we recognized that the experiences associated with schizophrenia, such as auditory hallucinations and cognitive distortions, significantly influence their daily lives, from within the confines of their living environment to their social interactions. It became apparent that incorporating these effects into the game would be a crucial aspect.

6. Iterations

Iteration 1

This section covers the first digital prototype that was built based on the paper prototypes. Broadly speaking this iteration is mostly about creating the actual foundation/skeleton, on which the developers and testers could fill in what to improve and implement next. To keep it simple, it was decided to create the game in the Unity Game Engine (Unity Technologies, 2023), as the many members of the group had experience with that. The game itself would be a simple 3 scene game, with a bedroom, living room, and supermarket. For the initial prototypes on Unity, developers each took a scene to work on their own Unity software. The player would then be presented with a bunch of interactable objects in the scene, and could move freely between the inside and outside area. There was not much of a gameplay loop at this point, since it was more of a technical demo at this stage. It did however work as intended in terms of coding. In a design related context, it was kept low poly style, with a simple isometric view, so elements like camera angles and time consuming modeling and sculpting would not be an issue, which also easily could change depending on feedback.

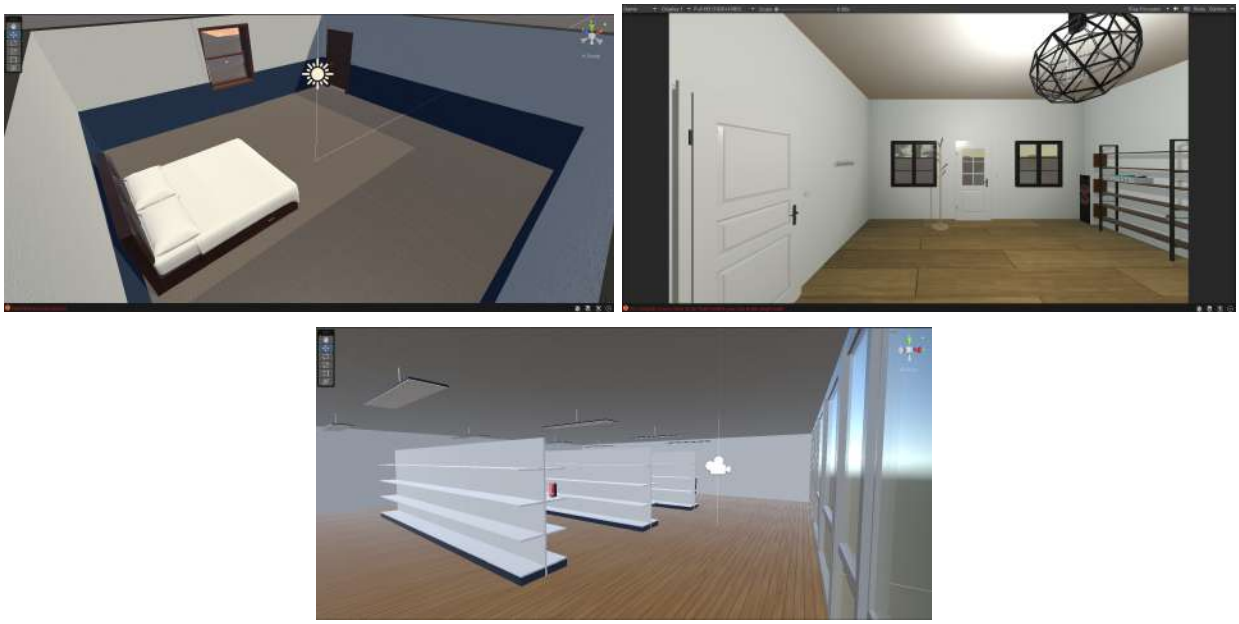

Figure 4: *Screenshots of initial Bedroom, Hub and Store builds for Iteration 1*

Testing of iteration 1

The test of iteration 1 can be split into two parts. The game was tested on a mechanical level by the developers and a few test subjects to make sure it works correctly. In a more general sense, it was also used in interviews with the target groups, as a visual aid to give the users a general idea of what we are trying to create. The general feedback to the prototype itself was that it worked on a mechanical level, albeit not to a high standard, and it also severely lacked visuals and clear representation of the actual game progress/loop that is to be in the final prototype. Also the outside area felt unnecessary for the time being and was ultimately archived quickly into the development process.

Iteration 2

This section contains information about the product development after developing the first technical prototype. Iteration 2 is by far the biggest and largest iteration in the project and encompasses many changes from the first prototype. The biggest challenge after the first iteration was how to take the feedback and the refreshed concept acquired from the interviews and iteration 1, merge it with the code from iteration 1 and create an actual playable game from it.

