

Team 2-bit Dev Log

Week 2: 25/09/23 - 01/10/23

Michael Hayes

Overview:

The second week of the project involved the continuation of our project set up and design sprints. We underestimated the time it would take to complete the project set up and as a result slightly delayed our design sprint tasks. Due to the time constraints we also decided to bring the Liminal proposal submission sprint forward, before the prototyping sprint as we need to make sure that we submit our concepts for approval as soon as possible. If we had more time, making a quick prototype of our ideas would be beneficial as it would allow us to check if we were able to implement the core mechanic and submit our prototype to Liminal so they can have more of an understanding of exactly what the project is.

This week we decided on our final concepts after 3 rounds of brainstorming and developed them further. These final concepts will be proposed to Liminal as we believe they will provide fun experiences for the users of their platforms. To come up with these concepts we performed user research and extensively looked through the psych docs to ensure that we knew what we were creating ideas for. Therefore we look forward to submitting our proposals to Liminal for feedback.

Agile Sprint Update:

Sprint 1: Project Set Up (Completed)

Identify and define the workflow process and set up / begin all necessary documentation.

Sprint 2: Design (In-progress)

Brainstorm ideas using reference mood boards and refine them in order to come up with concepts for the prototyping sprint.

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This week's completed tasks:

Teams Minutes and Agenda

Link to Minutes and Agenda:

https://docs.google.com/document/d/17TdAdo7euUuQ5HZnB_7gtZWLTcQNZ8ag9IkMDm_Z5KU/edit?usp=sharing

Week 2: 25/09/2023 - 01/10/2023

Tuesday:

- Started making notes for the psych docs (4 categories: Awe, Focus, Calm & Energy)
- Read through SDK documentation
- Reviewed User research Demographic

Wednesday:

- **Completed Sprint 1**
- Created the Agile workflow doc
- Created the Source control workflow doc

Thursday:

- Finished psych doc notes for the 4 categories
- Identified user archetypes and mission statements (UX Design)
- Completed round 2 & 3 of brainstorming
- Defined and developed the 2 concepts

Friday:

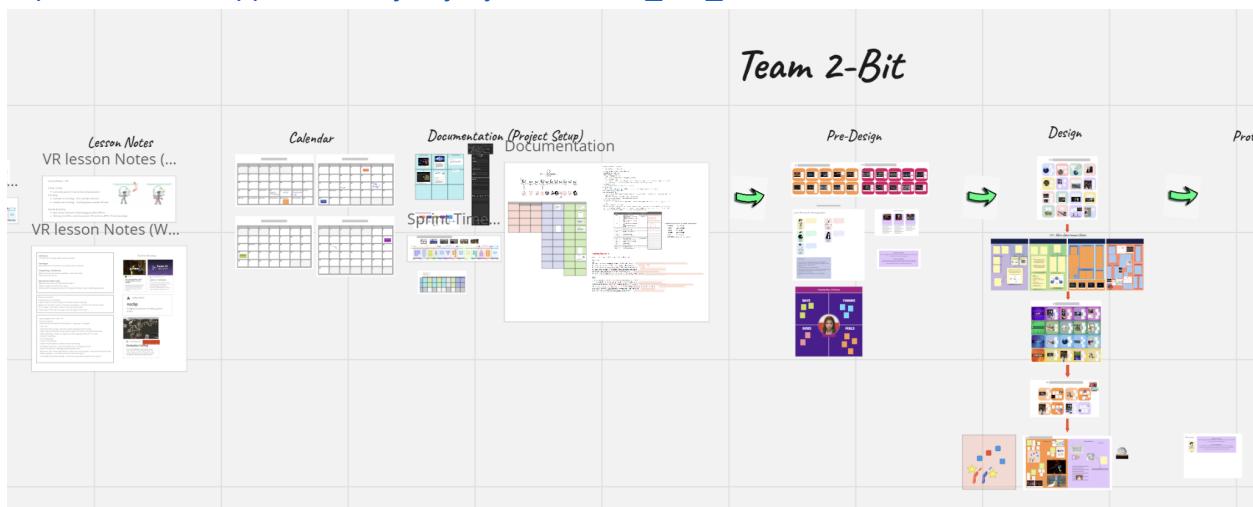
- Robins presented progress presentation for the Liverpool class
- Created 1 page GDDs of the 2 concepts for collaboration with other classes

