

# INTERACTION DESIGN REPORT

## “THE PAUSE PROJECT”

Group 3 - Radhika, Garv, Abhishek,  
Sharayu, Nandini

### Abstract

College students experience significant stress levels. This project explored the potential of immersive and interactive spaces designed to promote relaxation. We conducted research on student stress factors and the benefits of multi-sensory experiences for relaxation.

Based on this research, our group developed a low-fidelity prototype, incorporating calming sights, sounds, and scents within a comfortable environment. Students participated in a user study for us to understand student perceptions, the prototype's effectiveness in creating a relaxing atmosphere, and identify areas for improvement.

# TIMELINE

Steps	Date	Revised Timeline/Steps	Assigned to	Status
Assumptions + Hypothesis	12 June, 2024 Wednesday (Night)	-	All	Done
Secondary Research	14 June, 2024 Friday (Night)	-	All	Done
Discussion	14 June, 2024 Friday (Night)	-	All	Done
Deciding Target Audience + questionnaire	15 June, 2024 Saturday (Night)	-	All	Done
Primary Research	17 June, 2024 Monday (Night)	-	All	Done
Analysis of Research (Hypothesis Validation)	18 June, 2024 Tuesday (Night)	-	All	Done

Defining the problems	18 June, 2024 Tuesday (Night)	-	All	
Ideation	23 June, 2024 Sunday (Night)	21 June, 2024 Friday (Night)	All	Done
Empathy mapping & Scenarios			Sharayu	Done
Affinity mapping			Radhika	Done
User Personas			Garv & Abhishek	Done
Primary Research 2			Nandini	Done
Setting up prototype space	23 June, 2024 Sunday (Night)	24 June, 2024 Monday (Night)	All	Done
Preparing visuals for interactive and immersive			Garv, Radhika, Abhishek	Done
Mapping			Abhishek	Done
Projection testing & changes			All	Done
Motion testing	23 June, 2024 Sunday (Night)	26 June, 2024 Wednesday (Night)	Garv	Done
Sound design for immersive and interactive			Nandini, Sharayu	Done
Projection testing & changes			All	Done
Finalizing visuals	27 June, 2024			

Setting up multisensory space	Thursday (Night)		All	Done
Final testing with sound				
User Testing	27 June, 2024 Thursday (Night)	28 June, 2024 Friday (Night)	All	Done
Documentation & Illustrations	28 June, 2024 Friday (Night)	30 June, 2024 Sunday (Night)	Sharayu, Radhika	Done
Report			Nandini	Done
Final Presentation			All	Done

# 1. OUR INITIAL BRIEF

Design students in our college experience significant mental stress due to a lack of opportunities for recreation, taking a break, and stress management. This deficit is compounded by a demanding workload and a college culture that normalises unhealthy work habits like all-nighters.

This project seeks to leverage interaction design to address the disconnect between student well-being and the current academic environment. We aim to create a space which allows students to take a break from their hectic schedule and explore recreational opportunities, making their day a bit better and happier.

## Who, What, When, Where, Why

- **Who** - Students in academic institutions
- **What** - Academic stress
- **When** - When there is no time to interact with people, not able to get enough time for oneself, when there is a lack of recreational opportunities.
- **Where** - NIDAP, Indian educational institutions including colleges, workspace ecosystems
- **Why** - too much workload, toxic competition amongst students, poor time-management skills academic validation, family pressure

## The Gaps

- No recreational facilities
- Lack of nature
- No safe space to vent out personal feelings frustration, anger, other than our hostel rooms
- Rarely any events happen in college for recreation

## The Stakeholders

PRIMARY	SECONDARY	TERTIARY
<b>1. Students -</b> Primary users of the stress-relief space.	<b>1. Parents -</b> Concerned about the well-being and academic performance of their children.	<b>1. College Alumni -</b> May provide support or funding and have an interest in the ongoing success of the program.
	<b>2. IT and Maintenance Staff -</b> Ensure functionality and maintenance of the equipment and space.	<b>2. Local Community</b> Indirectly affected by the college's activities and reputation.
	<b>3. College Administration -</b> Providing funding and all.	

## Assumptions

People need a space to destress and they would come there

Students are stressed because of lack of recreational facilities

Students will feel better by destressing

Interaction design will play a key role in reducing stress

# Hypothesis

A space with projections and elements of nature like fractals will destress.	Smashing things	Dancing	a space to chill - pursue and do whatever we want
Painting and splashing colours	Listening to calming music.	Sleeping	Baarish ke baad mitti ki khushboo

## 2. SECONDARY RESEARCH

### Stress

College students experience significant stress due to a combination of financial pressures (tuition, living expenses) and academic demands (exams, workloads). Research by Yang et al. (2016) pinpoints specific stressors such as ongoing coursework, paper writing, and exam preparation.

This academic stress can negatively impact student health, both physically and mentally. Studies by Travis et al. (2012) demonstrate a strong correlation between academic stress and health problems like fatigue, anxiety, depression, and even gastrointestinal issues. Additionally, stress can hinder academic performance, creating a cycle where poor health impacts academic performance, which in turn increases stress.

Students who utilise active coping mechanisms, such as planning, problem-solving, and positive reframing (finding the positive in challenges), are better equipped to manage stress. However, some coping mechanisms offer only temporary relief and can worsen stress in the long run. These include denial (pretending the problem doesn't exist), disengagement (giving up), and excessive venting (expressing negativity without resolution).

Our student survey data suggests a link between sleep deprivation and excessive smartphone use. Interestingly, some students reported a desire for alternative activities during free time, yet still reported high smartphone usage.

Fortunately, access to resources can significantly improve student well-being. Students who have access to mental health services, academic support services, and other campus resources report lower stress levels. This access to support plays a crucial role in helping students develop healthy coping mechanisms and maintain overall well-being.

## Multi-sensory Design

Multisensory design is based on the principle that humans process information more effectively when multiple senses are stimulated simultaneously. By incorporating visual displays, calming music, and carefully chosen textures within a space, we can create a more immersive and engaging environment that promotes relaxation for students. Each sensory element plays a specific role in creating a calming atmosphere.

- **Visual Elements**

Visuals can evoke feelings of peace and tranquillity. Research by Angela Wright suggests that nature scenes and calming colours, such as blue and green, promote relaxation. This aligns with the theory of biophilia, which proposes that humans have an inherent connection to nature. Conversely, Robert Gerard's work emphasises the importance of avoiding colours like red, which can be stimulating and even disturbing to anxious individuals. These findings highlight the importance of using colour strategically to create a calming environment. Additionally, research suggests that uncluttered spaces and dim lighting can create a sense of tranquillity.

- **Auditory Elements**

Calming music can play a significant role in reducing stress. Studies have shown that classical music with a slower tempo can be particularly effective. This might be because slower tempos can synchronise with the body's natural relaxation response. Instrumental music might be more effective than music with lyrics, as lyrics can sometimes be distracting. However, research suggests that allowing students to choose their own music can enhance feelings of control and personalization, potentially leading to greater stress reduction. This aligns with the concept of restoration of perceived control and self-regulation through music selection.

- **Haptic Elements**

Haptic elements, which refer to the sense of touch, can also contribute to relaxation. Soft and smooth textures, such as fleece blankets or soft stones, can be comforting to the touch. Playful and squishy objects like stress balls can offer a distraction and a release for tension.

