RECOVER

DESIGNING AN IMMERSIVE GAME FOR PTSD SUFFERERS

AN INSIDE LOOK

"GAMES MAKE US HAPPY BECAUSE THEY ARE HARD WORK
THAT WE CHOOSE FOR OURSELVES..."

- JANE MCGONIGAL, 2011

This booklet has been produced in conjunction with a game artefact called "Recover" and aims to outline specific design choices that were made in the pre-production and production periods of the development of "Recover". It hopes to bring to light the **importance of design** when developing digital experiences for those suffering with mental health disorders. It will pick apart how these design decisions were made and point to the research that the project heavily relied on.
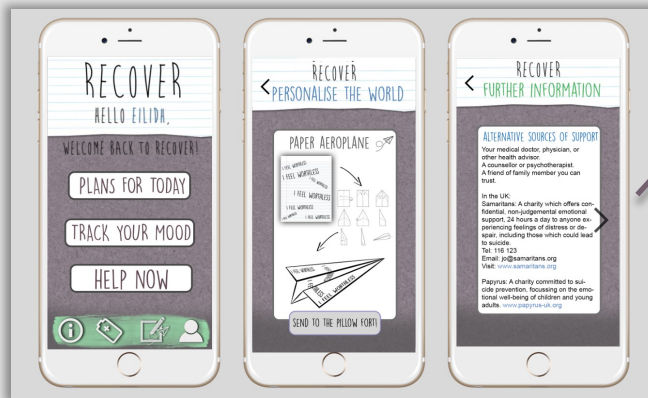
"RECOVER"

"Recover" is a VR game set in a large pillow fort where the player is a tiny entity, in this large safe zone, and their aim is to light up the world by completing puzzles that encourage deep breathing and other mindfulness based tasks in an immersive, 3D environment.

This game artefact was developed in conjunction with a research project that explored the **potential efficacy in player engagement when combining immersive game design practices with post psychotherapy treatment for those recovering from Post-Traumatic Stress Disorder.** The core of each design decision made within the artefacts produced have been drawn from research done within the project and was developed through a series of iterative design loops.

ABOUT

Although this booklet will focus on the design decisions made for the immersive VR game of "Recover", it is important to note the mobile application that was conceptualised for the research project also. "Recover Mobile" was developed after the research done exposed the clear cognitive benefits on recovery a mobile applications could also provide. This booklet will explore this but for a more in depth analysis of the design decisions made for "Recover Mobile", please refer to "Recover Mobile: An Inside Look".

Before entering the specifics of the design choices that make up "Recover", it is important to recognise the vast amount of research that had to be conducted . Designing a game for a player base that are sensitive, research had to be done.

Development relied on two entirely separate areas of study; psychotherapy and game design and plater immersion theories to be coined together. This allowed for the query of research to be further separated into three sections.

The design process had to follow and incorporate this continuous need and reliance on a wide range of research. Iterative development was essential. In the early stages of development, "Recover" entered "research-design sprints" and these sprints played a hugely important role in the development of designing game mechanics that directly drew upon the information found through extensive research.

Game Design Practice
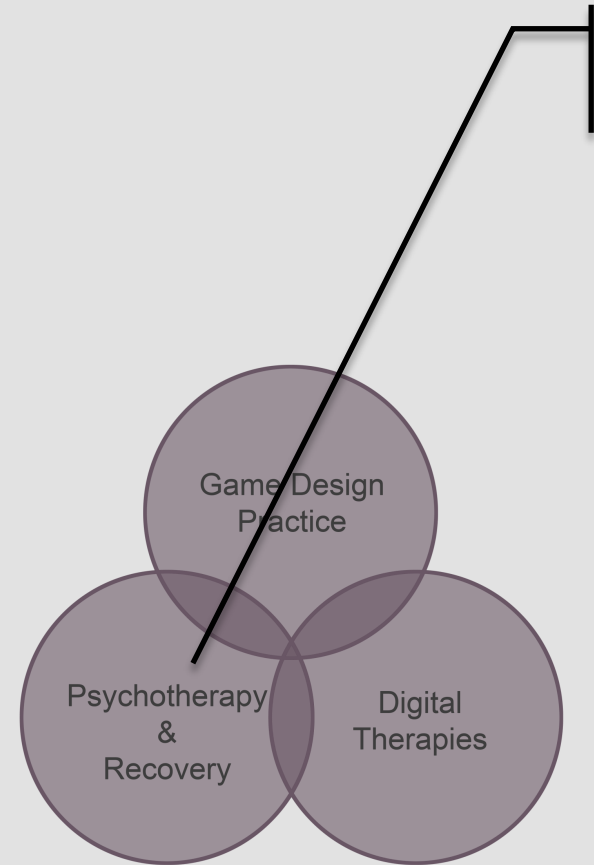
Psychotherapy & Recovery

Digital Therapies
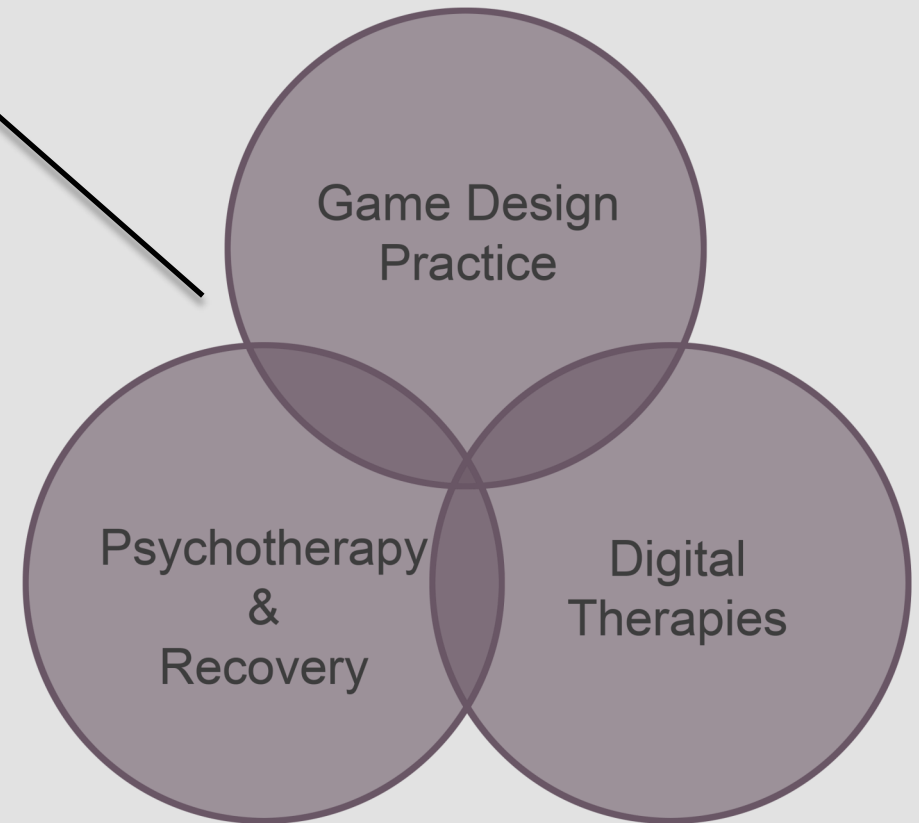
PTSD is categorised as traumatic experience lived repeatedly through nightmares or flashbacks (nhs.co.uk, 2016). The symptoms, such as anxiety, depression and insomnia are often severe enough that they have a significant impact on that individual's everyday life (Post-traumatic Stress Disorder, 2005).

Regardless of the professional PTSD treatment given to an individual, be it a therapy or a course of medication, the finishing period is a vital stage due to its focus on preparing an individual for recovery out with clinical care (Trauma-recovery.ca, 2016).

Therapy is an entirely individual process, where the patient will often put an immense pressure on themselves to be fully well or free of negative thinking. However, healing from trauma happens in stages and goes beyond that of the professional therapy given. Developing a tool that harnesses and encourages the individual to be compassionate and gentle with themselves, could be an effective way of reminding them that there is no right or wrong way to recover (Herman, 1992).

Regardless of the selected therapy, there is a focus on the patient recognising how negative core beliefs towards themselves are   detrimental to their wellbeing. Approaching completion of the therapy, focus resides in encouraging the individual to take steps necessary towards an empowered way of living (Trauma-recovery.ca, 2016; Herman, 1992). When developing a game or application that continues this journey for the patient, it is vital to gain an understanding surrounding the treatments available for PTSD, along with the corresponding core beliefs of abuse survivors. This understanding allows for the creation of a   potentially beneficial game artefact.

Game Design Practice

Psychotherapy & Recovery

Digital Therapies

AREAS OF RESEARCH: PSYCHOTHERAPY & RECOVERY

FOCUS ON TWO THERAPIES FOR PTSD

Acceptance and commitment therapy (ACT) focuses on increasing a person's potential for a meaningful life by encouraging mindfulness skills as well as focusing on changing a person's relationship with their complex thoughts, feelings and behaviours and develop a true sense of self in the present, away from the past (Harris, 2006).

| EMDR	CBT	ACT	Prolonged Exposure Therapy
o EMDR is unique in its therapy methods.	o CBT is the most common therapy for treating PTSD	o ACT surrounds the idea of increasing a person's potential for a meaningful life by encouraging mindfulness skills	o This is a specific type of cognitive behavioral therapy (CBT)
o Repetitive left-right stimulations reprocess deeply rooted, vivid memories that cause severe distress.	o Through conversation, the therapist will help the patient understand that their negative thoughts are worsening their symptoms.	o Focuses on changing a person's relationship with their complex thoughts, feelings and behaviours	o It teaches the individual to gradually approach trauma related memories, feelings, and situations.
o Proven to allow traumatic memories to lose their intensity and to be properly processed as normal memories.	o The patient learns coping mechanisms to deal with their feelings such as fear, guilt and anger.	o Pushes the patient to develop a true sense of self in the present, away from the past	o The patient will talk through details of their trauma - imaginable exposure. You then listen to these recordings.
o No conversation is needed.	o The focus is on tackling negative automatic thoughts that are directly related to core beliefs about a person.	o This is also all done through conversation.	o The therapy states that by addressing the trauma head on, it lessens feelings of fear, anger and sadness and desensitises the impact of trauma.
o This therapy tackles a different part of the brain than other therapies	o This is all done through conversation.		
o "Safe Spaces" are developed and it measures levels of distress and vadility of cognitions			

Cognitive Behavioural Therapy (CBT) is a common treatment for PTSD where the therapist, through conversation, will help the patient understand and attempt to change their ways of thinking surrounding the trauma and its aftermath . This was used as a continuous reference point through out the design process.

SELF HELP APPS

With a push in new technology and consumerism there has been a pressure to develop digital tools to make mental health services available online, out with traditional mental health treatment plans (Proudfoot, 2004). Naturally, this has fallen into the production of games and mobile applications geared towards self-care.

Mobile applications (apps) geared towards self-care, mindfulness and meditation such as "Calm" (Calm, 2015) and "SAM (Self-help Anxiety Management)" (University of the West of England and MyOxygen, 2015) are effective in how they involve non-time consuming, mindfulness based tasks.

These apps utilise the mobile platform through providing self-help material in a more accessible and portable manner, as well as exploiting the device's notification systems, reminding users to breathe or to check in.
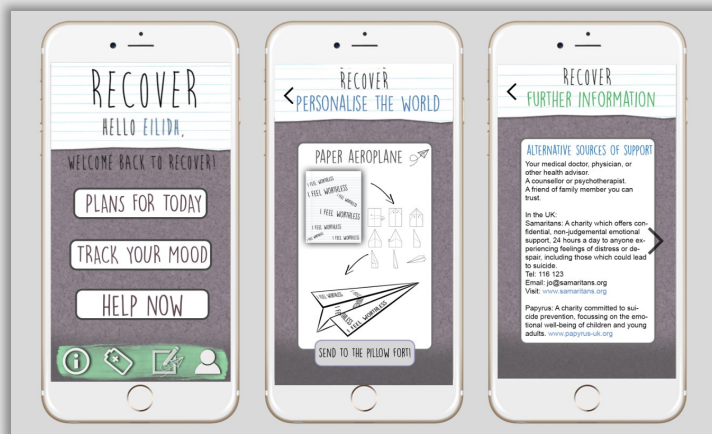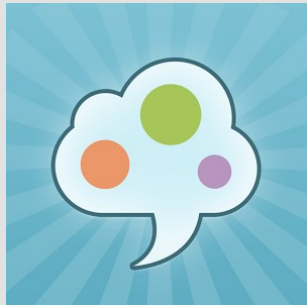
This area of research led to the development of "Recover Mobile"
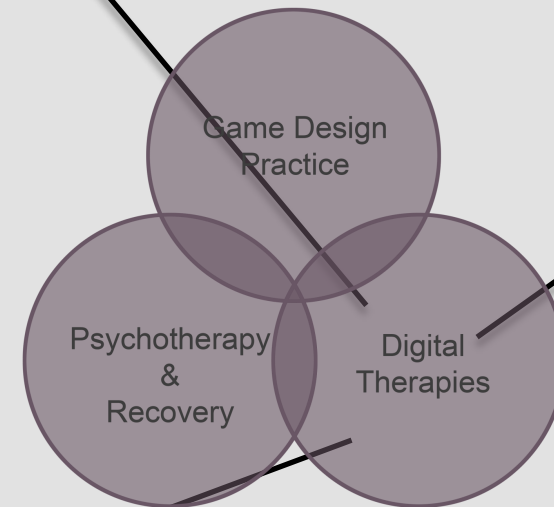
LEVEL OF IMMERSION

Immersion within a videogame has proven to increase positive thinking and lessen levels of anxiety by allowing players to be removed or dissociated from their current reality (Seah and Cairns, 2007). A study was conducted in 2012, exploring the effect of screen sizes on levels of immersion in the videogames was played on two different apple devices (iPod Touch and an iPad). The results suggested that the type of game or application, and smaller screen size impacted on the immersive experience for the player (Thompson, Nordon and Cairns, 2012). It was vital for this research to explore the platform these games are displayed on, their effect on immersion, and the subsequent recovery of mental health conditions.