This model would include a few inspiration sources for game mechanics, the general game progress and how it should look graphically. This provided a more presentable and generalized idea of the “final” product, which would help give a stronger mental agreement between the developers to avoid developing unnecessary work and keep the goal streamlined.

After the model was finalized, it was time to create the game using a mix of the code from iteration 1, 3D models compatible with Unity and new code.

Having three separate scenes of Unity, the first task was to merge scenes in a suitable way. This was done through Unity's version control system known as Plastic SCM (Codice Software, 2020). Apart from merging the initial 3 scenes, there were other improvements added to enhance the playing experience. For scene design, this meant adding assets to complete the overall look and improve the aesthetics of the level. For gameplay design, this involves adding some features/ game mechanics such as a game manager to keep track of items obtained as well as a footsteps manager as well as functional doors. These features help to improve the simulation and enhance the realism aspect.

Figure 5: *Screenshots of initial Bedroom, Hub and Store builds for Iteration 2*

Testing of iteration 2

The testing and the feedback of iteration 2 can be seen in the User Interaction section of the report.

Iteration 3

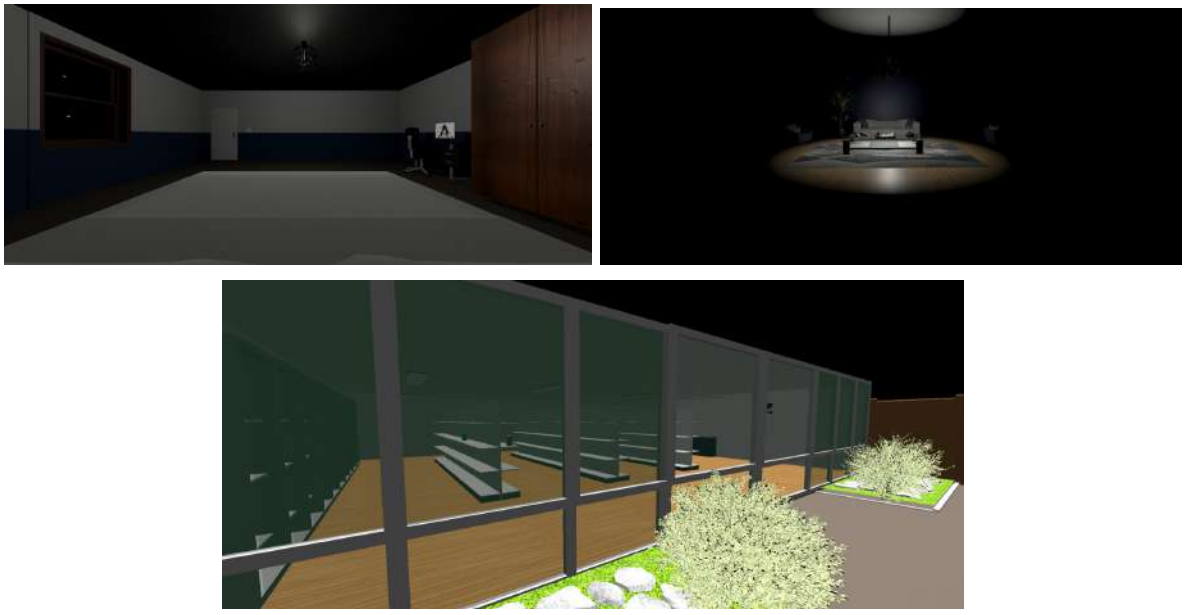

Figure 6: *Screenshots of initial Bedroom, Hub and Store builds for Iteration 3*

This section contains the development of the product after finishing iteration 2. It spans from around the end of the testing of iteration 2, to the very end of the project timeline. This iteration, mostly focuses on trying to implement suggested improvements to the game that was given from the participants in the user test of iteration 2. Furthermore it also contains some unfinished elements from iteration 2, which was also partly implemented or improved.

The final iteration consisted of further enhancements, standardisations between scene elements as well as final polishing of the simulation. These included features such as moving walls, and standardization of the first person controller between scenes.

Testing of iteration 3

In terms of testing, this iteration was only tested on a technical level, since many of the new wanted elements were not fully implemented. In general, the feedback was that the game had improved a bit mechanically, but still could use some more work overall.