# Nature

Research suggests that incorporating simulated nature elements within a relaxation space can be highly beneficial. Studies by van den Berg et al. (2003) have shown that viewing nature imagery can effectively reduce perceived stress compared to urban scenes. Exposure to nature in general has proven to lower blood pressure and heart rate, reduced stress hormones, and improved mood and focus. This aligns with the concept of biophilia, which suggests that humans have an innate connection to nature.

Furthermore, NASA research highlights the positive impact of nature on astronaut well-being, suggesting that calming visuals of nature and the use of natural materials can create a more restorative environment. Overall, incorporating biophilic design principles through nature imagery and other sensory elements can create relaxation spaces that promote feelings of well-being and restoration.

## Existing spaces

- **Rethinking Responses to Anger**

Traditional methods of expressing anger, such as physical aggression, may not be effective. Research suggests that these actions can actually intensify feelings of anger in the long term. Rage rooms, while offering a temporary outlet, do not address the underlying causes of anger. This can potentially lead to more destructive behaviours outside of a controlled environment. Additionally, such environments may normalise violence as a way to deal with anger, which could be particularly concerning for those already struggling with anger management.

- **Alternative Approaches to Relaxation**

Space agencies, like NASA, understand the importance of astronaut well-being during extended space missions. They incorporate design elements that promote relaxation and a connection to nature. For instance, the Cupola observation dome allows astronauts to view Earth, fostering a sense of connection. Crew quarters provide essential personal space for rest and relaxation. Bioregenerative Life Support Systems (BLSS) are being explored as a way to create miniature green spaces within spacecraft, potentially offering a calming environment through the presence of plants.

- **Virtual Reality for Relaxation**

Virtual Reality (VR) is a new and promising tool for relaxation and stress reduction. Researchers are exploring its effectiveness in creating immersive environments that promote mindfulness. Studies have shown positive results, with guided imagery emerging as a common technique used in VR for stress reduction. While challenges remain in defining and measuring stress, VR technology has the potential to be a valuable tool in managing stress levels.



# 3. PRIMARY RESEARCH 1 & ANALYSIS

## Questionnaire

1. When was the last time you felt academic stress?
2. On a scale of 1 (not at all) to 5 (extremely stressed), how stressed do you typically feel during the semester?
3. What are the other sources of stress in your academic life?
4. How does academic stress typically affect you, mentally and physically?
5. In a typical week, how much time do you dedicate to activities you find relaxing or enjoyable?
6. Do you feel like this is enough time?
7. What are these activities which are relaxing, enjoyable, or de-stressing?
8. Do you feel the college environment currently offers adequate opportunities for relaxation and stress management?
9. If you answered "No", what kind of activities or spaces would you want in college to help you chill or destress?
10. What are the activities that help you relax and destress when you go back to your home-town?
11. What kinds of sounds calm you down?
12. Touching what kinds of textures calm you down?
13. What kinds of fragrances calm you down?
14. What are the visuals that calm you down?

## Affinity Mapping

## Sources of academic stress

Radhika VERMA

Unrealistic deadlines or overambitious projects,

Money management, Procrastination, Time management

Maintaining personal and social life, Material sourcing

Not having sports facilities, limited studio timings,

Group project drama

Radhika VERMA

competition for discipline, family issues,

Unhealthy Competition

Too much workload

Multiple courses running together & unable to explore new things.

Figuring what I want to do further on ahead. Communicating with other people, backlogs

fear of failing

pending work, backlogs

Radhika VERMA

Discipline choice

commitments, balance of work and personal works

Relationship, Peer Relations, Homesickness

Stuck on a step for a longer time

Pressure to complete assignments on time.

Faculty being biased, unfair evaluation

not being able to take a break, hectic work culture, if you don't like working you won't survive

## Effects of academic stress

Radhika VERMA

Sleep disturbance, anxiety, burnout

heartbeat increase

Stopped feeling hungry, demotivated

Oversleeping and tiredness

Restlessness

Insomnia

Physically, Restless, Bimmar

body becomes restless,

Weight loss

mentally drained, i have to take a day off to keep up with this schedule, can't call

stomach ache

hair loss, tiredness

overthinking

end up not doing anything,

No personal life

Nausea, Mental creative blocks, Irritable moods

revenge procrastination

panic attacks, breakdowns, frustrations

Physically - vomiting, stress eating, raises voice, hyperactivity

vomiting, stress eating, raises voice, hyperactivity

## Activities that users do to destress

### At home

Radhika VERMA

Meet friends

Home cooked food, The smell of the air, TV channel news

going out to historical places,

Talking to loved ones

eat tasty food

Swimming

Bake

Girlfriend, family time, sitting near river side, visiting nostalgic places

art galleries

Visiting grandparents, proper healthcare, movies

Pets

Go to Kothrud-peaceful hill, pond

Swing, climb trees, go out for a walk, socialising, go on a ride, bake

go for a walk

Indri Seshan

outing with cousins

sitting in public transport

cycling, sit outside at the verandah

Nandini Seshan

Spend time go out, new restaurants, shopping, PAreshan gharwalo ko, Baat na manan

family and cooking with them.

Nandini Seshan

Junk food

Go on top of mountains, bike rides Badminton, Gymming go out with friends

Playing with Amber (dog), fine dining, late night deserts

Sports and eating, mummy ka pyaar.

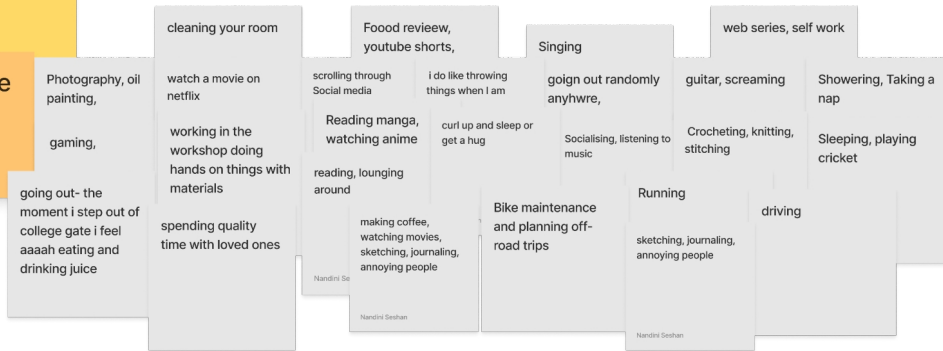
I go out, cafes, park picnics, malls, sit by the lake, go partying with your friends

Nandini Seshan

**Activities that users do to destress**

**At college**

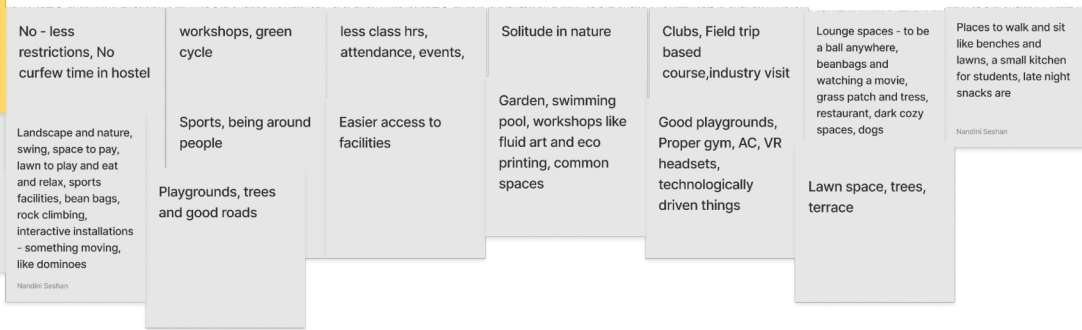
Radhika VERMA



**Spaces that users want in college to destress**

Radhika VERMA

mixed common space with no restrictions, rules and regullations, installations in campus, pathways with shed



**Sensory information to destress**  
Radhika VERMA

**Visual**

Hanuman Chalisa

bitcoin graph mountains, beach, exercise video

Food photos, something motivational makes me wanna work, people you look upto

open fields, mountains, vacant sea beaches.

solid colors, empty roads

Dark, overcast mountains and roads

gradients yellow and green line gradients, grey colored grains only visual.