Game Design Practice

Psychotherapy & Recovery

Digital Therapies

AREAS OF RESEARCH: DIGITAL THERAPIES

THERAPY GAMES

SPARX (2013) is one example of a game (a fantasy driven RPG) that is also a digital CBT intervention. The game takes the player (patient) through stages of CBT in a separate fantasy setting. SPARX claims to reduce depressive symptoms for people seeking treatment by providing the player with a series of CBT interventions (psychoeducation, relaxation training etc.)

Another game that was looked at that attempts to achieve full player immersion is "Deep VR" (2015) developed by Owen Harris. This is a virtual reality (VR) 3D game that uses a unique controller as a vital piece in its claim to lower anxiety levels. Breathing and muscle relaxation methods are a huge part of coping mechanisms for dealing with anxiety (Calmclinic.com, 2016); "Deep VR" embeds these coping mechanisms into one of the main mechanics of the game, how the player moves. A diaphragmatic controller is used to detect deep breathing from the player and this is what moves them through the underwater environment (Donnelly, 2016).

"Deep VR" is arguably an effective self-help tool to be used after treatment acting as a potential immersive recovery haven, something that provoked the development of "Recover".
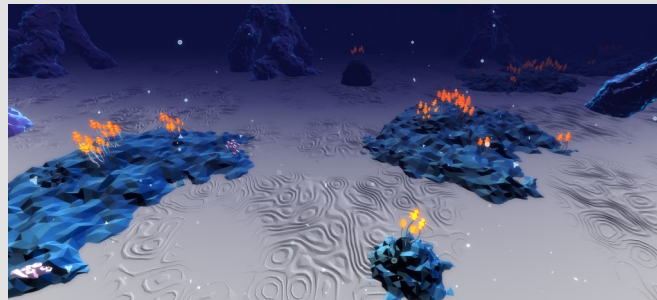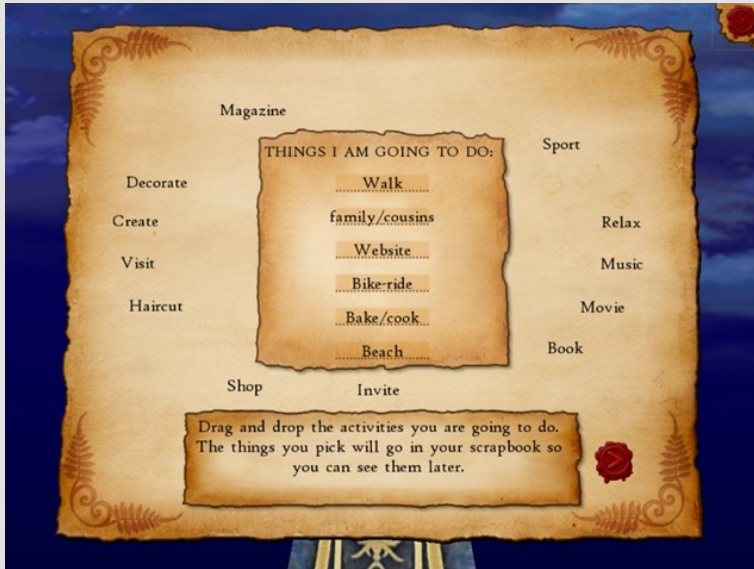
JANE MCGONIGAL'S WORK

Jane Mcgonigal, a leading game designer in the field for making games for change, argues in her book "Reality is Broken" that "gameplay is the direct emotional opposite of depression" (Mcgonigal, 2011). It is known in the field of psychology that hard work makes human beings happy and McGonigal states that games are hard work we choose for ourselves. Gameplay, if executed correctly, should activate all the neurological and psychological systems that underpin happiness; attention systems, reward centres, motivation systems and the emotion and memory centres (Mcgonigal, 2011).

SuperBetter (2012) is a game developed by Mcgonigal at SuperBetter Labs, which has proven to be extremely successful. SuperBetter (2012) embodies this theory, "gamifying" the recovery journey (Heller, 2015). It uses a different language to communicate with its users and allows them to focus on their recovery in a world separate to their reality (Heller, 2015). McGonigal has created a successful recovery tool that allows the players to plan and record their real-world goals in an immersive fictional setting, which is known to be extremely comforting (Arber, 2016; Heller, 2015). Looking at McGonigal's work, paying close attention to the language she uses to communicate with her player base was of particular use when developing "Recover"; this will be explored in detail in later pages. She pays close attention to creating a different reality in which players can deal with their problems in. This also lead the design process towards researching flow theory.

Game Design Practice

Psychotherapy & Recovery

Digital Therapies
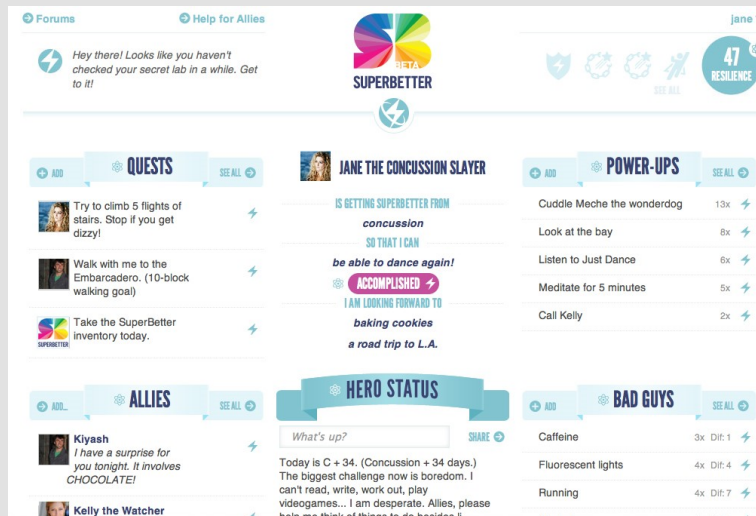
AREAS OF RESEARCH: GAME DESIGN PRACTICE

IMMERSION PRACTICES

An investigation into immersion techniques used by game and level designers was vital to the development of "Recover" due to its ability to encourage recovery for players.

SPATIAL PRESENCE

Another concept surrounding player immersion is spatial presence; this suggests that by giving the player a sense of true presence in a world, through increased interaction or a hooking narrative, can be as equally beneficial as flow when executed correctly (Madigan, 2016). This theory of spatial presence was also used when framing the design of the world due to this theory's emphasis on player interaction.
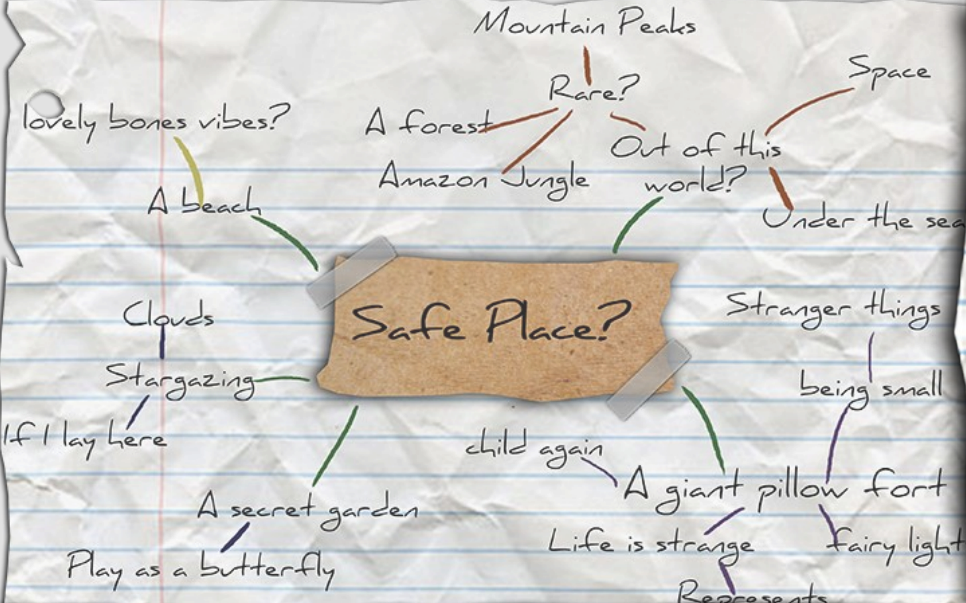
THATGAMECOMPANY

Thatgamecompany is a game studio that has produced games that are world renowned for their calming effects on their player base, producing games such as "flOw" (2007) and "Journey" (2012). The studio prioritises on creating immersive and powerful experiences, without a massive focus on psychotherapy techniques (Thatgamecompany.com, 2016). By gaining a greater understanding of the importance of the actual game design when creating experiences for those that sufferer with PTSD aided the development of a video game that encapsulates both the ability to help someone from a mental health perspective, as well as being an engaging and enjoyable game artefact.

FLOW THEORY

Mihaly Csikszentmihalyi (1990) argues that after a player has finished playing a game that achieves flow, their sense of self becomes more intricate. The player should be left feeling more skilled and capable where all thoughts, feelings and senses were driven towards the same objective (Csikszentmihalyi, 1990). By experiencing flow, a person's attention can, without obstruction, achieve their goals as there is no real-world threat for them to "defend against". They can then shape their consciousness, resulting in their quality of life improving .

Achieving a state of flow is typically done through the creation of achievable goals that both challenges the player and requires a high skill level. Through judicious level design, goals set, along with atmosphere, player feedback and motivation systems should potentially allow for the creation of flow. By understanding how flow is achieved, this resulted in flow theory being considered when designing the environmental puzzles that lie within the world of "Recover" .

Mountain Peaks

Rare?

Space

A forest

lovely bones vibes?

Amazon Jungle

Out of this world!?

A beach

Under the sea

Clouds

Stranger things

Safe Place?

Stargazing

being small

If I lay here

child again

A secret garden

A giant pillow fort

Play as a butterfly

Life is strange

fairy lights

Represents

It should feel "hand-made".

Comforting to their inner child; something incredibly common within abuse survivors.

Everything will be cushioned

Each patch could be a different "level"

A safety zone we built for ourselves

Feeling isolated is a common feeling within abuse survivors

A pillow fort?

It's a space that is both of this world, and of another

Its safe, enclosed and being a tiny entity in this large world could provide a sense of comfort

Fairy lights can be used to create a safe atomsphere

allow for the on of flow?

interesting environmental puzzle design?

Pillow Fort Image Research
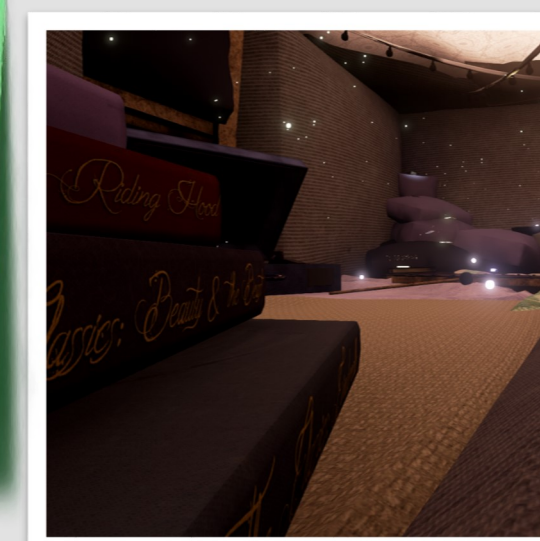
a safe haven ♡

Trying to find a game environment that would be a neutral safe space for the majority of the player base was pretty complex. Brainstorming for neutral safe spaces was a significant stage of development. It led to the decision of the pillow fort. It was decided that the player would become a tiny entity within this massive, cushion filled world as it could allow for the player to effectively continue their recovery journey in a safe, relaxing area. Pillow forts were spaces we, as children, constructed for ourselves. They were our little haven away from the rest of the world, recreating that feeling was a main aim through out the development of "Recover"

Brainstorming of potential "safe environments" and initial level designs were all done on paper. The design of mindfulness focused mechanics were also initially conceptualised on paper, but then naturally moved into Unreal Engine 4 to allow for testing and iteration.

Although this process on paper were incredibly beneficial to the initial development of "Recover", the majority of the design have naturally developed into distant cousins of the original concepts, through vigorous iteration focus design loops.

The "pre-production" booklet outlines the bare bones of what "Recover" has become over time.
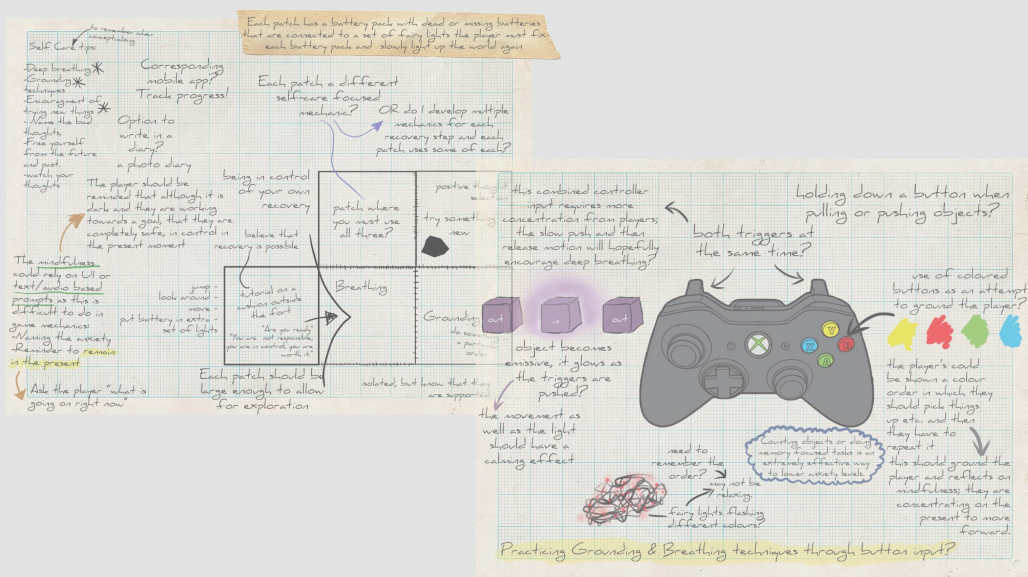