7. Documentation of the final technical prototype

Specification

A simulation of Schizophrenia created using Unity. This simulation consists of 4 scenes/rooms namely:

- Menu
- Bedroom
- Hub/ Living Room
- Store

Tech Stacks (Frameworks/ Languages/ Libraries/ Software) used:

- C# Language
- Plastic SCM
- Unity 2021.3.18f1
- Visual Studio Code (VSC)

Implementation:

A. General Mechanics/ Features:

a. First Person Controller

The simulation uses a standard controller with standard movement features with additional custom features such as action and footsteps.

- Movement Mechanics:
  - WASD keys to move
  - SPACE key to jump
- Action Mechanics
  - E key to perform actions such as getting up/ picking up objects/ leaving rooms.
- Footsteps Mechanism
  - The controller has a custom footsteps Audio listener that produces specific sounds based on the terrain that the player is stepping on.

b. GameManager

The simulation uses a custom game manager to keep track of objects and inventory items/ assets after they have been picked up.

```
using UnityEngine;
using UnityEngine.SceneManagement;

Unity Script | 10 references
public class GameManager : MonoBehaviour
{
    private static GameManager _instance;
    8 references
    public static GameManager Instance{
        get{
            if(_instance == null)
                Debug.LogError("GameManager is null");

            return _instance;
        }
    }
    Unity Message | 0 references
    private void Awake() {
        _instance = this;
        DontDestroyOnLoad(gameObject);
    }

    private static int _tutorialCounter = 0;
    private static int _showCounter = 0;
    1 reference
    public void increaseTutorialCounter(){
        _tutorialCounter++;
    }
```

```
    1 reference
    public void increaseShowCounter(){
        _showCounter++;
    }
    2 references
    public int tutorialCounter(){
        return _tutorialCounter;
    }
    2 references
    public int showCounter(){
        return _showCounter;
    }
    private static bool _isTutorialComplete = false;
    1 reference
    public void TutorialComplete(bool flag){
        _isTutorialComplete = flag;
    }
    1 reference
    public bool isTutorialComplete(){
        return _isTutorialComplete;
    }
    Unity Message | 0 references
    private void Update() {
        if((Input.GetKey(KeyCode.LeftControl)) && (Input.GetKey(KeyCode.R))){
            SceneManager.LoadScene("Menu");
        }
        else if(Input.GetKey(KeyCode.L)){
            SceneManager.LoadScene("Hub_MovingWall");
        }
    }
}
```

Figure 7: *Code Snippet of GameManager*

B. Menu

We implement a simple menu to start the simulation:

Figure 8: ***Start*** *button to start game and* ***Quit*** *button to quit game*

Figure 9: *Change in text highlight when mouse is over*

Figure 10: *Change in text highlight when clicked*

C. Bedroom

a. Cutscene

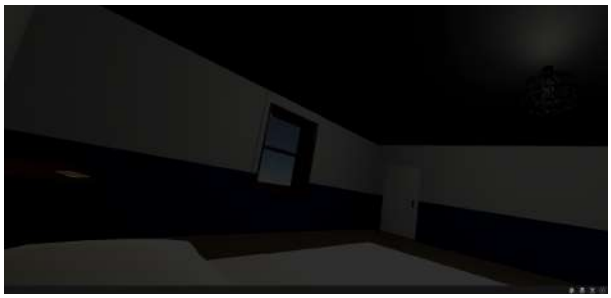

Figure 11: *The simulation starts with a waking-up cutscene*

b. Assets

Figure 12: *The in-game bedroom and assets(Walls, furniture, lighting, etc.)*

c. Gameplay

Figure 13: *A screenshot of gameplay, where players can perform actions such as picking up a note and clothes, opening drawers and door*

D. Hub/Living Room

a. Assets

Figure 14: *The walls and furnitures (sofa, shelves, etc.) of the living room*

b. Gameplay

Figure 15: *Under schizophrenic hallucination, the bedroom walls move further away when players try to approach the bedroom door.*

E. Store

a. Assets

Figure 16: *An in-game screenshot showing parking lot and store*

b. Voice Over

🔊Simulation of schizophrenia voices as player walks around in store.

8. Process description of work organization

To gain a better overview of the project development and workflow, the section will include the tools used to develop a structure and plan for the project. Along with a description on how the group worked together, followed by the task delegations.

The project was executed by a team of 6 members, with 1 team leader who oversees the overall development, 2 Unity Developers who are responsible for developing the game mechanics and implementing the game assets. There are also 1 script writer who will come up with the plot while also crafting the narrative and dialogues of the game, and 2 researchers who gather data and conduct research on the topic of schizophrenia.

To ensure effective communication and collaborations among team members, the team holds regular discussions on Friday to discuss progress, address issues and plan upcoming tasks. As the project develops and grows in scale, we have also decided to hold additional meetings on Monday to ensure the project remains on track and meet the stipulated deadline.Not only will these meetings help members brainstorm ideas and share feedback, they will also keep members updated and aware of their responsibilities.