Saturday:

- Reviewed this weeks lesson notes

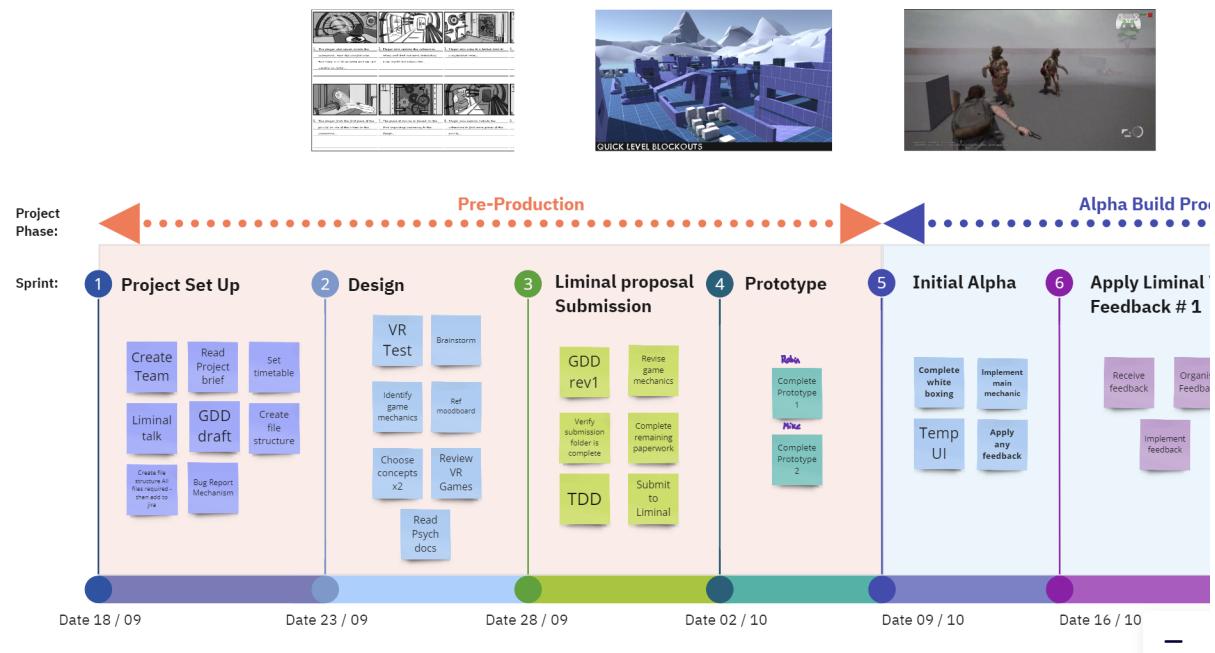
Miro board overview:

https://miro.com/app/board/uXjVMj-Nye0=/?share_link_id=77318451600.



This week we adjust the sprints, by changing the liminal submission and prototyping sprints. This was due to us not finishing the project set up and design sprints in the time planned for. Therefore, we were not able to finalise our concepts and create prototypes for them before submitting to Liminal, as we needed approval to start. To save time and make sure we had time to adjust / revise concepts with Liminal's feedback, we decided to submit our 2 finalised proposals to Liminal first, before starting the prototype sprint.

CS2 Liminal VR Project Sprint Draft rev3



Sprint 1 Tasks:

This week we completed our first sprint by finishing the set-up documentation of the project.

Agile Workflow Documentation

To onboard new team members and to maintain good agile practices throughout the project, we decided to create workflow documentation for the agile process within this project. Within this document each part of the agile process will be defined and provided with an example. This is then followed by information on how it is applied to our project. When new team members join they will be given a link to all team documentation so they can fully understand and become familiar with the ongoing processes.