DESIGNING ON PAPER
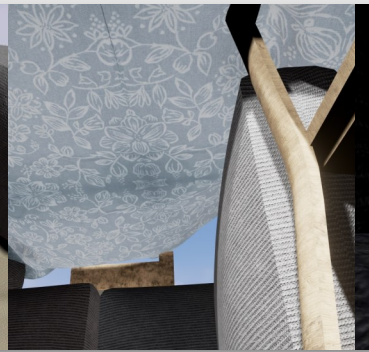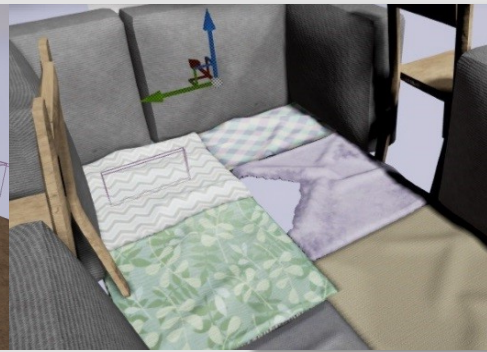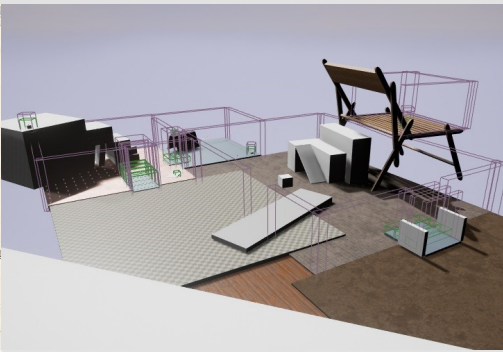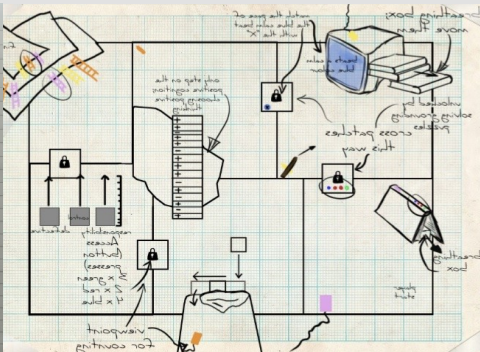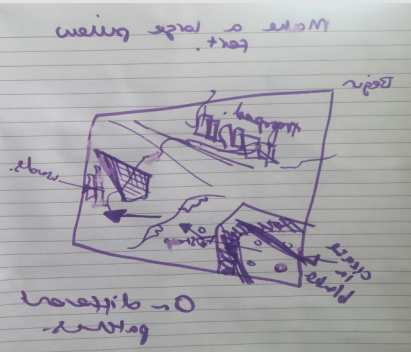
GET THE IDEA IN A GAME ENGINE

DESIGN PROCESS

The development of "Recover" relied heavily on this "design loop cycle"; the project was complex and relied on two entirely separate fields of enquiry; the ability to iterate and adapt was key to the design process woven through "Recover".

DESIGN LOOPS

Research

Design

Implement & Develop

Test

Reflect and Iterate
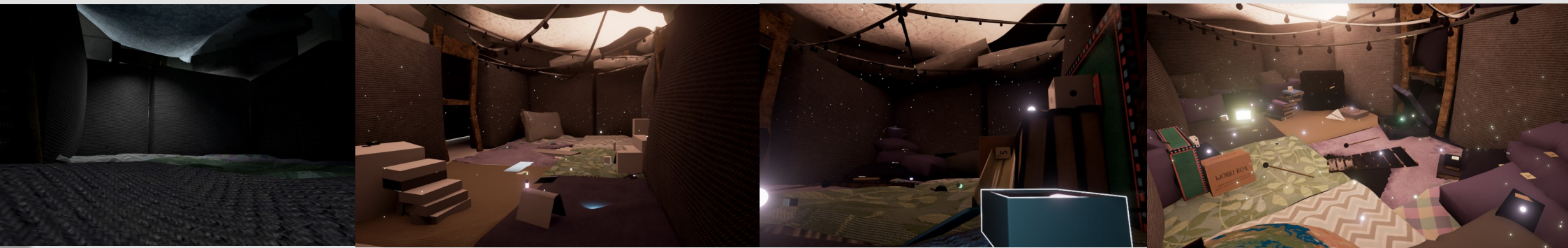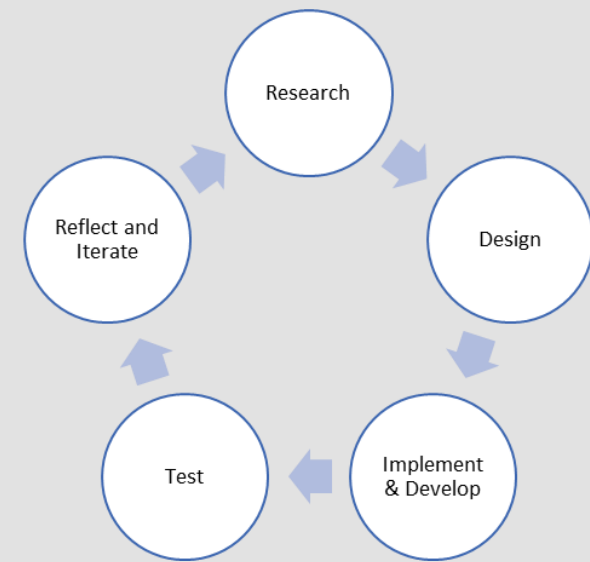
RESEARCH - DESIGN - IMPLEMENT - TEST - REFLECT - ITERATE

FOUR ASPECTS OF DESIGN FOCUS

These were the four features of the design that became the main focus of the development. It also allowed for a not only an effective critical analysis tool for looking at other digital tools used to treat mental health disorders, but as an effective method to analysis "Recover" and its ability to not only immerse a player base, but its potential ability to improve mental well being.

IMMERSION
IMPORTANCE OF AESTHETICS
CONSIDERATION OF PLAYER SAFETY
DESIGN INFLUENCED BY PSYCHOTHERAPY

LEVEL

No time pressure on t
and how the players
large world was entir
set goals, in a world w
el flow was essential
decide. "Recover" nee
guided, but most of al
level had to reflect tha

DESIGN CONSTRAINTS

"Recover" was set a series of design constraints at the very early stages of pre-production to try and ensure a final product was made and it met the aims of the research product.

Due to "Recover" being an indicidual product, a lot of the design had to be either cut or simplified due to technical contraints; thankfully by laying out these contraints so early on in the design process.

There should be no "gameover" state; at no point should the player feel like they have failed

Puzzles should be carefully designed to avoid triggering any negative thoughts in players

Atomsphere created through sound and visuals needs to be calming to all players.
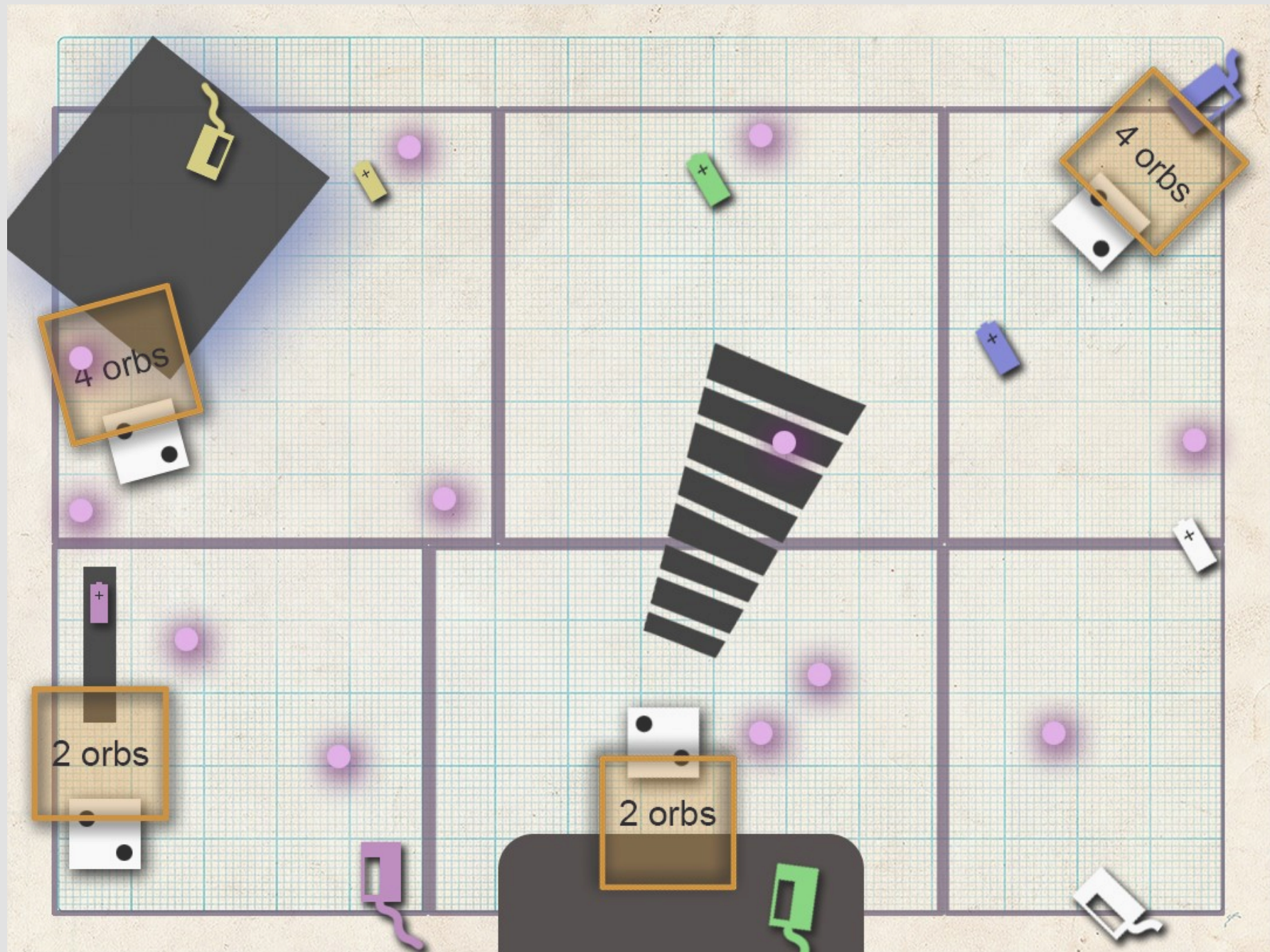
Design of the game mechanics should not be overly complex; only being made by one person.

This is a recovery space, not a computerised therapy; the design of mechanics should be based on self-help and mindfulness coping techniques.

DESIGN PROCESS

he player meant that the level flow
should progress and explore the
ely open to them. The creation of
ith no pressure meant that the lev-
y left to the individual players to
eded the players to feel in control,
ll, relaxed and safe. The flow of the
t.

Self Care tips:

- Deep breathing ✻
- Grounding ✻
techniques
- Encouragment of
trying new things ✻
- Name the bad
thoughts,
- Free yourself
from the future
and past.
- watch your
thoughts

to remember when
conceptualising

Corresponding
mobile app?
Track progress!

Option to
write in a
diary?

a photo diary

The player should be
reminded that although it is
dark and they are working
towards a goal, that they are
completely safe, in control in
the present moment

being in control
of your own
recovery

believe that
recovery is possible

Each patch has a battery pack with
that are connected to a set of fair
each battery pack and slowly lig

Each patch a different
self-care focused
mechanic?   OR do
mech
recove
patch us

patch where
you must use
all three?

The mindfulness
could rely on UI or
text/audio based
prompts as this is
difficult to do in
game mechanics:
- Naming the anxiety
- Reminder to remain
in the present

jump -
look around -
move -
put battery in extra -
set of lights

tutorial on a
cushion outside
the fort

"Are you ready"
"You are not responsible,
you are in control, you are
worth it."

Breathing

Ask the player "what is
going on right now"
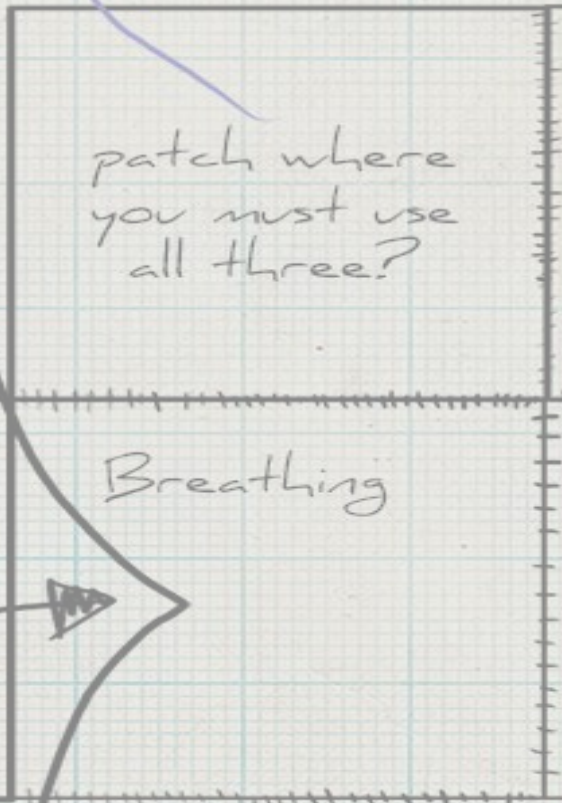
Each patch should be
large enough to allow

isolated, but

dead or missing batteries
lights the player must fix
ght up the world again

I develop multiple
anics for each

positive thought
selection

try something
new

Grounding
do something in
a particular
order

know that they
are supported

DESIGN DECISIONS: AN EXPLORATION

The following pages of this booklet aim to outline the surrounding ideas around specific important design decisions made throughout the development of "Recover" in hope of bringing focus to the importance of design when *designing* games for mental health.

The research project surrounded the theory that a game experience with increased immersion has potential cognitive benefits for its player base. Because of this, the majority of the design decisions made within "Recover" focussed on harnessing a certain level of immersion.