Beaches, coconut trees, sunsets

Slime videos, cocker spaniels, wildlife wholesome

Wavy hair, mountains, forest, rivers, any water bodies

Calm and quiet environment with stationary elements

Cute puppies, inspirational and pretty design (type, graphic, layout)

Warm colours, greenery

Nature, moving visuals

Bharatnatyam hand movements, flowy hand movements, dance

Open fields

Mountains, Valleys, Sky, sunset, clouds

Ghar ka bed, bathroom, everything

Greenery, beach

River flowing, greenery when wind hits, rain

**Sensory information to destress**  
Radhika VERMA

**Auditory**

silence, nature creeps you out

Not required

Sufi music, sarangi, Birds,.

after metallic, electric buzz, base

Talking to mom, Father playing old songs, Mom ki Gaali

classical music, snowfall mellow sounds, bird sounds, nature

Family, Friends, Pressure cooker because it remind of home

Stitching machine, Rain

Bike exhaust, shower water sound, water (any)

flute and violin, sounds of flowing water, waterfall, waves

Familiar voices, vibrations feel relaxing, electric guitar, cow moo

Ambient soundscapes, flute, people murmuring, nice Hindi music

Leaves rustling, water running sound

Rain, morning birds

Raining, Dad's motorcycle approaching, News channel

Early sparrows, cat meowing, rain

Rain, light music

Soothing sounds like wind chimes, rain

Sound of fan, wind, people with certain voice, waterfalls, morning silence

Rain, waterfalls

Rain, old hindi songs, calm ambient music

**Sensory information to destress**  
Radhika VERMA

**Smell**

hate floral smells

Vanilla, Flowers

vanilla, chocolates

Filter coffee

Smell of rain

After rain

Wet soil

Petrichor, jasmine, vanilla caramel

citrus jasmine,

Jasmine, strawberry

ghar ki Agarbitti, Home smell atmpshere

Elaichi, mo mitti, first rain

Petrichor, homemade samosas

roasted coffee books, old book sandalwood smell

citrus,

Rain smell, incense stick

Strong fragrances, minty smell

Agarbathi, eucalyptus,

Attar

**Sensory information to destress**  
Radhika VERMA

**Smell**

roasted coffee books, old book sandalwood smell

ghar ki Agarbitti, Home smell atmpshere

citrus,

Strong fragrances, minty smell

Filter coffee

hate floral smells

Smell of rain

Petrichor, jasmine, vanilla caramel

vanilla, chocolates calms down

Jasmine, strawberry

Rain smell, incense stick

Petrichor, homemade samosas

citrus jasmine,

Vanilla, Flowers

Agarbathi, natural, first rain

petrichor, coffe

After rain

Wet soil

Attar

Agarbathi, eucalyptus,

# Personas & Empathy Mapping

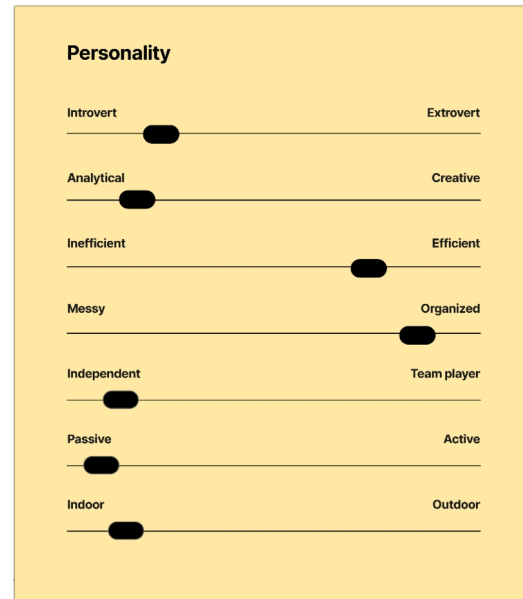


## Damini

- Age - 19
- Occupation - Student
- Location - NID Vijaywada
- Year - Foundation

### Bio

Damini is pursuing Bachelors in Design from NID Vijaywada currently studying in foundation batch. She is generally very much stressed these days about the choice of disciplines which to choose for further studies and also if she will be able to get the discipline that she wants.



INTERESTS	GOALS	PAIN POINTS & FRUSTRATIONS	NEEDS & EXPECTATIONS
Painting	To get the discipline she wants.	Stressed about academics	Need a silent place to be away from work and stress.
Sketching	To be the best in the class.	Not getting enough time to work.	I need space to sit silently.
Reading books	Not able to understand which discipline to choose from		

SAYS	DOES	THINKS	FEELS
<ul style="list-style-type: none"> <li>• "I need a silent place to be away from work and stress"</li> <li>• "I am not sure which discipline I want to take, Its very stressful!"</li> </ul> <small>SHARAYU BADHE</small>	<ul style="list-style-type: none"> <li>• Usually goes to seniors and talk about the courses and personal projects they are engaged in.</li> <li>• They generally initiate conversations during the stress period without being afraid of seniors.</li> <li>• Active and conscious about the events happening around them, will not leave a change to socialise and gather info.</li> <li>• Comfortable with stepping out of their comfort zone.</li> </ul> <small>SHARAYU BADHE</small>	<ul style="list-style-type: none"> <li>• She wants to get the discipline she desires.</li> <li>• The confusion of choosing a discipline is stressful.</li> <li>• Stress is normal.</li> </ul> <small>SHARAYU BADHE</small>	<ul style="list-style-type: none"> <li>• Stressed</li> <li>• Not being able to take a break</li> <li>• Constantly thinking of the same think.</li> </ul> <small>SHARAYU BADHE</small>

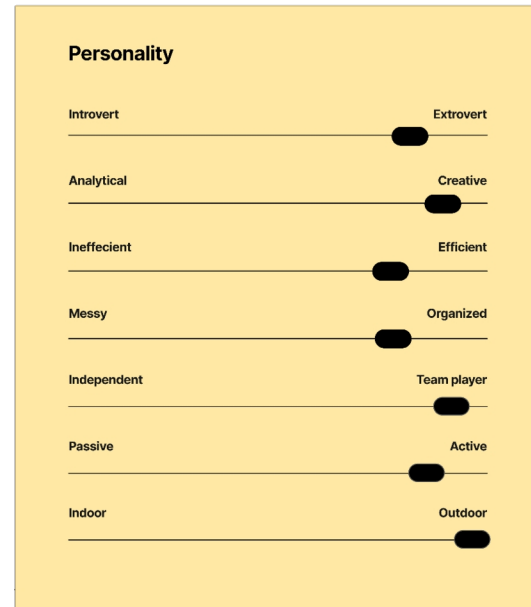
## Joshua



- Age : 21
- Occupation : Student
- Location : NID Vijayawada
- Year :4th year

### Bio

Joshua is pursuing Bachelors in Design from NID Vijayawada currently studying in 4th Year batch. He is stressed about the current semester as he faced a lot of faculty bias towards him and was stressed about the deadline of every course. He always wanted to explore more, but lack of time and loads of assignment submission stopped him from doing so.