Link to the Agile documentation:

<https://docs.google.com/document/d/1mitkrkjBX2HvAifpDTUI-ERuj6SZAkZ1NFN3eGO75kM/edit?usp=sharing>

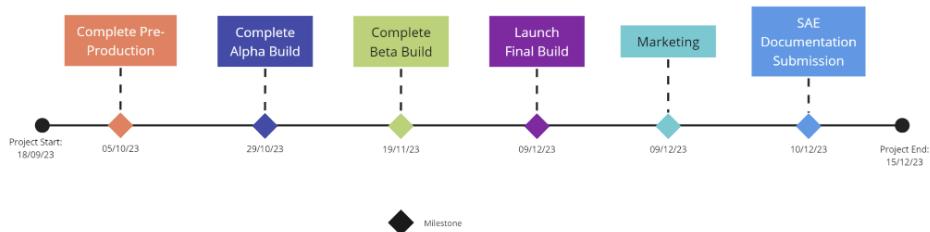
Example from Agile documentation:

Process of Workflow

Project Milestones

Milestones for major phases of the project development are defined as the following:

- Complete Pre-Production
- Complete Alpha Build
- Complete Beta Build
- Launch Final Build
- Marketing
- SAE Documentation Submission



These dates are subject to change as production begins, however for now provide a clear path forward to achieve the launch of the Final build and project submission to SAE. Milestones will be reviewed on a weekly basis and updated when deemed necessary.

Refer to the project milestones to see how close / far the project is to its next major point. The milestone calendar can be found in the team miro board under the documentation section.

Sprints

To achieve these milestones of the project, they are broken down into smaller sprints. Sprints are a group of tasks that are to be completed within a set amount of time.

Source Control (GitHub) Workflow Documentation

We decided to create documentation for the project's source control workflow to maintain our processes (in terms of source control) throughout the project and provide details to any interested third parties that are involved. This documentation also provides a control method for the event that one of the programming team members leaves.

Example from Source Control documentation:

Structure and Control

The following are the only types of branches and commits we're going to creating throughout this project:

Main - Branch

- There should only be ONE main branch
- This will be our development branch, which we'll merge our features into
- Code review required! Don't Merge without a playtest and review!

Stable - Branch

- There should only be ONE stable branch
- An exact copy of main, gameplay tested and bug stable
- Full and thorough playtest required from both developers
- No commits allowed, only pulls from main branch

Feature - Branch

- Multiple feature branches allowed
- One branch - One feature
- Name branches descriptively, and regular commits

Hotfix on Main - Commit

- Commit directly onto the main branch
- Only allowed if the change has 100% of fixing and not causing any problems
- If larger fixes are needed, then branch, don't hotfix
- No review required, as we're trying to achieve a balanced approach, we just need to be careful
- Call this commit "HOTFIX"

Sprint 2 Tasks:

UX - User Research: Archetypes

Through our review of the research gathered from the User Demographics, we identified three key archetypes of users we could target: Confident, Some knowledge / experience, No knowledge / experience.



Confident



Some Knowledge / Experience



No Knowledge / Experience

These users are already well versed in using VR, therefore if the game is interesting they will most likely want to experience it.

However, for an AWE experience, perhaps it will be better to target users with no experience, as they are more likely to be impressed compared to confident users who have a higher bar that has to be met.

These users are interested in VR, but are less confident when using the products. To increase our target audience range, we want to cater to this audience by avoiding overwhelming them with too many mechanics and / or complexity.

Experiences must be intuitive and simplified whilst remaining fun to keep users engaged.

These users have low / no interest in VR. We are not able to solve the issue these users have with VR as we are just creating an experience on an existing platform. Therefore it's in our best interest to avoid this audience.

UX - User Research: Mission Statement

To keep our brainstorming and game design focused on one particular audience, we created a problem and mission statement derived from our previous User Demographics and User Archetypes research.