4 orbs

2 orbs

4 orbs

2 orbs
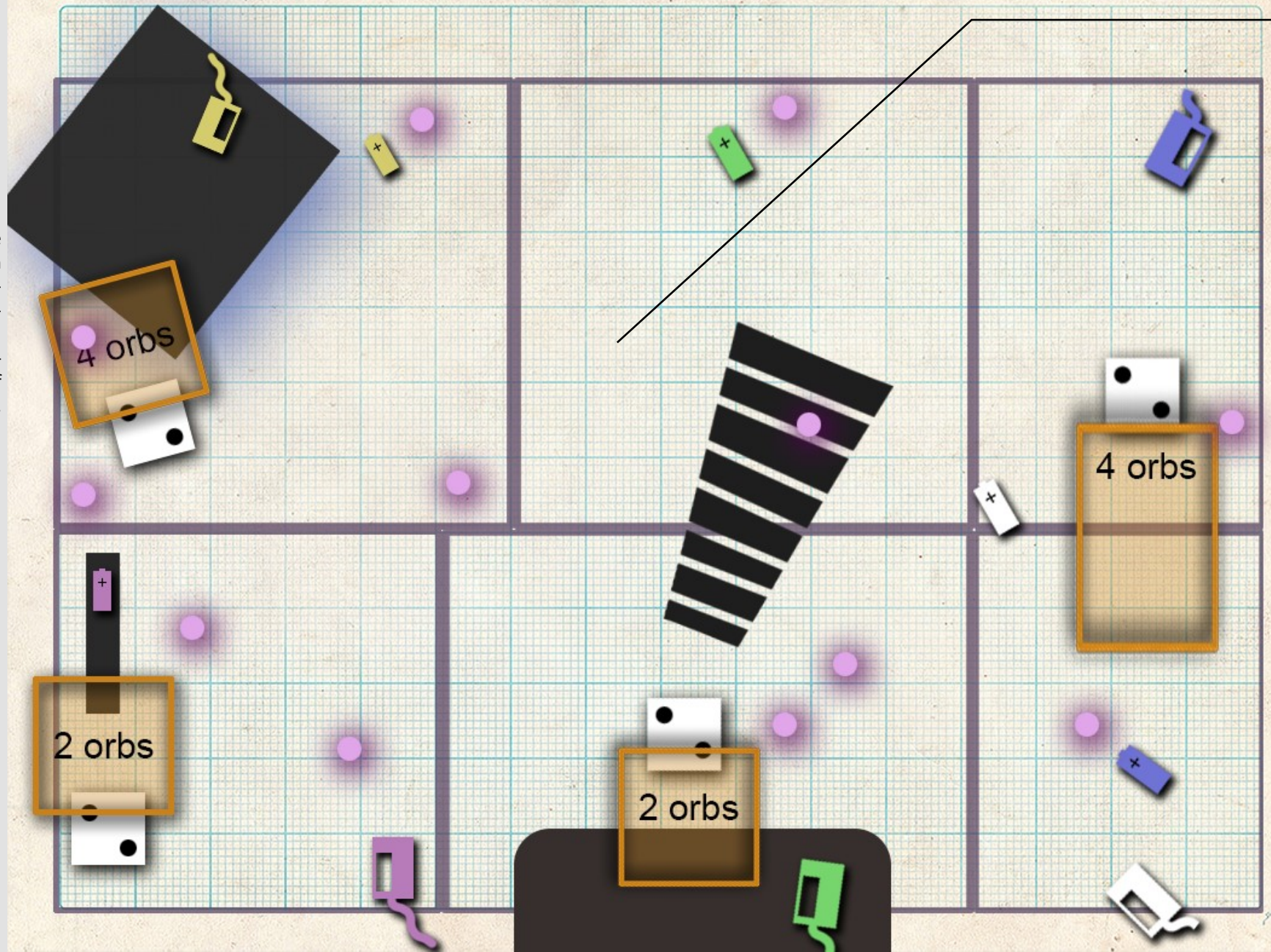
ACHIEVING "FLOW"

HARNESSING FLOW

"Through judicious level design, goals set, along with atmosphere, player feedback and motivation systems should potentially allow for the creation of flow."

The environment based puzzles within "Recover are challenging, but place no time pressure on the player. The design of the puzzles and the gameplay style overall were drawn from "Journey". Journey's time flexible game play was something "Recover" attempted to harness and mirror in its achievement of player immersion through judicious puzzle and mechanic   design.

Overall, although there is no time pressure, the puzzles are not obvious and offer challenge to the players that want it. To complete the game, you need to concentrate, and be mindful of your surroundings in the world. Achieving flow is possible within the world of "Recover".


Csíkszentmihályi's Flow
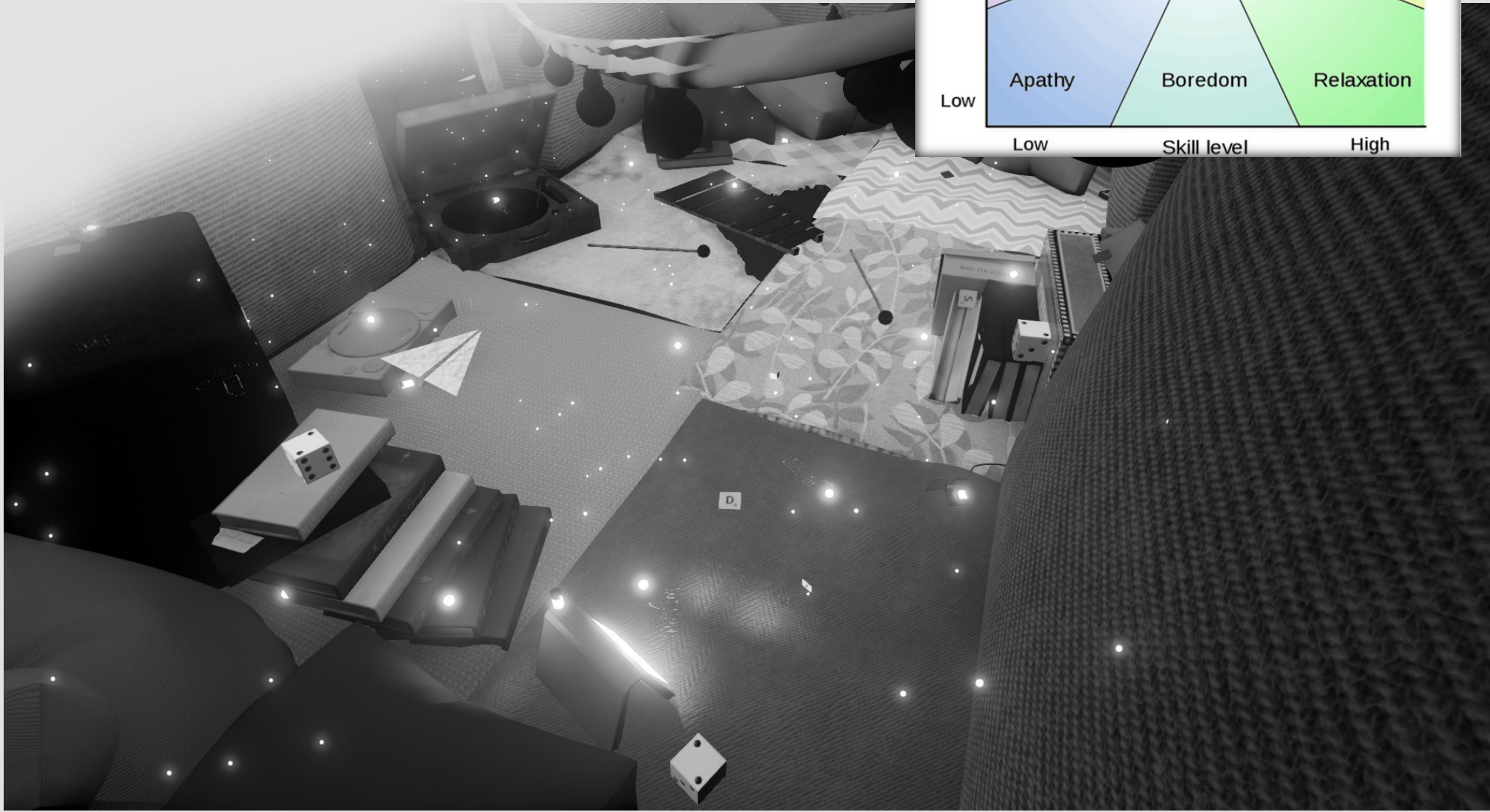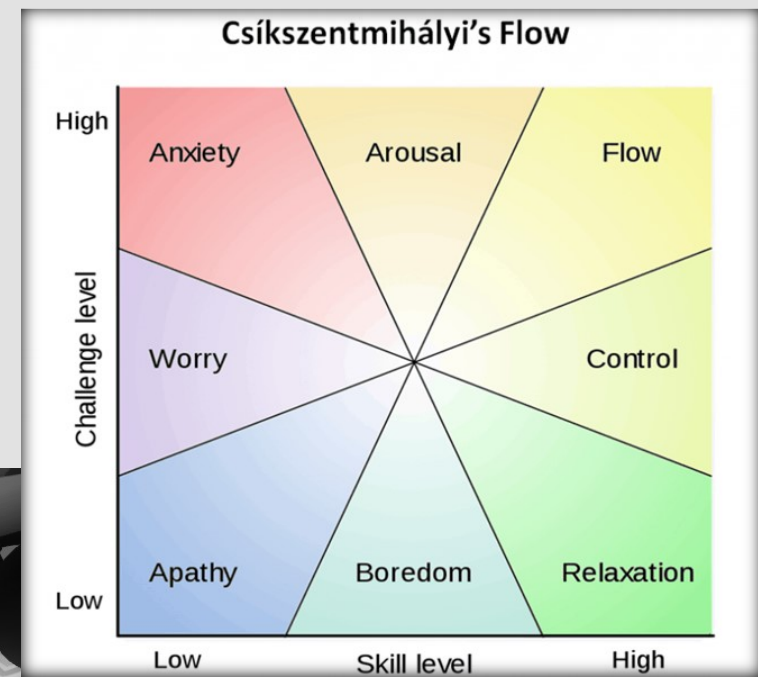
CREATING SPATIAL PRESENCE

As well as trying to achieve flow through its mechanic and puzzle design, the game space was designed so that most objects within the space can be interacted with, trying to give the player a sense of spatial presence. The world is filled with objects that are affected by the player's presence and this was done in hopes of giving the player a sense of ownership and identity in the world.

Recover Mobile offers the opportunity to personalise objects in the level; this is to again encourage immersion.
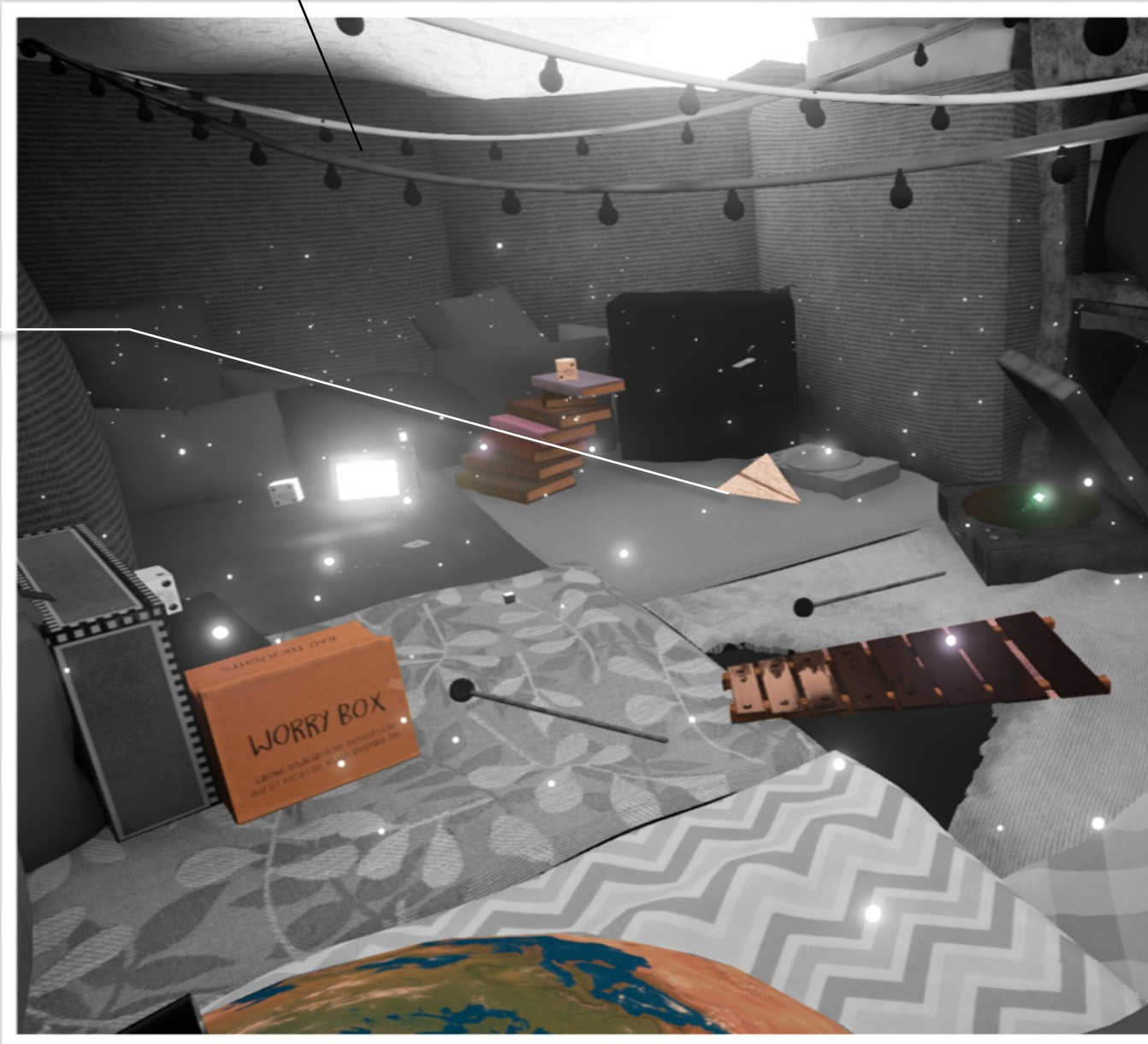
SPATIAL PRESENCE & PLATFORM
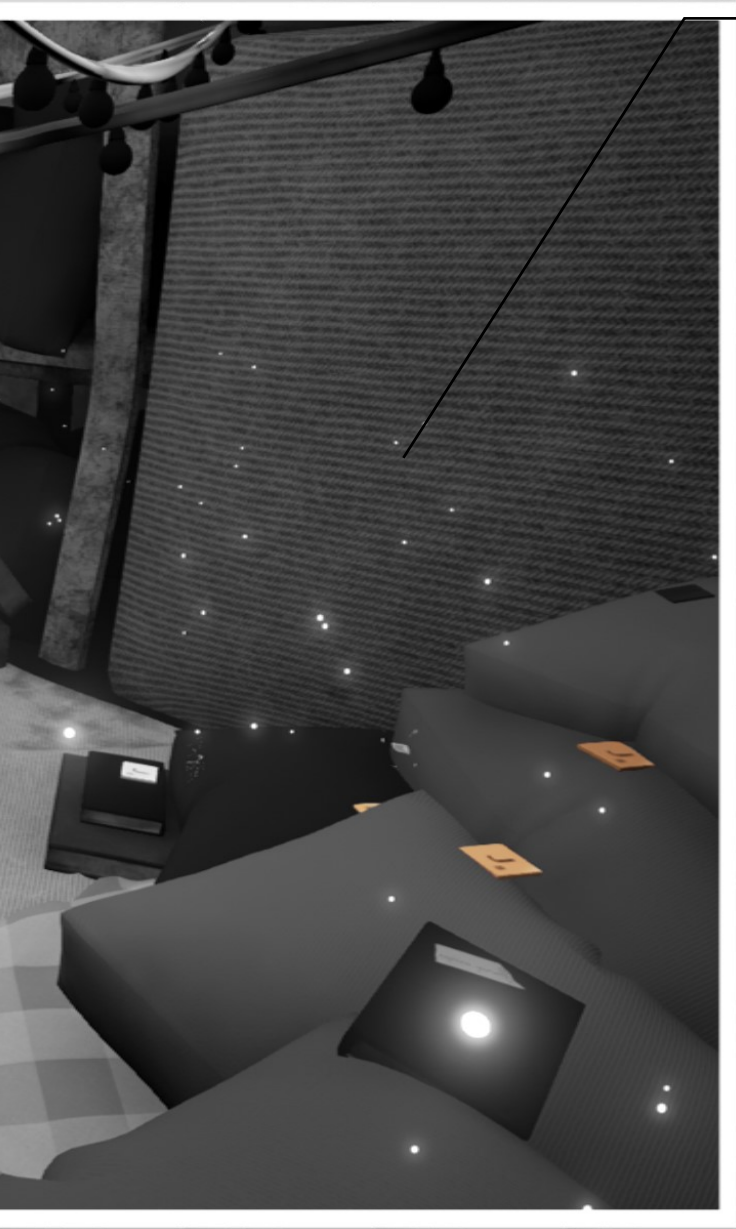
PLATFORM USED