INTERESTS	GOALS	PAIN POINTS & FRUSTRATIONS	NEEDS & EXPECTATIONS
Running	To explore more work	Biassed reviews from faculty over work.	Expecting to get enough time to work without stressing
Playing games, Cooking	Build a portfolio	no space to distress doing some physical activity.	Expecting to get good and valuable feedback rather than biased review from faculties.
Gym, Bike repairing, Meditating	Get out of college with quality work	Frustrated that he will fail in the industry.	Wanting to have a smooth workflow

### SAYS

- "I want to get enough time to work without stressing about it"
- "After putting in your best effort in the courses, encountering a biased grading system is truly disappointing."
- "I want to get out of this college with good quality work."

SHARAYU BADHE

### DOES

- Talks to people in the industry to get to know more about it.
- Usually is used to stress, tends to overwork.

SHARAYU BADHE

### THINKS

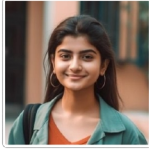
- It is crucial to build a strong portfolio and produce quality work before graduating from college.
- The stress of staying on the same wavelength as other designers in the industry becomes a significant concern as students leave college and face the realities of life and the design profession.

SHARAYU BADHE

### FEELS

- Stressed
- Overworked
- Frustrated, can't manage time

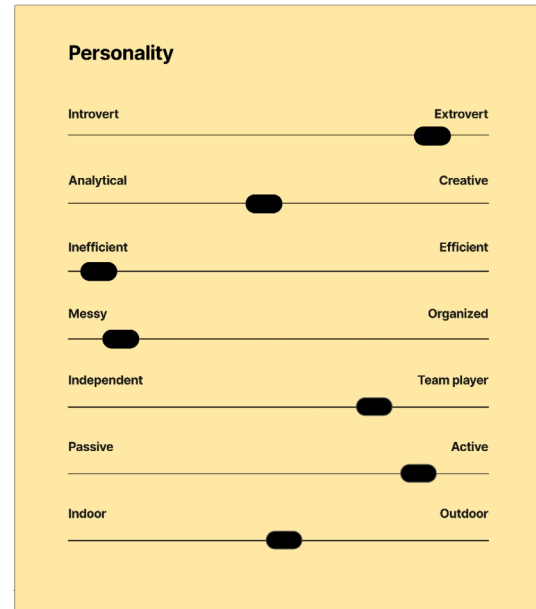
SHARAYU BADHE



## Happi

- Age : 20
- Occupation : Student
- Location : NID Vijayawada
- Year : 2nd year

Happi is pursuing Bachelors in Design from NID Vijayawada currently studying in 2nd Year batch. He is stressed about the current semester and the academics. She is a very chatty person and loves to talk to people and very outgoing. You can always find her talking to someone. But now so work load stress has taken a heavy toll on her.



INTERESTS	GOALS	PAIN POINTS & FRUSTRATIONS	NEEDS & EXPECTATIONS
Conversations	Want to interact with more and more people	No peaceful space to chill and talk.	A place to have peaceful conversations.
Books	Know more perspectives about things.	Everyone was very busy all around, no one to talk to silently.	Spend time with friends and loved ones.
Foodie	Spend more time with friends out of work.		

### SAYS

- "I don't actually care about academic, all I want to do it enjoy life."
- "I wish we had more opportunities to meet new people and make connections"

SHARAYU BADHE

### DOES

- Talks to people, a lot. Not necessarily about academic and study related.
- Rarely stressed when surrounded by people. Gets anxious and sad when not around people.
- Loves to socialise.

SHARAYU BADHE

### THINKS

- It is crucial to make relationship other than college and have a lot of friends
- Life skills are important and needed to survive in college and in general in life.
- Meaningful conversations are important.

SHARAYU BADHE

### FEELS

- Overwhelmed at times
- Relaxed and nice around people.

SHARAYU BADHE

# Scenarios

<p>The course submission deadline is tomorrow and too much work is pending. I stay awake all night and resort to unhealthy coping mechanisms like smoking or other drugs or stress eating.</p> <p>Radhika VERMA</p>	<p>I have a lot of projects going on simultaneously and now course is also going on and have submission in the coming week. And i can't even concentrate on one thing right now.</p> <p>Radhika VERMA</p>	<p>I am just doing course work and not doing some extra personal work like everyone getting stressed because of that. Scared about the future.</p> <p>Radhika VERMA</p>
<p>My faculty is biased with students. I have not scored well in the last course despite working so much harder than other students.</p> <p>Radhika VERMA</p>	<p>My peers are performing so much better than me in courses. I feel extremely insecure and inferior. I feel stressed about this all the time</p> <p>Radhika VERMA</p>	<p>My days are just full of work. I wake up and work and even before sleeping I work. There is nothing in my life except work. I am stressed all the time. I want a break from this mundane routine.</p> <p>Radhika VERMA</p>
<p>I want to try something new but i am constantly stressed about failing</p> <p>Radhika VERMA</p>	<p>I have been so busy with work that I have lost touch with my loved ones.</p> <p>Radhika VERMA</p>	

## 4. DEFINING THE PROBLEMS

- **Limited opportunities for stress management:** There is a lack of spaces or activities within the college to de-stress, relax, and recharge.
- **Nature deprivation:** There is an absence of green spaces or nature within the college environment. This further contributes to feelings of stress and disconnection.
- **Comparison culture:** A lot of students have a sense of competition and comparing oneself to others leads to anxiety and feelings of inadequacy.
- **Work-life imbalance:** Another problem we face is maintaining healthy boundaries between work and personal time, leading to burnout and neglecting hobbies.
- **Unhealthy coping mechanisms:** Overworking, procrastination, sleep deprivation, skipping meals, and creative blocks have become common responses to stress.
- **Lack of personal space:** We don't have dedicated spaces within the college for solitude and privacy.

**Statement** - College students experience a high mental stress due to limited stress-relief options, nature deprivation, competition, work-life imbalance, and unhealthy coping mechanisms.



## 5. IDEATION - THE 3 ZONE APPROACH

This project proposes a **three-zone approach** designed to address student well-being and create a **multi-sensory haven** for relaxation. While **each zone caters to different relaxation preferences**, educational institutions and workspaces can have **any permutation and combination of the spaces depending on the user group, budget, and resources available**:

### The Social Sanctuary



- ❖ **Focus:** Social interaction and connection
- ❖ **Features:**
  - Outdoor location near the canteen for easy access and a connection to nature.
  - Plants placed all around.
  - Comfortable seating options like beanbags and rugs.
  - Tinted sheets installation placed projecting from the pillars, so that it creates colourful reflections.
  - Fairy lights and calming visuals (pictures of friends and animals) to create a warm and inviting atmosphere.
  - Upbeat music to set a cheerful tone.
  - Shelf with board games and books for social engagement

# The Immersive Sanctuary



❖ **Focus:** Passive relaxation and sensory immersion

❖ **Features:**

- Indoor room with calming projections on the walls featuring nature scenes, ocean waves, and bioluminescent displays.
- System to choose sequence of visuals and sounds
- Comfortable seating options like mattresses and couches for rest and relaxation.
- Calming and immersive soundscapes designed to promote relaxation and stress reduction.
- Potential incorporation of aromatherapy with essential oils
- Ideal space for meditation, napping, or quiet relaxation.
- Can be an entire room to accommodate more than one person or even just individual immersive pods



# The Interactive Sanctuary



- ❖ **Focus:** Active relaxation and exploration
- ❖ **Features:**
  - Dark room with minimal furniture to allow for movement and flexibility.
  - Interactive projection mapping featuring calming natural elements like particles and landscapes.
  - Immersive sound design complementing the visuals for an engaging experience.
  - This space encourages a balance between relaxation and playful exploration.