Problem Statement:

One of the biggest problems we want to solve is ease of access (mechanical boundary) for less hardcore gamers.

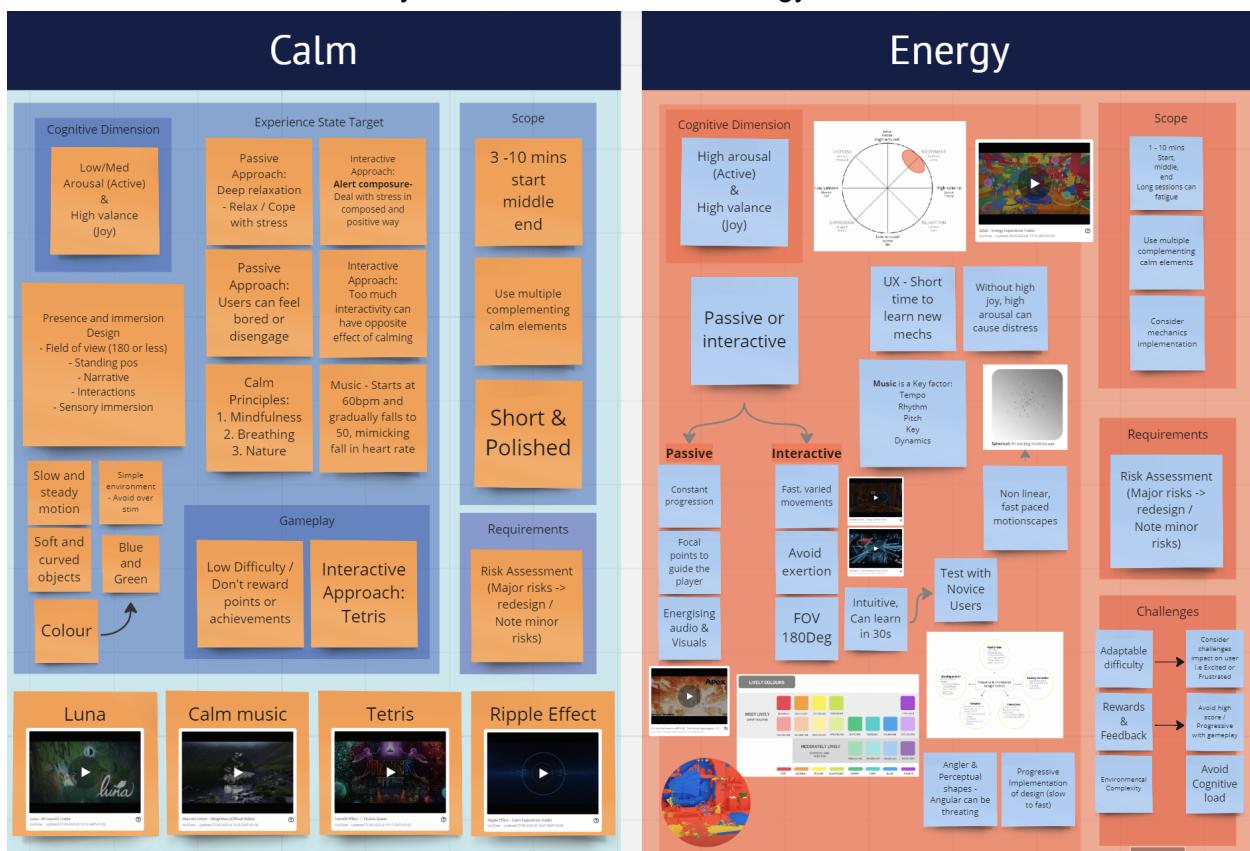
Mission Statement:

To provide a fun experience to a larger audience, we are creating an experience that has a low barrier of entry, by introducing simple and intuitive mechanics and not overwhelming the user.