The platform Recover is currently presented on is PC and is preferably played in conjunction with the Oculus Rift, a Virtual Reality (VR) headset.

By using VR, the player is essentially placed in that game world, arguably increasing levels of immersion drastically. The VR headset is used along with an Xbox controller, where the button input has also been designed to harness as much immersion possible. The only four "button" inputs are the right and left trigger and bumper controls that are easily felt by the player, eradicating any need for the headset to be removed. This considerate design of controller input has been done to achieve as much immersion within the game world as possible.

Oculus

LT   RT

LB   RB

LOOK AROUND

MOVE

Oculus

JUMP
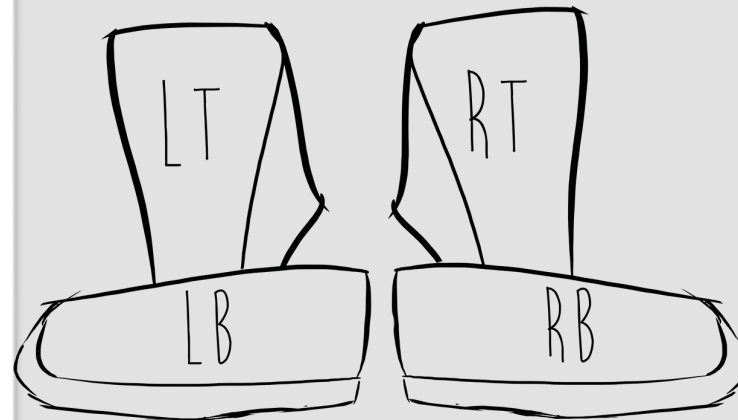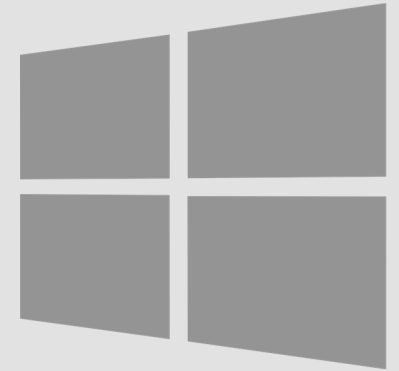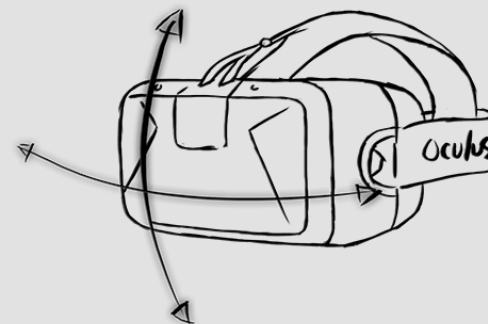
By creating a warm, inviting and calming space was vital to the creation of an immersive, 3D recovery tool and using a combination of environment and level design and a range of visual aesthetics, "Recover" does arguably appear calming, inviting and safe.

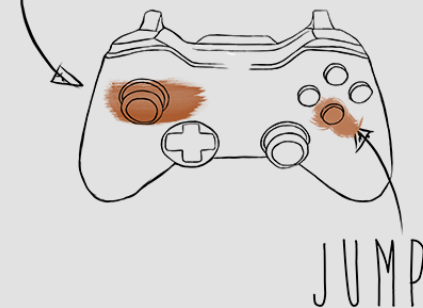The overall look and feel of the world was incredibly important to the potential effectiveness of the original product. Evoking a sense of calm, not only relied on the colour palette used, but the use of particle effects in creating an enchanting feel. The choice of objects within the space, along with the use of lighting, were all were considered and improved through iterative design loops, based on testing feedback and research conducted. Constructing a warm, inviting and calming game environment was vital to the creation of an immersive, 3D recovery tool. Through the combination of environment design and a range of visual aesthetic techniques, Recover does arguably evoke a sense of calm, serenity and safety.

ATMOSPHERE

FIX THE FAIRY LIGHTS
TO LIGHT UP THE
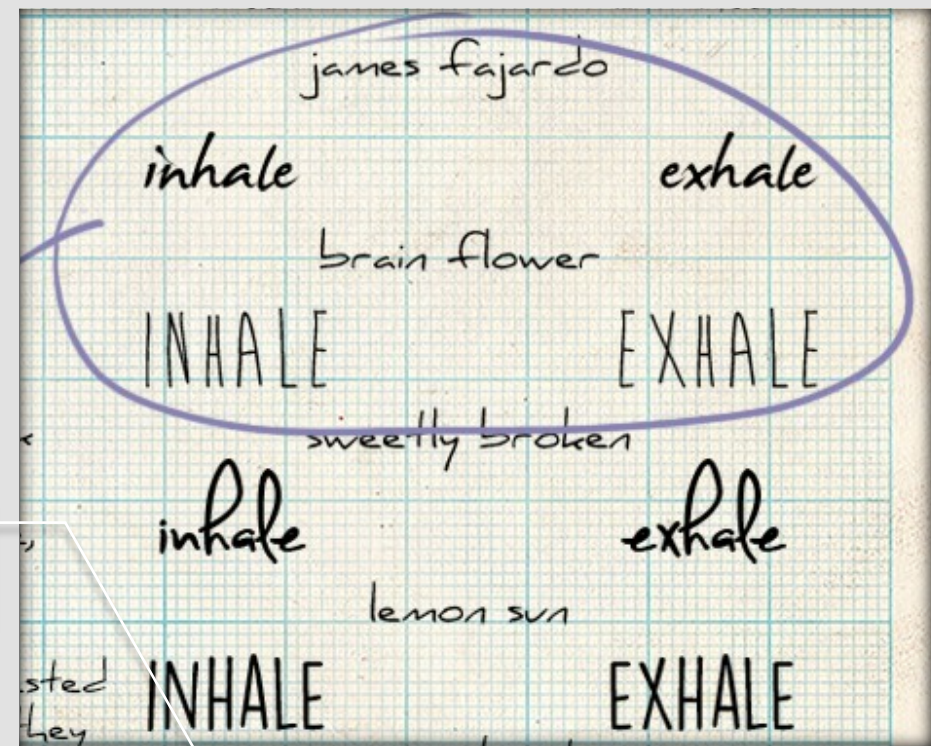PILLOW FORT!

TURN ON THE BIG LIGHT

PRESS

PAUSE

RT
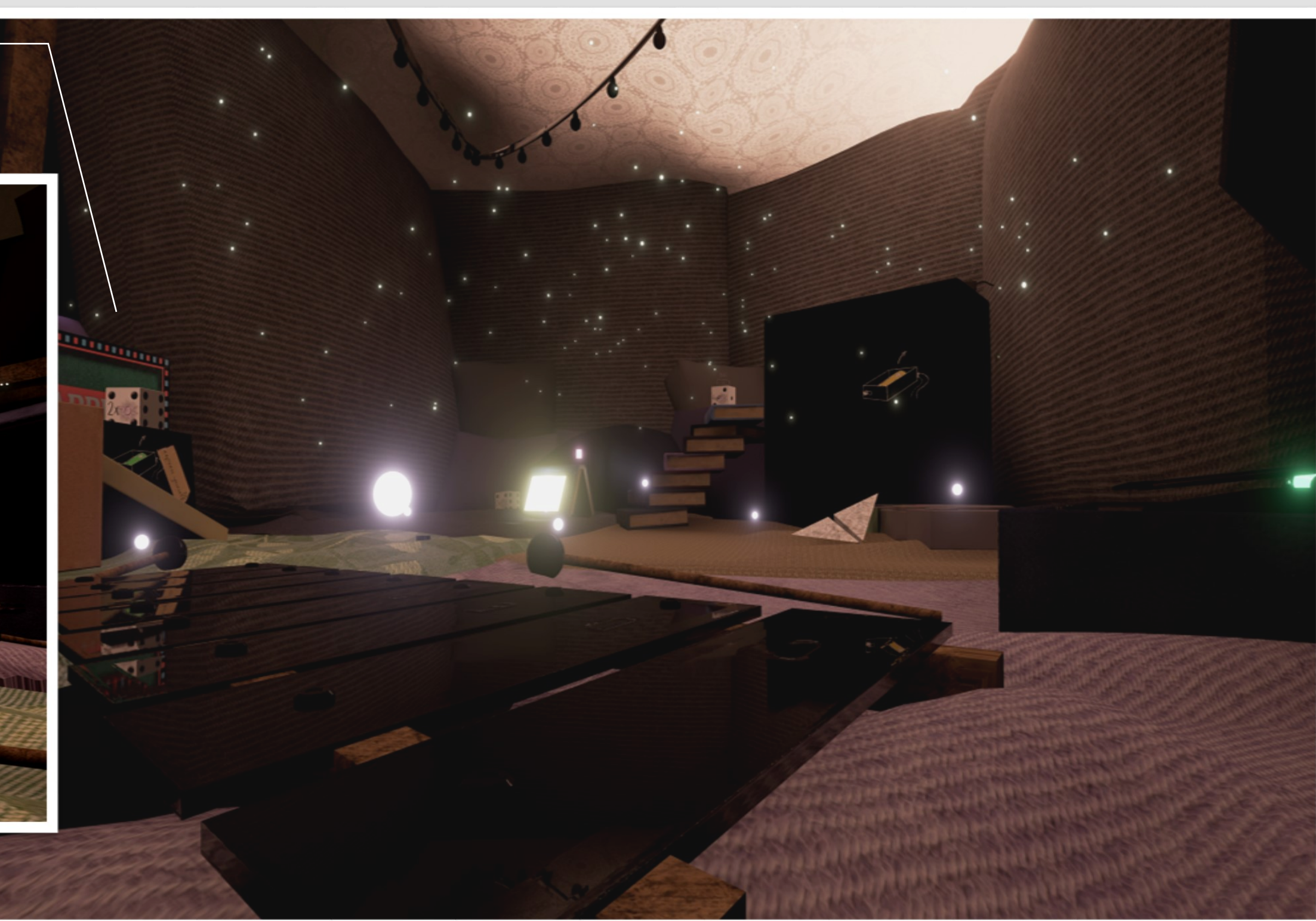
USER INTERFACE

USER INTERFACE (UI)

The user interface (UI) is an integral part of a player's experience and getting this right in "Recover" was of great importance. It was recognised early on that Unreal Engine 4's standard "widget" system couldn't be used due to the game being in VR; the UI would have to be in game, and positioned correctly so that one; the player would not feel overwhelmed by the text or images, and two; that they would not miss them or be misunderstood or unintuitive. The process of getting the UI in the game correct was a long and lengthy process that relied heavily on user testing. The last thing "Recover" should do is confuse people or leave them feeling loss, and an incorrect or unintuitive UI system could result in this happening.

HOLD YOUR BREATH PICK UP !