## Our Next Step

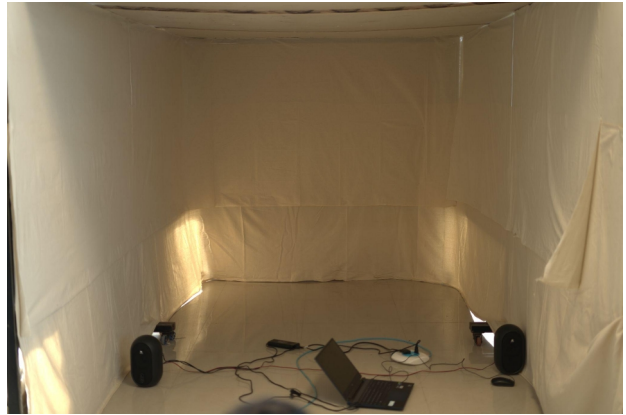
**Due to limited time and resources, we'll focus on building prototypes for The Immersive Sanctuary and The Interactive Sanctuary for what is called "The Pause Project" first.**

Whilst not existing in our college, there are already similar spaces to "The Social Sanctuary" in other institutions and workspaces. Whereas the other 2 spaces offer a fresher approach to student relaxation.

If this stage goes well, we can look at adding the Social Sanctuary later.

## 6. THE SPACE

Due to limitations in finding a dedicated dark room or small space, we had to change our approach for The Pause Project. We constructed a single, enclosed area using display boards, soft boards, and fabric. This flexible space served as a multi-purpose zone for prototyping both the immersive and interactive experiences.



## 7. THE INTERACTIVE SANCTUARY

Even though there were some limitations, we were still able to create a basic interactive experience for The Pause Project. Here's what we faced:

- **System Capabilities :** Our computers weren't strong enough to run the complex prototypes we originally planned.

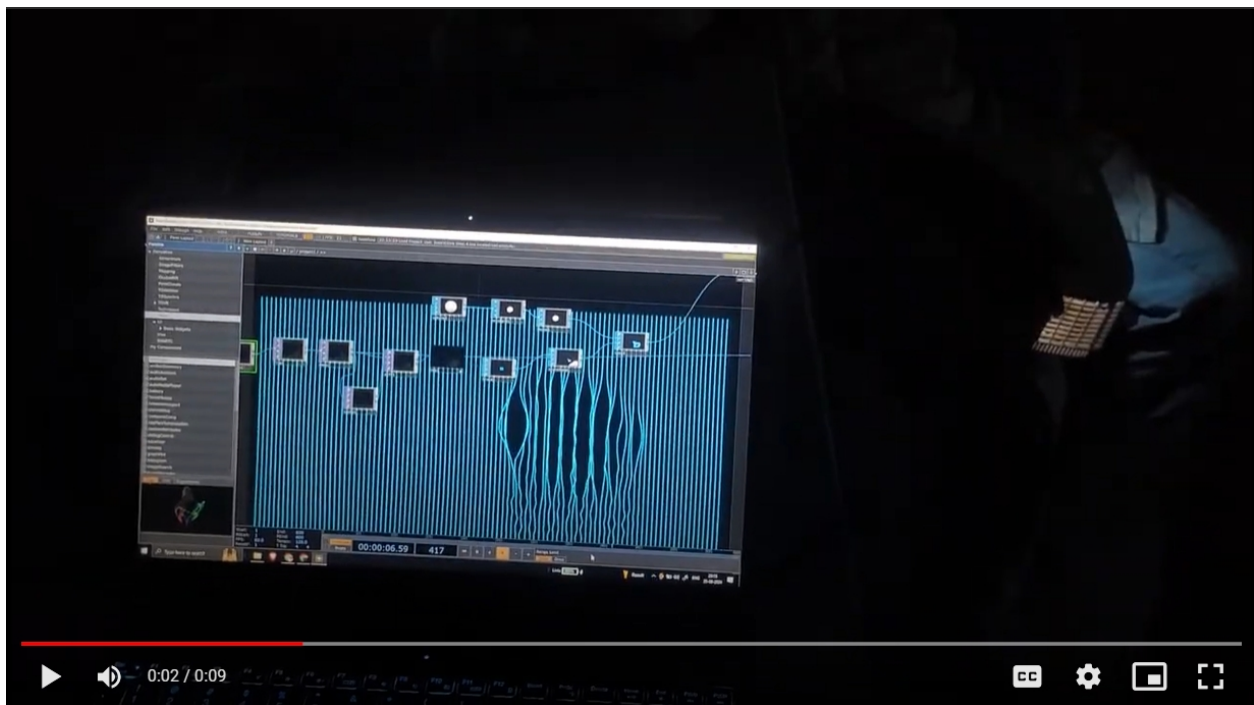
- **Kinect Sensor:** We didn't have a Kinect sensor, which is a special camera that can track movements. This would have been helpful for creating more advanced interactive features.

Instead of giving up, we got creative. We used what we had available:

- **Phone Camera:** We used a regular phone camera instead of a fancy sensor.
- **Touchdesigner Software:** This software helped us create a simple but cool visual experience.

## Our Prototype

We built a **basic interactive line visual** and integrated the **phone camera as an input device** within Touchdesigner. This essentially means the software received information about what the camera was seeing. Touchdesigner processed the phone camera feed, analysing the movement it detected (likely focusing on changes in position or colour).

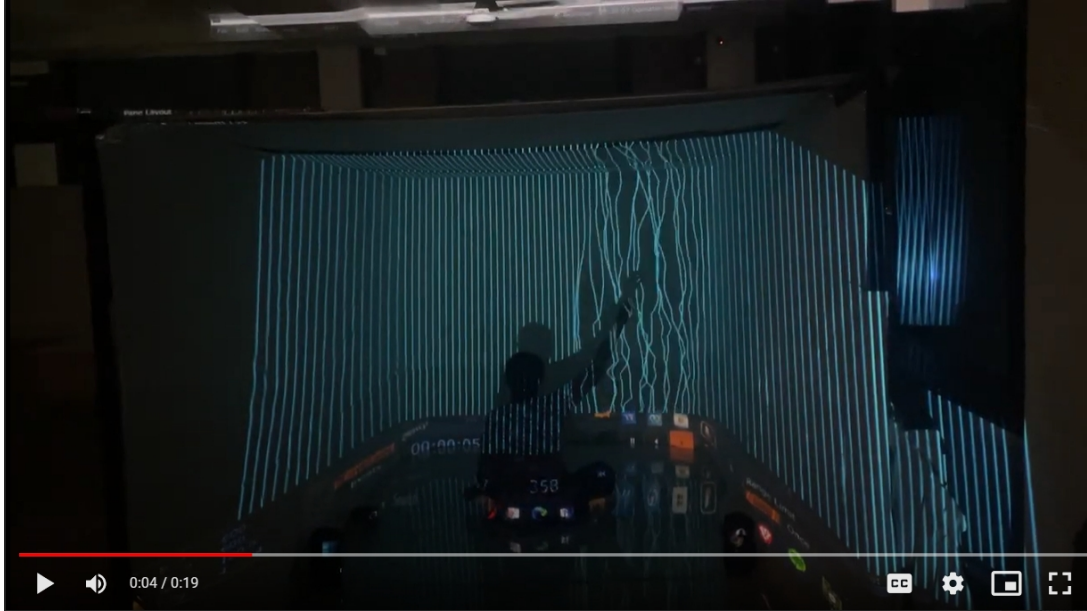


<https://drive.google.com/file/d/1dkRotQX8m1IOTQ0HB7M6pWoXZCfUgq22/view?usp=sharing>