In order to develop a stable foundation and plan for the project the agile method SCRUM was used early on. One of the main tools utilized to build this was Trello (Atlassian, 2011), which is an online software program used to divide the projects into smaller tasks. In Figure 17, a snapshot of the early tasks of the project can be seen; and each group member then picks the tasks they wish to work on.

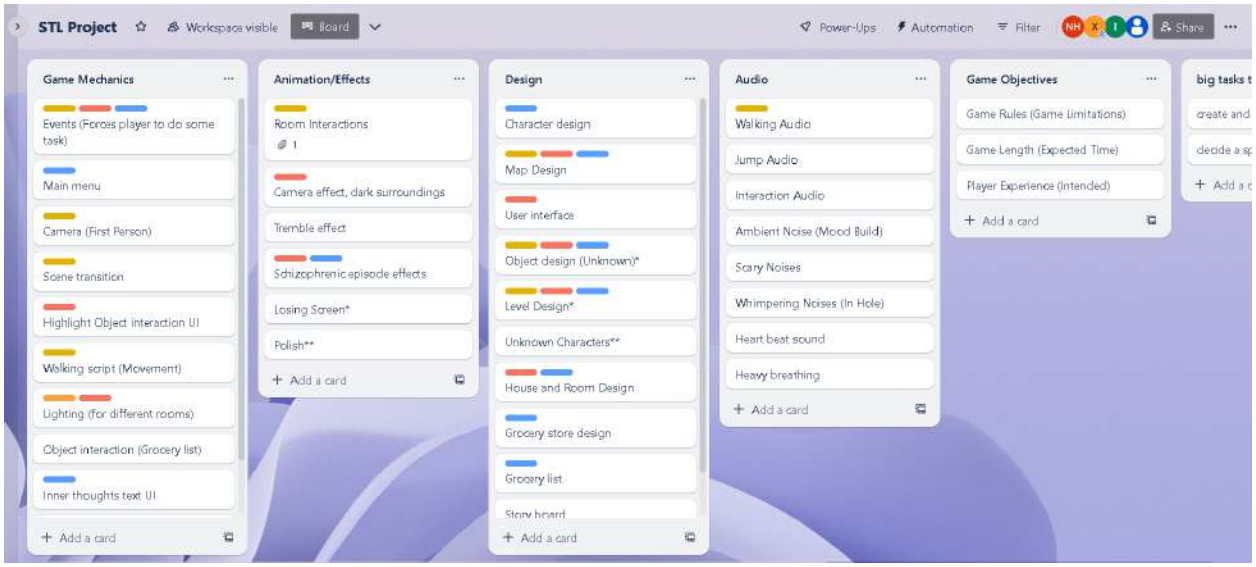

Figure 17: *Trello - Project tasks. The blue color shows the tasks that can be picked, while red and blue represent a group member and the tasks they must complete in the sprint.*

Along with this a time schedule was also made to gain a time-frame for the project, this can be seen in image below:

	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
MON						Prototype .V1 Development		Prototype .V1 Test
TUE								
WED								
THU								
FRI	Startup	Idea Gen.	State of Art/ Idea Selection	Furher Project Specification	Storyboard, Planning, Setup		Readjustment/Further Planning	V1. Wrapup
SAT								
SUN								

Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22
Vacation		Project .V2 Development	Project .V2 Test	Project .V3 Development	Project .V3 Test	Finishing Touches	Finalize Report	
	Catch-up/Planning		V2. Wrapup/Evaluation		V3. Wrapup/Evaluation			DEADLINE

Figure 18: *Project scope overview*

To ensure that multiple members could work on Unity simultaneously, the collaboration tool PlasticSCM (Codice Software, 2020) was used. The software allowed for a smoother cooperation, as it gives the users the ability to send the changes made on the project to the other members in the group, which could then be integrated into the version they had. This in combination with the regular meetings ensured all members had a clear understanding of what should be done throughout the project. To maintain a consistent, red thread throughout the whole project development the group would hold meetings regularly to ensure all members were on the same page and that the plan was unfolding as intended.

After having completed the prototype and the user testing, the final task was the report, in which all members contributed to and covered the report sections related to their tasks during the project. Following this the group would meet and verify that the red thread is present throughout the report.

9. User testing

Testing Criteria

To assess the viability of the game and success of our project, we focused on a crucial metric: the game's ability to engage individuals with schizophrenia and foster a sense of connection with the on-screen experience. Specifically, we aimed to gauge how effectively the game realistically portrayed their internal struggles and emotions.