RT

LB

PRESS R2

TO MAKE THE NEGATIVE THOUGHTS FLY AWAY
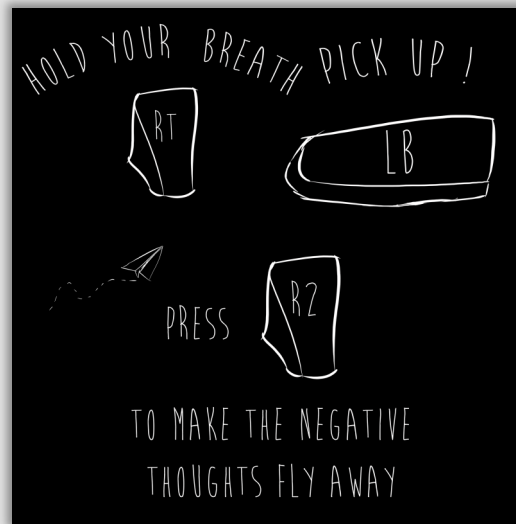
The font "BRAIN FLOWER" was chosen as it effectively displayed the design and visual requirements for the User Interface as it had to appear clean, simple and minimalistic.

james fajardo

inhale   exhale

brain flower

INHALE   EXHALE

sweetly broken

inhale   exhale

lemon sun

INHALE   EXHALE

EXHALE :)   HOLD YOUR BREATH

"Life is Strange" and their in game UI was very influential in the overall hand drawn feel of "Recover's UI system.
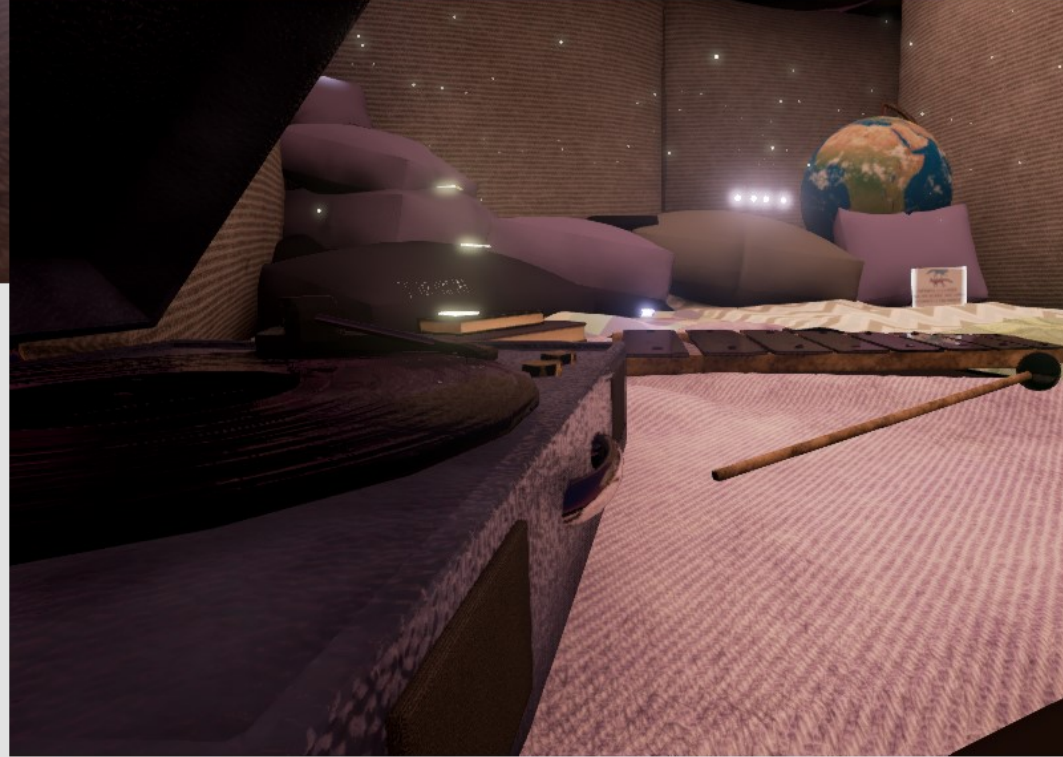
COLOUR PALETTE

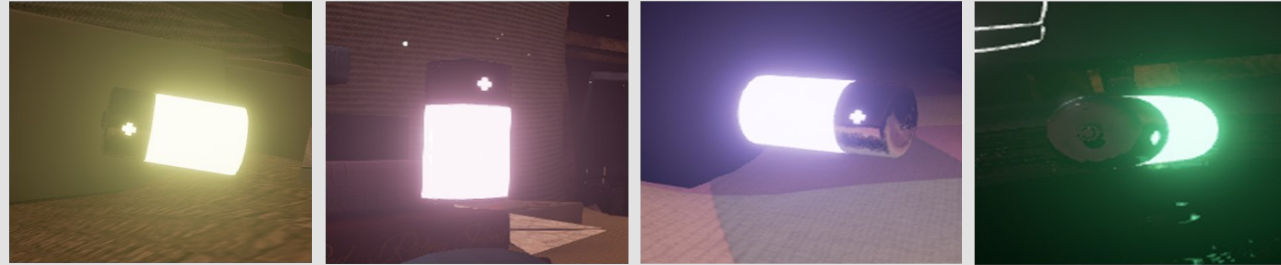The objects within the level all try to harmonise with the colour palette, there is close to no contrast in the colours used and this was a deliberate design choice in hopes of further encouraging a calming and meditative mood from the players.

COLOUR PALETTE USED

The colour palette used within Recover relied heavily on the psychology of colour and the information learnt from the case studies.

Due to the overarching aim of the game is to "light up" the environment again, the process of trying to create a dark enough world, that did not make the player feel lost or uncomfortable was done through a series of colour tests within design loops. It was decided that the warm purple lighting evoked a meditative mood from the player and was dark enough that it made sense within the narrative of the game also.

Dusty Pink - soft, subtle, gentle, composed, nostalgic

Amethyst - curative, protective, peace of mind

Blue Purples - contemplative, meditative, spiritual, intuitive

...een - calm, ...thing ...ightweight

...ow- ...happy, ...ming easy

THE PSYCHOLOGY OF COLOR

Mere color, unspoiled by meaning, and unallied with definite form, can speak to the soul in a thousand different ways. —Oscar Wilde

Sky Blue - Calming, cool, heavenly, constant, faithful, true, tranquil, serene, transcendent

Light Blue - calm, quiet, patient, peaceful, cool, water, clean

Periwinkle - lively, sprightly, convival, cordial

Bright Blue - electric, energy, vibrant, high spirits

Deep Blue - credible, classic, strong, loyal, aids concentration

OTHER FORMS OF SUPPORT

Throughout the development of Recover, due to the focus of the research, the project considered the safety of players within all design decisions. Specific examples of this consideration are demonstrated in the psychoeducation section, featured in the start screen of the game. This information can also be brought up at any point of the gameplay by pressing the "start" button on the Xbox controller. It was vital that the project recognised how patient specific a recovery journey can be. The unilateral treatment of mental health conditions including PTSD does not work for everyone, therefore by providing the player with further information on where they can receive other forms of help outside of Recover, further emphasises the project's consideration of player wellbeing.
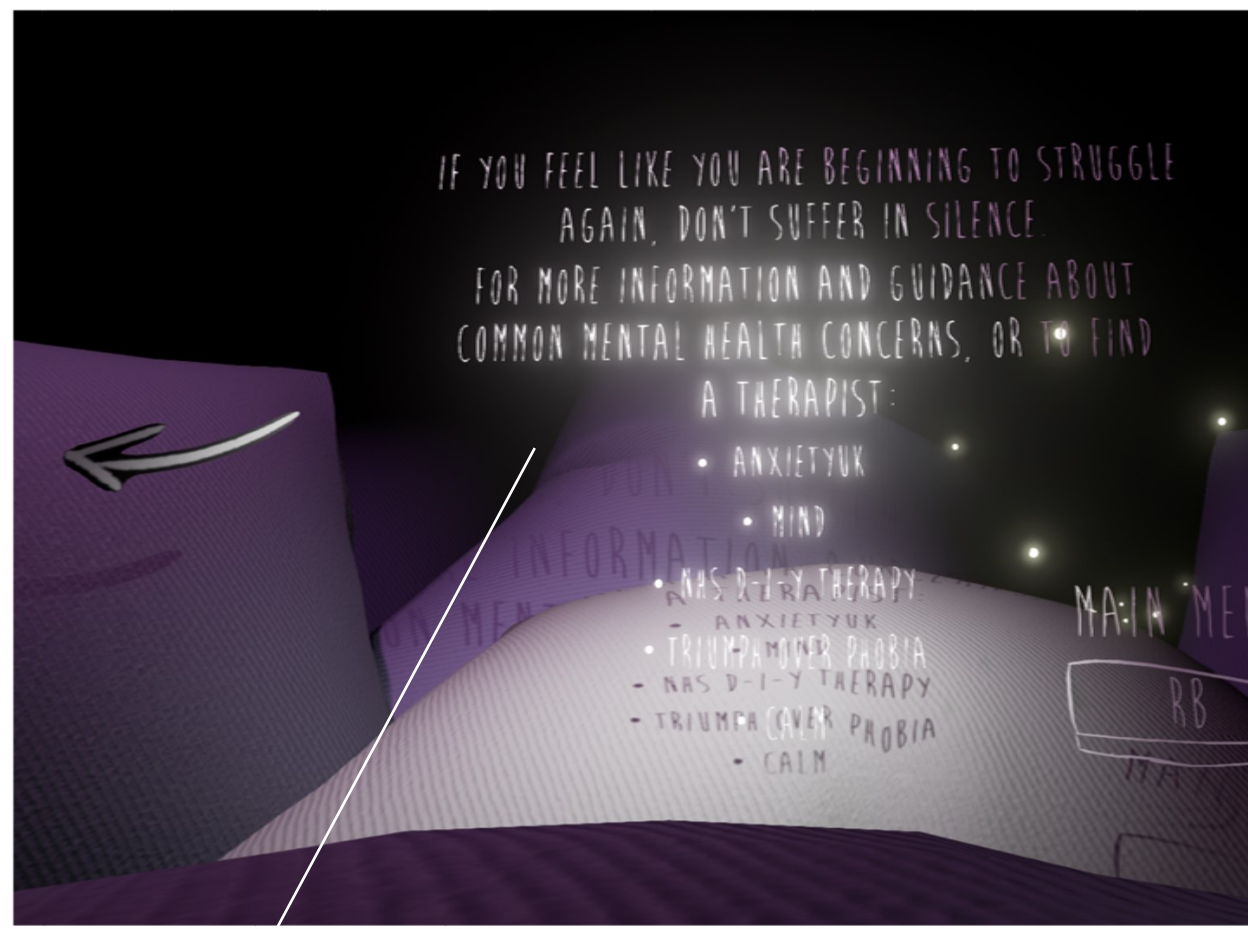
"If you feel like you are beginning to struggle again, don't suffer in silence. For more information and g[...] about common mental health concerns, or to find a therapist: ANXIETYUK, MIND, NHS D-I-Y THERAPY, [...] OVER PHOBIA, CALM"

SAMARITANS: A CHARITY WHICH OFFERS CONFIDENTIAL, EMOTIONAL SUPPORT, 24 HOURS A DAY, TO ANYONE EXPERIENCING FEELINGS OF DISTRESS OR DESPAIR, INCLUDING THOSE WHICH COULD LEAD TO SUICIDE. TEL: 116123 (UK & IRELAND) EMAIL: JO@SAMARITANS.ORG FOR MORE INFORMATION, VISIT WWW.SAMARITANS.ORG

PAPYRUS: A CHARITY COMMITTED TO SUICIDE PREVENTION, FOCUSSING PREDOMINATELY ON THE EMOTIONAL WELL-BEING OF CHILDREN AND YOUNG ADULTS. WWW.PAPYRUS-UK.ORG

guidance
TRIUMPH

RECOVER MOBILE

Perhaps the biggest consideration of player safety is the compatible mobile application, Recover Mobile.

Recognising how beneficial mobile applications can be to the recovery of mental health conditions, Recover Mobile was designed to go conjointly with the immersive VR experience of Recover.

The app has a "Help Now" feature, and simplified breathing and grounding exercises that, when completed, will earn them batteries and orbs for the immersive VR experience. The application allows for the player's moods to be tracked, for the coping mechanisms to be practiced, and for further access to a range of psychoeducational material. Recover Mobile allows for the features offered in the immersive world of Recover to be available on a more accessible platform.

RECOVER

MOBILE

RECOVER
SAFE SPOTS

DRAW OR WRITE ABOUT WHY THIS PHOTO MAKES YOU FEEL SAFE.

CREATE NEW SAFE SPOT

RECOVER
SAFE SPOTS

RECOVER
HELLO EILIDA,
WELCOME BACK TO RECOVER!
PLANS FOR TODAY
TRACK YOUR MOOD
HELP NOW

RECOVER
PERSONALISE THE WORLD
PAPER AEROPLANE
I FEEL WORTHLESS
I FEEL WORTHLESS
I FEEL WORTHLESS
I FEEL WORTHLESS
I FEEL WORTHLESS
I FEEL WORTHLESS
SEND TO THE PILLOW FORT!

RECOVER
FURTHER INFORMATION
ALTERNATIVE SOURCES OF SUPPORT
Your medical doctor, physician, or other health advisor.
A counsellor or psychotherapist.
A friend of family member you can trust.