---

### Testing Among Ourselves:

Even though it wasn't the most advanced prototype, we were still able to test it out amongst ourselves to see how it worked.



[https://drive.google.com/file/d/1p8aw\\_AB6\\_gWY-M5Vh1LOQ3DktDbxjCW/view?usp=sharing](https://drive.google.com/file/d/1p8aw_AB6_gWY-M5Vh1LOQ3DktDbxjCW/view?usp=sharing)

## 8. THE IMMERSIVE SANCTUARY

### Primary Research 2

Following our initial research, we conducted a more objective study to understand user preferences for The Pause Project's immersive space. This research involved presenting participants with a predefined list of **visuals**, **sounds**, **smells**, and **haptic objects**.

This objective data, combined with our previous research, provided more insight into user needs and designing the Immersive space. <https://forms.gle/A5e4J97QeodoweZs>

#### Visuals



#### Sound

Rain  
Sound of water/waves  
Nature sounds  
Ambient music

#### Smell

Rain  
Jasmine  
Floral  
Nature

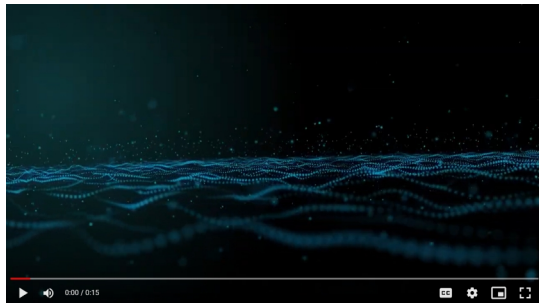
#### Touch

Rain  
Soft Blankets  
Fur Rugs

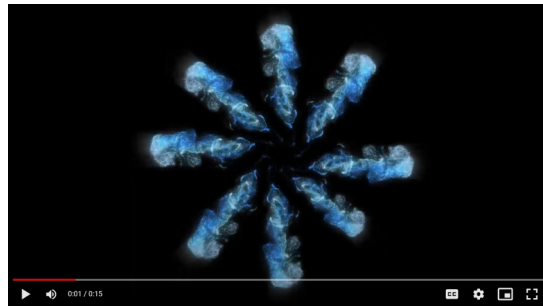
# Visuals

Our initial idea for the Immersive Sanctuary involved a nature-themed immersive space with expansive landscapes. However, limitations in resources, particularly the lack of multiple projectors or a 360° projector, presented a challenge in creating a distortion-free immersive environment.

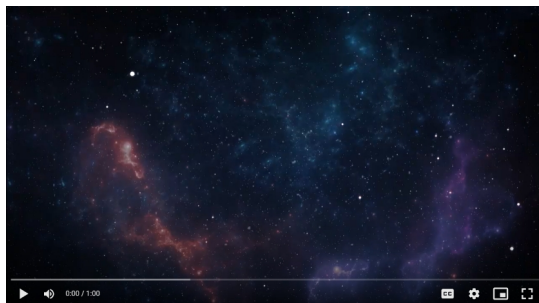
Instead, we decided to test out abstract visuals inspired by nature and other calming elements. This allowed us to work with only a single projector while still achieving a visually engaging and relaxing experience.



[Visual 1](#)



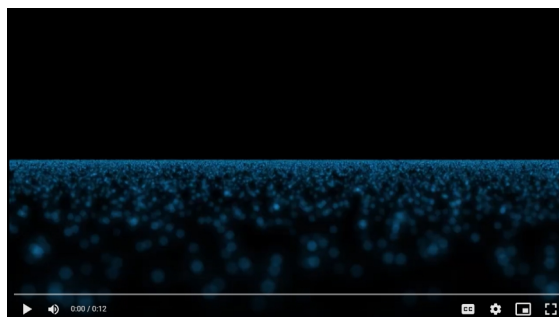
[Visual 2](#)



[Visual 3](#)

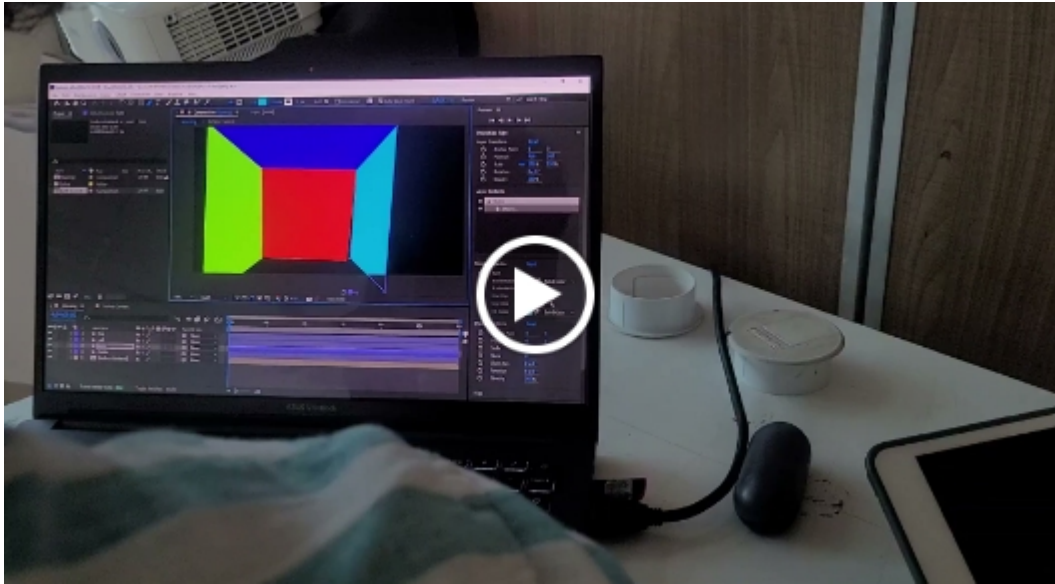


[Visual 4](#)



[Visual 5](#)

## Mapping



[https://drive.google.com/file/d/1vjXbIJwmywKe\\_32SCwbTRSaWTnEwH1OM/view?usp=drive\\_link](https://drive.google.com/file/d/1vjXbIJwmywKe_32SCwbTRSaWTnEwH1OM/view?usp=drive_link)

To create a non-distorted immersive experience within the enclosed space, we used Adobe After Effects software for a technique called projection mapping. This involved using a precisely matching and projecting calming visuals onto the walls, soft boards, and display boards of the space.