With that in mind,we utilize certain methodologies that draw inspiration from the insights shared in the book "Game, Design and Play" by Colleen Macklin and John Sharp (Macklin & Sharp, 2016):

- Define the goals of the playtest: Before the playtest, it is essential to define the goals we want to achieve. For example, what aspects of the game do we want to test? Is there a specific feature or mechanic that we want feedback on? This ensures we can get targeted feedback on our game

- Conduct structured playtesting sessions: During the playtesting session, observe the playtester and take notes on their actions, comments, and feedback. We can encourage them to think aloud while playing the game, as this can provide valuable insights into their thought process. After the playtest, ask open-ended questions to get their feedback on specific aspects of the game, either in person or through survey.

- Analyze the feedback: Once feedback has been collected, analyze the data and identify patterns in the feedback (common issues or frustrations many players encountered, confusing parts, etc.), and use these to prioritize changes and improvements. This is elaborated in the section below.

Test Results

User testing was conducted during the 2nd and 3rd iteration of the project, where we employed a qualitative approach. This decision was driven by our goal to gain insights into how well we portrayed schizophrenia within the game, which elements resonated with individuals, and which aspects seemed incongruous. To achieve this, we conducted qualitative testing sessions involving three individuals diagnosed with schizophrenia. Their impressions and feedback were collected and synthesized into a cohesive set of quotes representing the collective insights provided by all participants.

Supportive:

- "I can strongly relate to the experience portrayed in the game. It captures the essence of what it feels like to struggle with schizophrenia."
- "I like the auditory hallucinations as you progress further in the game"
- “The game assets (furniture,etc.) look pretty nice.”

Suggestive:

- "The addition of music may enhance the overall experience. The music can then be drowned out by the voices to show the symptoms."
- “The voices really scare the hell out of me when I first hear it."
- "Logically speaking, would you ask someone with schizophrenia to do chores?"
- "The UI can be better as I couldn’t see the instructions."

10. Discussion

While our application functions as a viable product, it is essential to discuss the issues faced as well as potential opportunities.

During the development of our Unity game, we encountered several challenges that provided us with valuable insights and opportunities for future growth. One significant issue we faced was the scope of the project. In retrospect, we realized that we may have overestimated the time and resources available, which impacted our ability to fully implement and polish all the intended features and gameplay elements. In hindsight, focusing on a smaller section of the game for thorough gameplay testing would have allowed us to gather more user feedback and iterate on the design more effectively.

Another notable challenge was the varying levels of familiarity with the Unity program among our group members. While some team members had prior experience with Unity, others had to acquire familiarity with the software during the development process. This learning curve affected our workflow and the pace at which we could implement certain features. However, this challenge also presented an opportunity for skill development and collaboration within the team. By working together and sharing knowledge, we were able to overcome obstacles and improve our Unity proficiency, which will undoubtedly benefit future projects.

Despite these challenges, we see significant opportunities for further development and improvement. By acknowledging the limitations we faced, we can now focus on refining the existing sections of the game and enhancing the overall user experience. This includes fine-tuning gameplay mechanics, improving the visual and auditory aspects, and implementing additional high-fidelity cutscenes to fully convey the gameplay experience.

Moreover, based on the feedback received during the development process, we can explore opportunities to expand the game's content and features in future iterations. This could include adding more diverse scenarios,implementing non-player characters (NPCs). Additionally, we can leverage the feedback from gameplay testing to identify areas where the game's educational impact can be further enhanced, ensuring that players gain a comprehensive understanding of the disorder and its effects.

11. Conclusion

In terms of personal expectations, the product itself and the associated results were positively regarded amongst the group members. Although lacking in final features of the prototype, “Fragmented Mind” still delivers a fully functional experience that can be shared with others without many problems. As for the question whether the game was relatable to people with schizophrenia, the answer in the feedback we got was shown to be a solid ’yes’.

With that said, one notable criticism that emerged from the user testing sessions involved the potential difficulty for individuals without schizophrenia to fully engage with the game. Participants expressed concerns that certain game features, such as auditory hallucinations, might be perceived as too unsettling for those unfamiliar with the condition. While this feedback highlights an important aspect to consider, it also underscores the challenge of striking a delicate balance between realism and accessibility. Moving forward, it may be beneficial to explore additional design elements or narrative devices that can facilitate a better understanding for a broader audience, ensuring that the game remains informative while maintaining its impact.

To conclude, the game “Fragmented Mind” was able to achieve one of the main goals of being relatable to the target audience with schizophrenia.

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