In the UK:
Samaritans: A charity which offers confidential, non-judgemental emotional support, 24 hours a day to anyone experiencing feelings of distress or despair, including those which could lead to suicide.
Tel: 116 123
Email: jo@samaritans.org
Visit: www.samaritans.org

Papyrus: A charity committed to suicide prevention, focussing on the emotional well-being of children and young adults. www.papyrus-uk.org
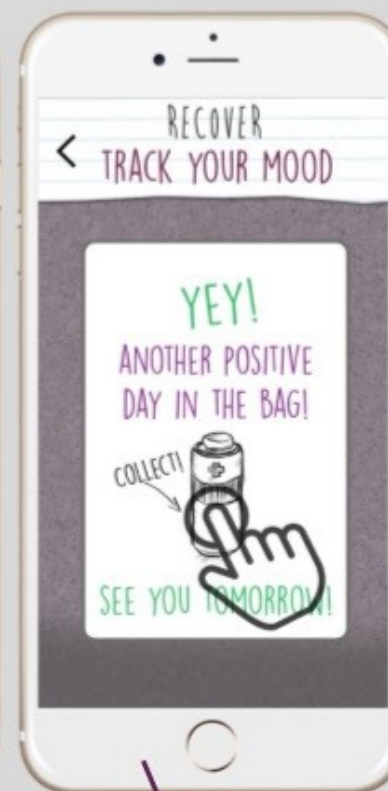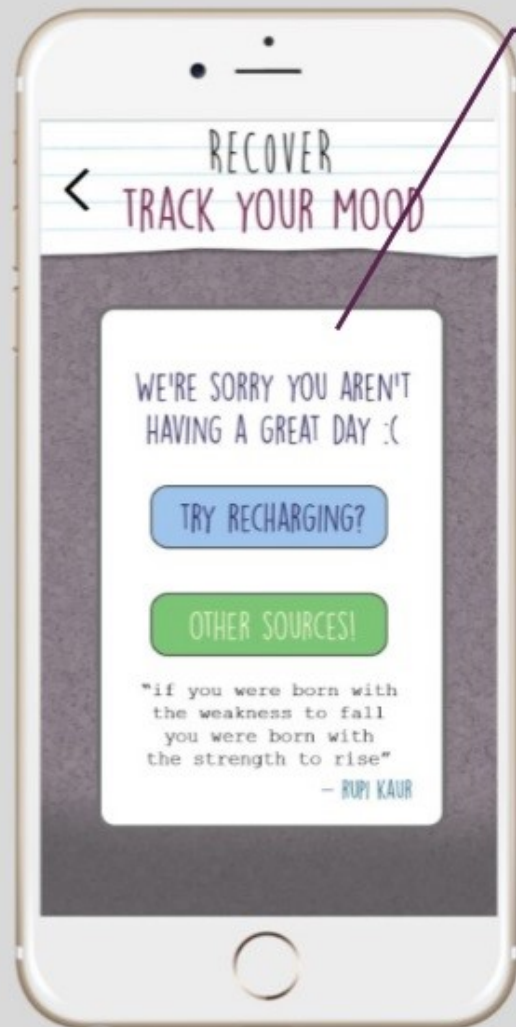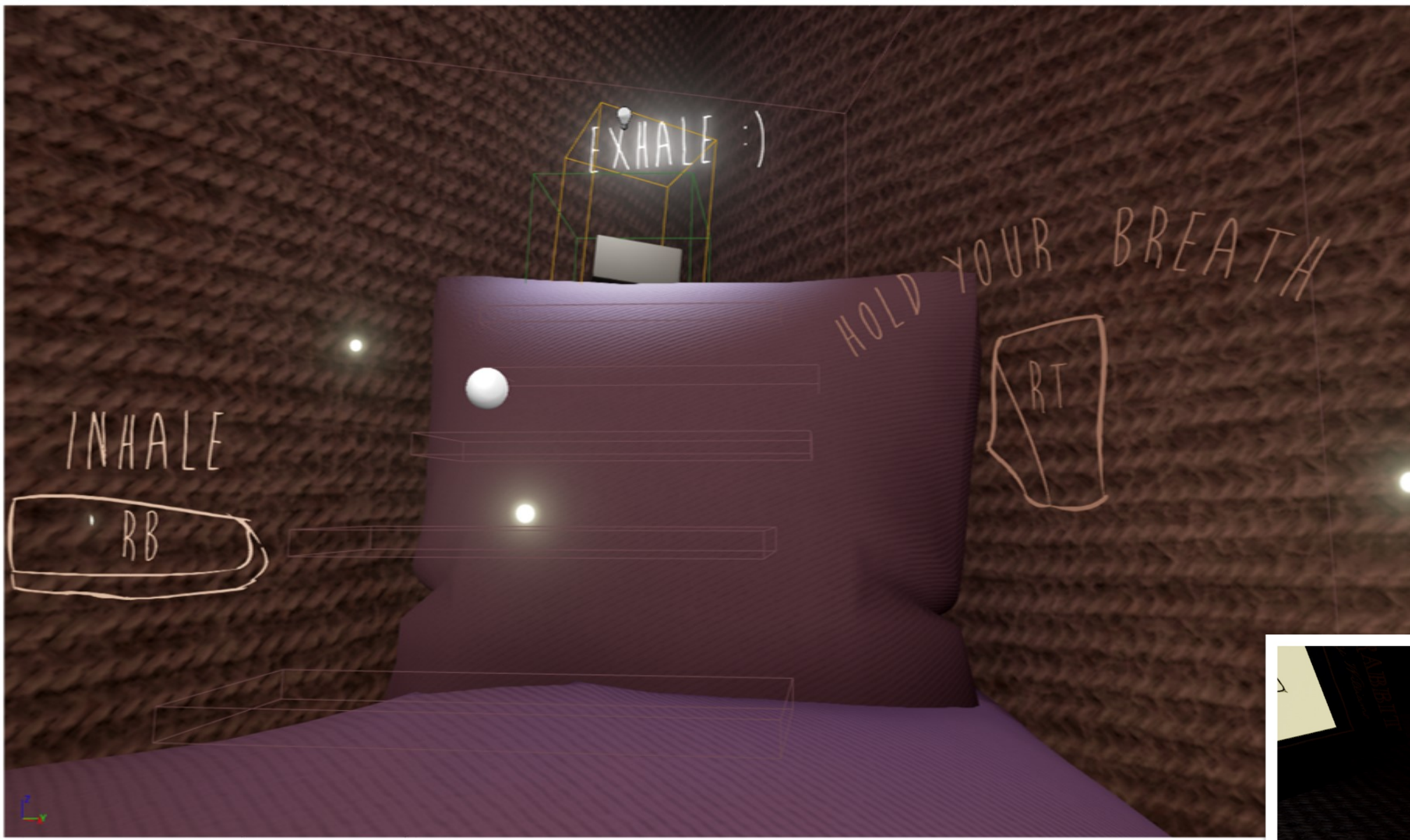
RECOVER MOBILE

SAFE SPOTS

The safe spot zone allows for the players to have a sense of freedom, as well as concentrate on something that makes them feel safe. The piece of paper can be drawn or written upon, whilst a pre-assigned song associated with a photograph plays. This has been implemented as it recognises the importance of freedom and shifting focus to something that the player's have stated make them feel safe. Allowing the players to personalise this area incorporates the importance of putting the player and their user experience first. It grants them a sense of control over the space and allows them to connect with the application more.

TRACKING MOOD

If the player has inputted data that reflects they are struggling or having a bad day, it is vital that the app notices this and provides sources of support, either inside the app, or external sources. This was something that was noted in other digital applications when investigating how they considered the safety of their user base and was an important part of the design process of "Recover mobile"

RECOVER
TRACK YOUR MOOD

WE'RE SORRY YOU AREN'T HAVING A GREAT DAY :(

TRY RECHARGING?

OTHER SOURCES!

"if you were born with the weakness to fall you were born with the strength to rise"
— RUPI KAUR

RECOVER
TRACK YOUR MOOD

YEY!
ANOTHER POSITIVE DAY IN THE BAG!

COLLECT!

SEE YOU TOMORROW!

RECOVER
TRACK YOUR MOOD

YEY!
ANOTHER POSITIVE DAY IN THE BAG!

COLLECT!

SEE YOU TOMORROW!

RECOVER
TRACK YOUR MOOD

PROGRESS:

22 X

AMAZING!

MAIN MENU

EXHALE :)

HOLD YOUR BREATH

INHALE

RB

RT

GAME MECHANICS: BREATHING BRIDGES
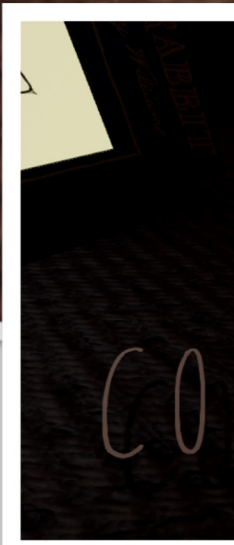
The "breathing bridges" system was designed to encourage both deep breathing and grounding. The player must focus on counting and locating the orbs required to build a bridge to a specific area. They must then use various button inputs and follow instructions on the screen encouraging them to take deep breaths. The players are asked to inhale when "building" the bridge for four seconds, hold their breath for three seconds when walking on the bridge built, then exhale for four seconds when they reach the other side.
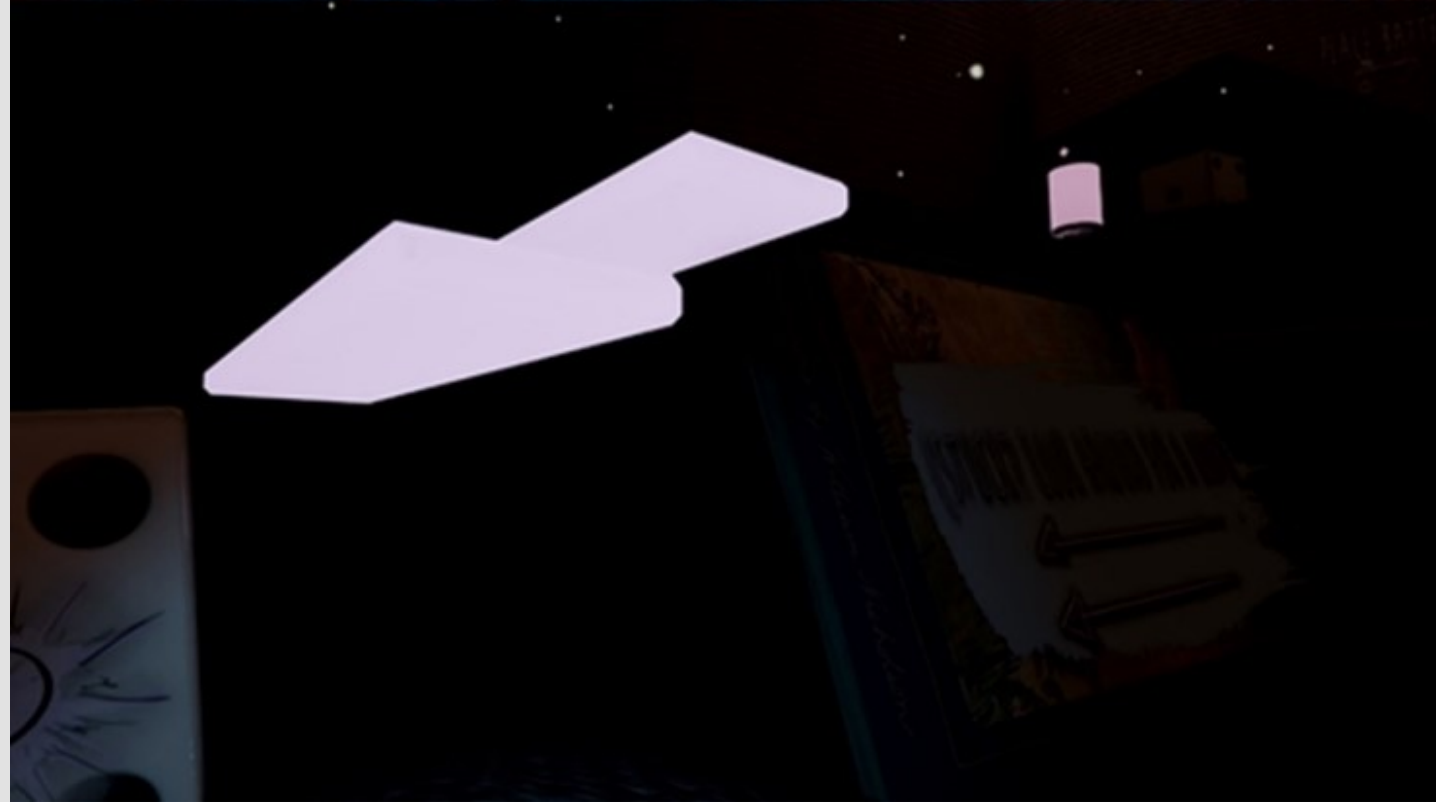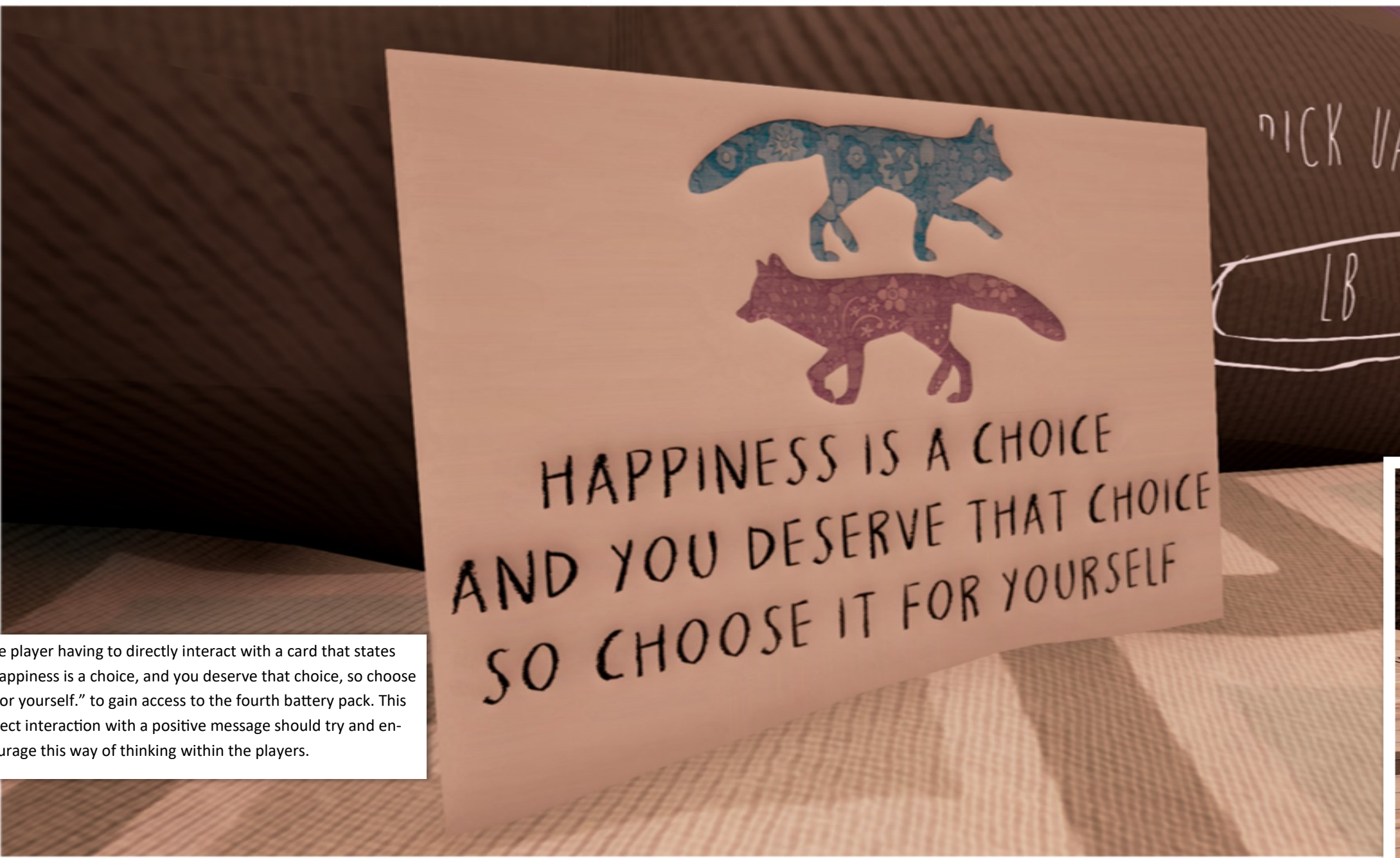
HAPPINESS IS A CHOICE
AND YOU DESERVE THAT CHOICE
SO CHOOSE IT FOR YOURSELF

PICK UP

LB

The player having to directly interact with a card that states "Happiness is a choice, and you deserve that choice, so choose it for yourself." to gain access to the fourth battery pack. This direct interaction with a positive message should try and encourage this way of thinking within the players.