## Sound Design

[https://drive.google.com/file/d/1sIvCcy6luMKwGM9Jxsc-wnXVQypsesKc/view?usp=drive\\_link](https://drive.google.com/file/d/1sIvCcy6luMKwGM9Jxsc-wnXVQypsesKc/view?usp=drive_link)

The Immersive Sanctuary's soundscape combines calming ambient music, instrumental pieces, nature soundscapes, and potentially familiar music and soothing voices. In this manner not only do we cater to diverse user preferences, but we also stay true to the findings of our primary and secondary research.

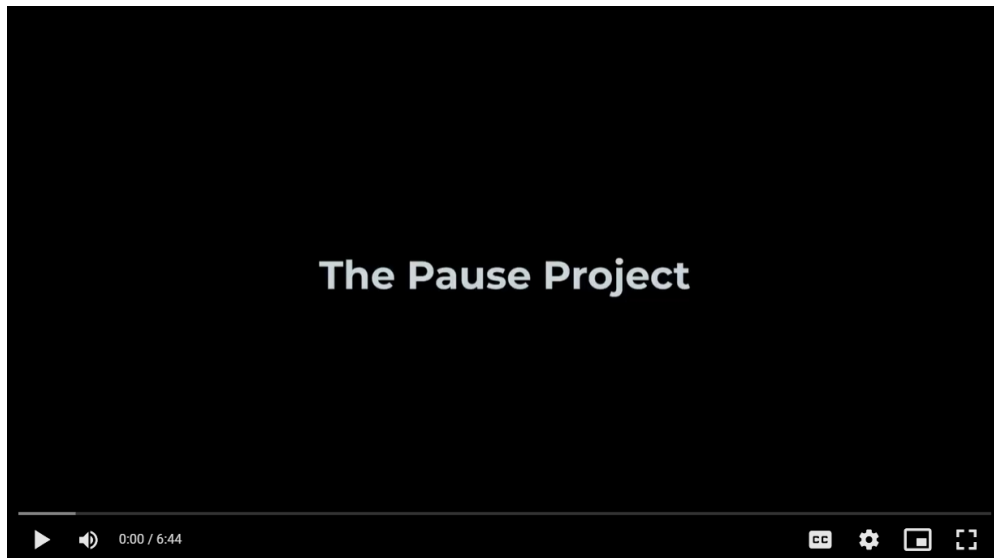
## Space







## Prototype



Promo - [https://drive.google.com/file/d/1K1ICx6bnZtWNIyM2FAeh6EVCJ2qcaQ5h/view?usp=drive\\_link](https://drive.google.com/file/d/1K1ICx6bnZtWNIyM2FAeh6EVCJ2qcaQ5h/view?usp=drive_link)

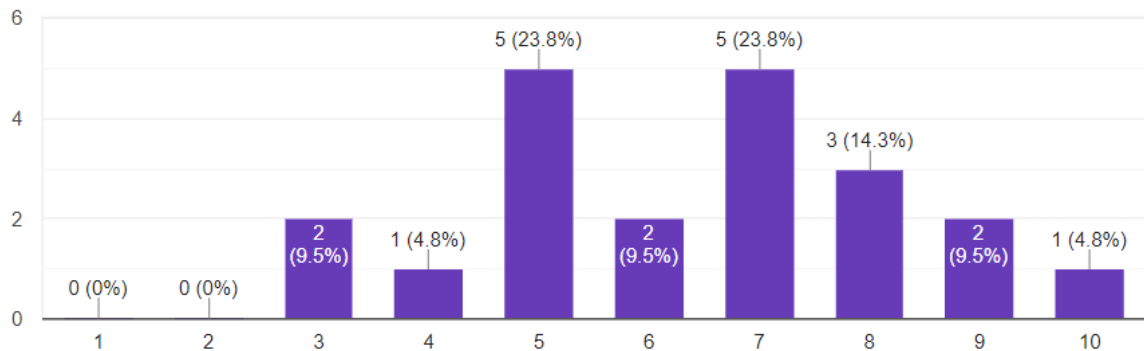
The Pause Project - [https://drive.google.com/file/d/1ZcbXKBTir\\_qECcwpPX0rGWZr\\_CkgtoSr/view?usp=drive\\_link](https://drive.google.com/file/d/1ZcbXKBTir_qECcwpPX0rGWZr_CkgtoSr/view?usp=drive_link)

# 9. USER TESTING FEEDBACK OF OUR PROTOTYPE

[https://docs.google.com/forms/d/e/1FAIpQLSdPZdPtGMYYzzO8PfONpYm329HC791shkboZ0A1hR2tfz9yQIw/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdPZdPtGMYYzzO8PfONpYm329HC791shkboZ0A1hR2tfz9yQIw/viewform?usp=sf_link)

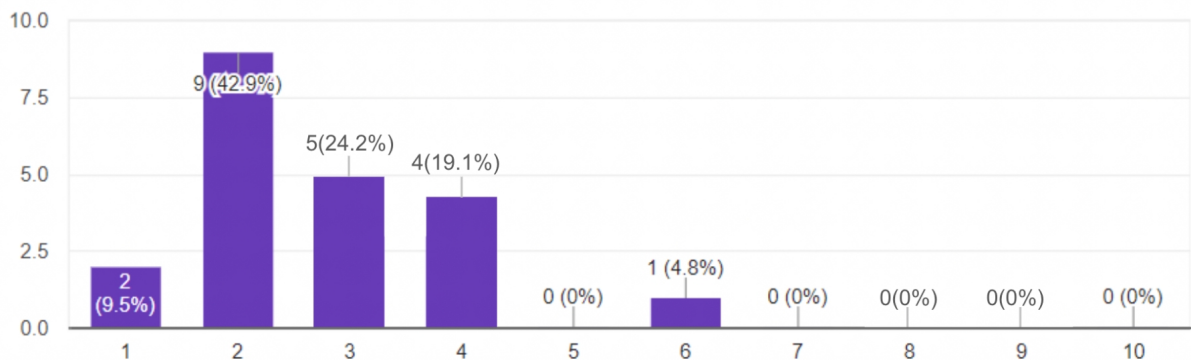
**Q. On a scale of 1-10 (1 being calm and 10 being stressed) how were you feeling before entering this space?**

21 responses



**Q. On a scale of 1-10 (1 being calm and 10 being stressed) how were you feeling after stepping out of this space?**

21 responses

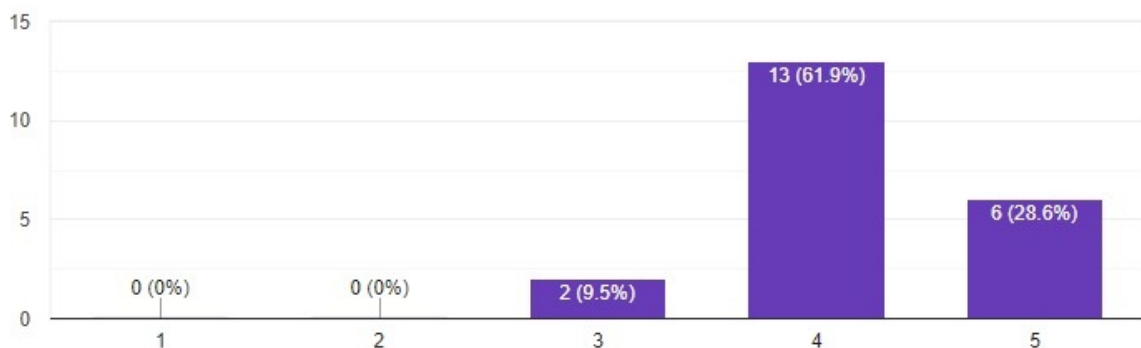


## Q. Their experience inside the space :

- Overall, users reported a positive experience inside the space, finding it to be calming, relaxing, and soothing.
- Many users mentioned the positive effects of the visuals and sounds on their experience.
- Some users reported feeling more relaxed and less stressed after spending time in the space.
- A few users mentioned that the seating arrangement could be more comfortable.
- One user reported feeling anxious at the beginning of the experience because they are scared of water, but they found the experience to be relaxing overall.
- Overall, it seems that the space is having a positive impact on users and that it is meeting its goals of being a calming and relaxing experience.

## Q. How comfortable and inviting they found the space along with overall immersiveness ?

21 responses

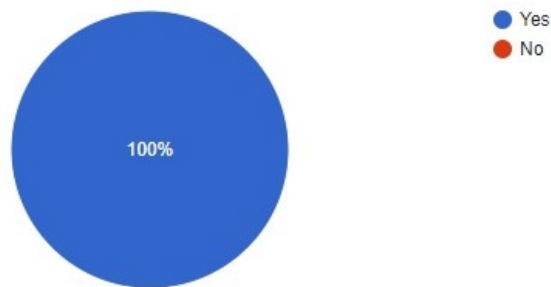


## Q. Help us understand in detail your thoughts and experience with the visuals

- Users generally found the visuals to be calming and relaxing, with many words like "relaxing", "calm", "peaceful", and "immersive" being used to describe them.
- Some users suggested improvements for the visuals, including making them more colourful and continuous.
- A few users even found the looping visuals to be comforting and calming.
- Positive words used to describe experience - relaxing, calm, peaceful, immersive
- Suggestions for improvement - more colourful

## Q. Did the sounds feel calming to you?

21 responses



## Q. Help us understand in detail your thoughts and experience with the audio

- **Overall:** Users overwhelmingly found the audio to be calming and relaxing.
- **Positive Feedback:** Users described the audio as calming, peaceful, soothing, immersive, good, inspired by everyday calming sounds, setting the mood well. Some users particularly enjoyed the ambiguity of the sounds, allowing for personal interpretation.
- **A few users highlighted specific aspects they liked:** gradual changes in pitch, continuity of the audio even with closed eyes
- **Areas for Improvement:** A few users noted a slight imbalance where visuals overpowered the audio at times. One user would have preferred a more immersive audio experience with physical vibrations.
- **Additional Notes:** One user mentioned the audio reminding them of a positive experience from their past.

## Q. Things they liked about the space

- **Visuals:** This was the most frequently mentioned aspect users enjoyed. They particularly liked the blue tones, universe visuals, and seamless projection screens.
- **Overall Ambiance:** Many users appreciated the calming and relaxing mood of the space. Words like "cosy", "homely", and "peaceful" were used to describe it.
- **Audio:** The calming audio was another highlight for users.
- **Comfort:** A few users mentioned finding the seating, floor mat, and overall comfortable setup enjoyable.
- **Uniqueness:** Some users liked the immersive, three-walled space and the jasmine scent. It's worth noting that one user loved everything and even suggested adding essential oil diffusers for further personalization.

## Q. State one thing you disliked OR would like to change about the space

### Areas for Improvement in the Space:

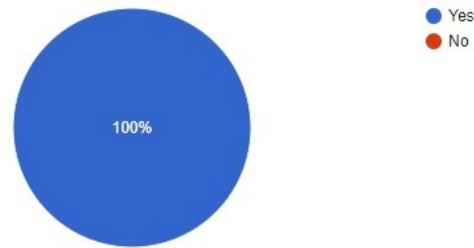
- **Comfort:** Several users mentioned improvements to the seating, including more comfortable bean bags and possibly pillows .
- **Temperature:** A couple of users felt the temperature was a bit warm and suggested a cooler or better air circulation .
- **Ambiance:** A few users had suggestions for enhancing the ambiance - Darker room for a more immersive experience,  
larger space for a less cluttered feel, calming scent like essential oil diffusers .
- **Audio/Visual:** A couple of users mentioned minor technical glitches and suggested improved speaker placement for a more immersive sound experience.
- **Other:** One user would have preferred a solo experience in a larger space. It's important to note that these were just a few suggestions, and overall, user response to the space was very positive.

## Q. Do you have any additional suggestions or feedback?

- **Strong Positive Feedback:** Multiple users expressed overall positive sentiment about the experience and believe the concept has great potential .
- **Make it Permanent:** Several users requested the space to be made permanent .
- **Enhance the Experience:** A few users offered suggestions for improvement:
  - Add a calming fragrance .
  - Extend the experience duration.
  - Improve the entrance pathway .
- **Interest in the Project:** One user expressed interest in learning more about the project .

## Q. Would you like to have a similar space implemented as a permanent room in college where you can come and relax anytime you like?

21 responses



## 10. CONCLUSION

Even though we had to make some changes due to limitations, The Pause Project was still a success! We built a basic prototype of the multi-sensory ‘Immersive Sanctuary’ which helped students relax as proven by the responses in the user feedback form. Not only did it prove our hypothesis, but it also shows a real need for a permanent space like this on campus to improve student well-being.

In the future, we could make the space even better by adding more projectors or exploring the dimensions of the space, like we originally planned. We could also go on to finalise the ‘Interactive Sanctuary’ and create the ‘Social Sanctuary’.

The Pause Project showed us the process of interaction design, the importance of helping students deal with stress, and that multi-sensory immersive spaces can be a great solution. Because we were flexible and based our work on research, we also learnt a lot in terms of finding alternative yet equally effective solutions, and doing ‘jugaad’.

# 11. REFERENCES

- Source- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9243415/>
- <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.1058177/full>
- <https://www.nature.com/articles/s41598-019-46099-7-projection>
- <https://www.verywellmi>
- 
- <nd.com/research-behind-anger-rooms-4136169#:~:text=It%20seems%20like%20an%20appealing,way%20has%20more%20serious%20consequences.>
- <https://medium.com/@immersivestudiouk/immersive-healthcare-the-future-of-patient-experience-71a581b3b277>
- <https://link.springer.com/article/10.1007/s10055-024-00943-y>
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- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7855717/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10325878/#B10>

Visuals and audio:

- [OCEANS - Digital Immersive Odyssey](#)
- <https://www.youtube.com/watch?v=xgVAPtb-Psk>
- <https://www.youtube.com/watch?v=zofBinqC2F4>
- <https://www.figma.com/board/sPScoSaQw3uNyMIPeEbY3X/Interaction-Design?node-id=250-2603&t=hc3GLpkdItUqf4HR-4>
- <https://www.youtube.com/watch?v=p66ROFMf7aU>
- <https://www.youtube.com/watch?v=QScTGcfaOo>
- <https://www.youtube.com/watch?v=zXbfyqlqdNA>

- <https://www.youtube.com/watch?v=Zk02hJI5XhU>
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- <https://www.youtube.com/watch?v=gR3nlpwRTRA>
- [https://www.youtube.com/watch?v=q8byqio\\_YY0](https://www.youtube.com/watch?v=q8byqio_YY0)
- <https://www.youtube.com/watch?v=9mBavZjCPQM&t=124s>