GAME MECHANICS: POSITIVE THINKING OBJECTS
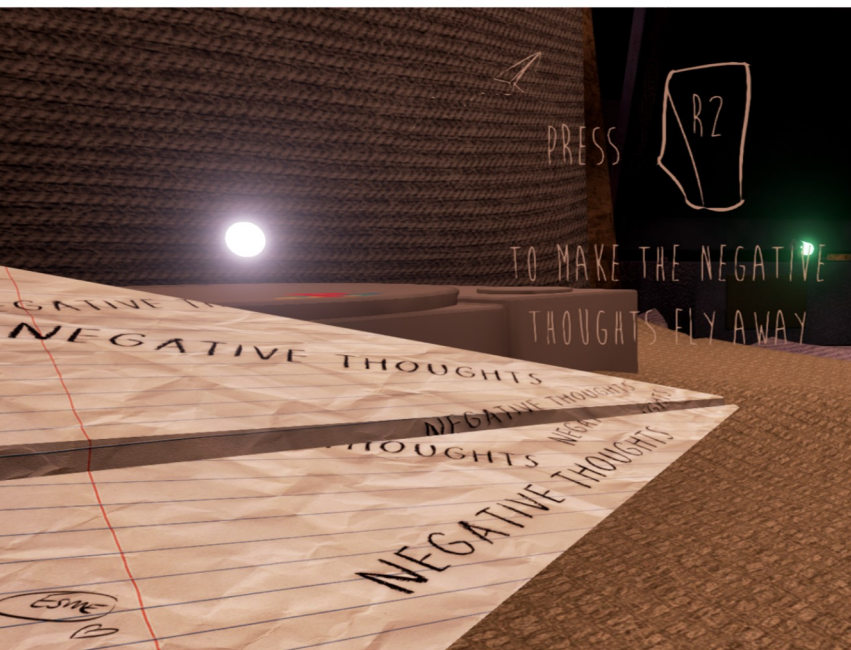
Another example of Recover's design that has been influenced by psychotherapy is the interactive objects that aim to calm the player, acting as a reminder of common activities that will help manage their mood. Moving books with positive messages on the spines, or jumping on notes of a mini xylophone are aspects of the environmental design of the game space that consciously promotes positive thinking. An example of this is the player having to directly interact with a card that states "Happiness is a choice, and you deserve that choice, so choose it for yourself." to gain access to the fourth battery pack. This direct interaction with a positive message tries to encourage this way of thinking within the players.

Another example is the paper airplane of negative thinking, where the player is asked to destroy the negative thoughts by making them fly away. This draws upon a coping mechanism that encourages individuals to write down their thoughts and then destroy the piece of paper. Expressing, and releasing negative thoughts has proved to be an incredibly beneficial psychotherapy technique. By reminding the players of this activity, it gives them the opportunity to attach personal negative thoughts to this airplane and watch them "fly away", potentially mirroring the cognitive benefits in this game setting.

GAME MECHANICS: PERSONALISE THE SPACE
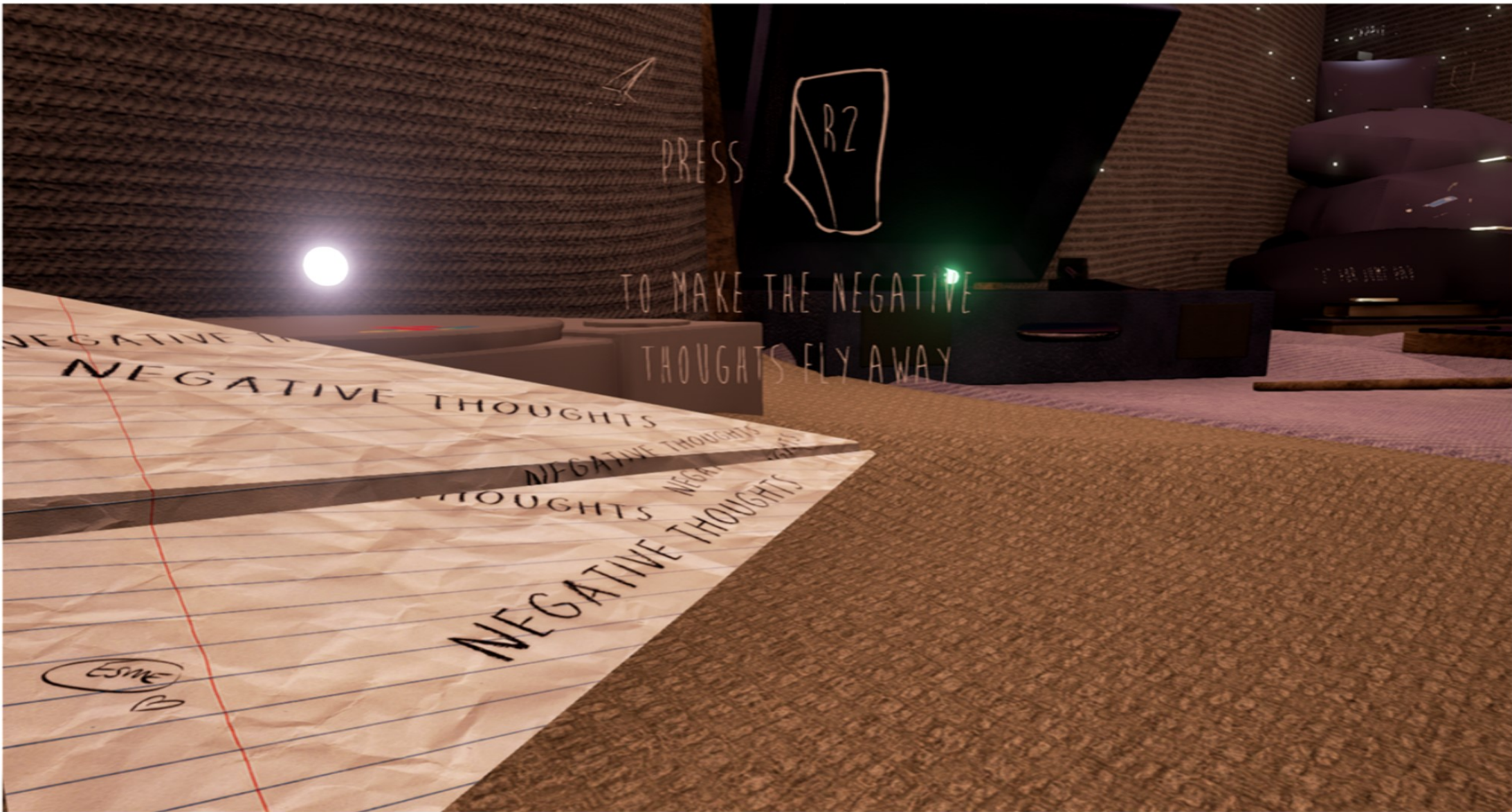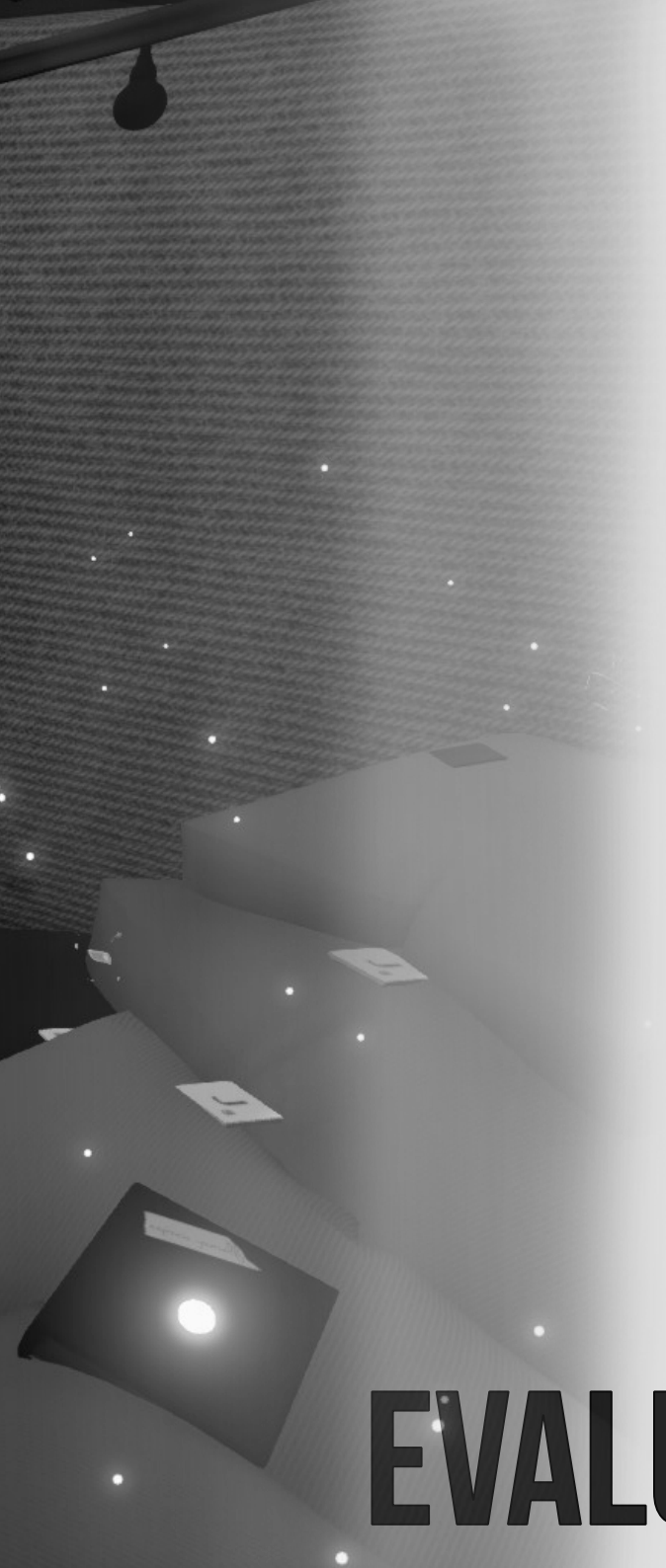
The compatible mobile application, Recover Mobile, allows for the player to personalise paper airplanes in Recover with their own negative thoughts, and watch them fly away in the game world. Making the immersive setting of Recover even more effective as a game space. The personalisation of interactive objects in Recover and Recover Mobile was influenced by SuperBetter's design that allows for the personalisation of "bad guys" and "allies". The benefits that the mechanic offers to the player base, potentially increases user engagement with the product.

PLAYTHROUGH:

HTTPS://YOUTU.BE/P6UE4MS2V5U

Overall, when comparing the produced game artefact to other digital therapy tools, Recover does successfully explore the importance of design when developing a digital experience for a vulnerable player base. By increasing immersion, not only within a realistic 3D environment, but by also using a platform that allows for VR to be utilised, players are fully immersed in a world separate to their own reality. As this has been proven to lessen feelings of anxiety and improve mood, it can be argued that Recover would be a successful recovery tool for those suffering from PTSD. The designed mechanics centred around encouraging deep breathing grounding techniques and mirrored mindfulness based therapies. This successfully provides an immersive digital version of these encouraged coping mechanisms.

However, one major drawback of Recover, is the game's inability to track the player's stress levels and mood. This is partially due to technical constraints placed on the development of the product. Ideally, Recover would allow for the measurement and management of player mood and stress, perhaps through a diaphragmatic controller. However, would this then make the game even more inaccessible to the potential player base? Recover is currently less accessible to those who do not have a gaming PC, or a VR headset. Improving the accessibility of the product is something that should be considered for future development. However, with the creation of the conceptualised compatible mobile application, this could be an effective way to track player mood. Allowing for immersive nature of Recover to remain, but also recognising and encompassing the strengths that come with having a self-help application available on mobile.

The combination of research in both psychotherapy, and immersive game design practices, has allowed for the creation of a game experience that aims to encourage recovery from symptoms of PTSD in a safe 3D environment. Research from both fields allowed for the design of game mechanics that both challenge and immerse the players in the activities that evoke feelings of calm and positive ways of thinking. The aesthetics used within the world, as well as the design of the pillow fort environment, further evokes a sense of serenity within the player. The body of research conducted allowed for the development of unique game mechanics that have been specifically designed for improving mental wellbeing and harnesses an essence of flow and immersion. This, along with the creation of an immersive 3D game space, shows the importance of exploration within this developing field of game design study. There is a clear need for more considerate and better designed digital gaming experiences for mental health disorders. The final product produced, as well as the body of research conducted have outlined the clear benefits that come from playing games that have been designed from a collaboration of two fields of practice. Recover, has arguably proved the potential benefits that immerge from better designed, immersive game experiences. The importance of design, and the collaboration of fields of research, is paramount for the development of digital products aimed at those suffering from PTSD.

EVALUATION

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