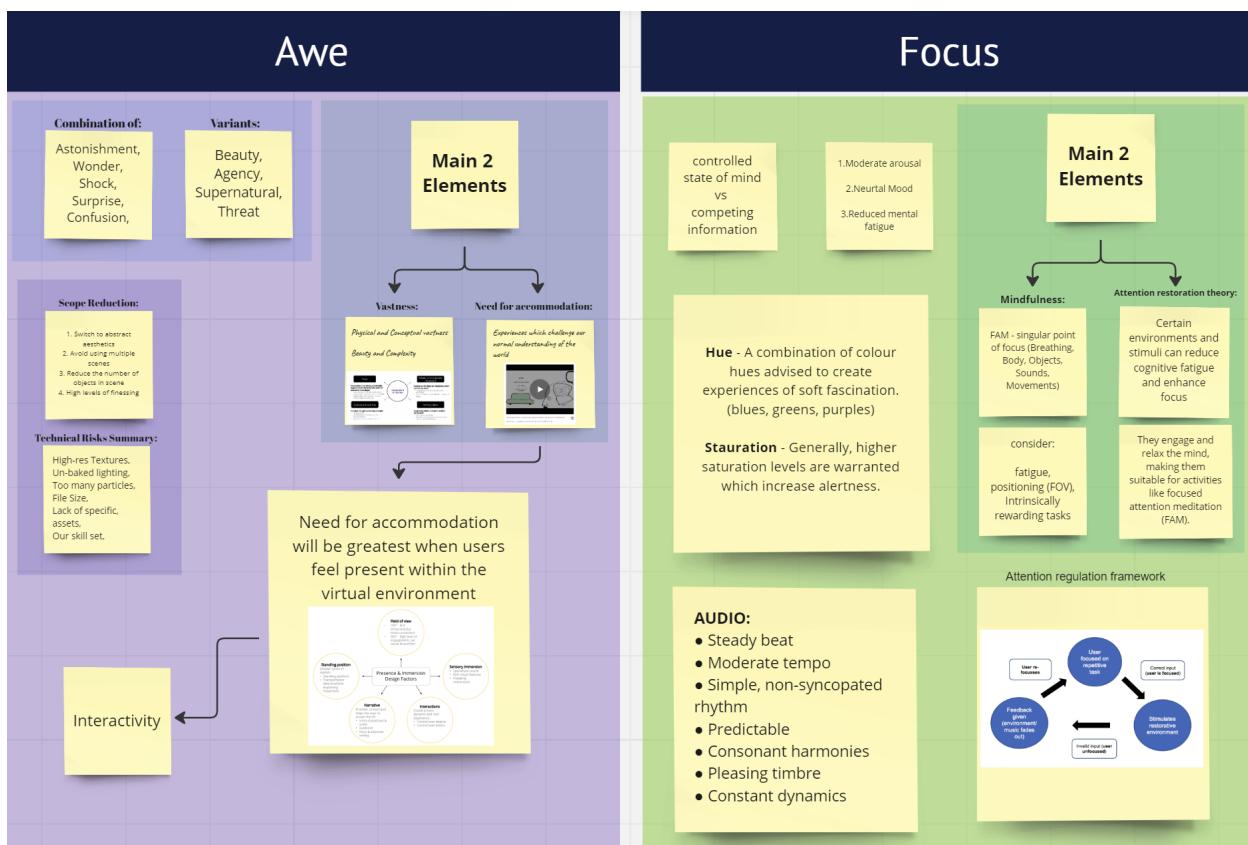
Finished psych doc notes

After our first round of brainstorming, we realised that our understanding of which category our ideas would come under was underdeveloped. To develop a better understanding of what it means to be defined as a specific category, we waited for access to the Liminal psychology documentation. After receiving the psych docs, we chose which documentation we were not interested in and did not read them at this time, so we could focus on categories that we wanted to create a concept for. We decided on four categories, Awe, Focus, Calm and Energy to research. To save time, we split the reading in half, myself took the Calm and Energy and Robin took the Awe and Focus to read and make notes on. Once complete, we then presented our findings to each other in our team meeting.

My notes on the calm and energy docs

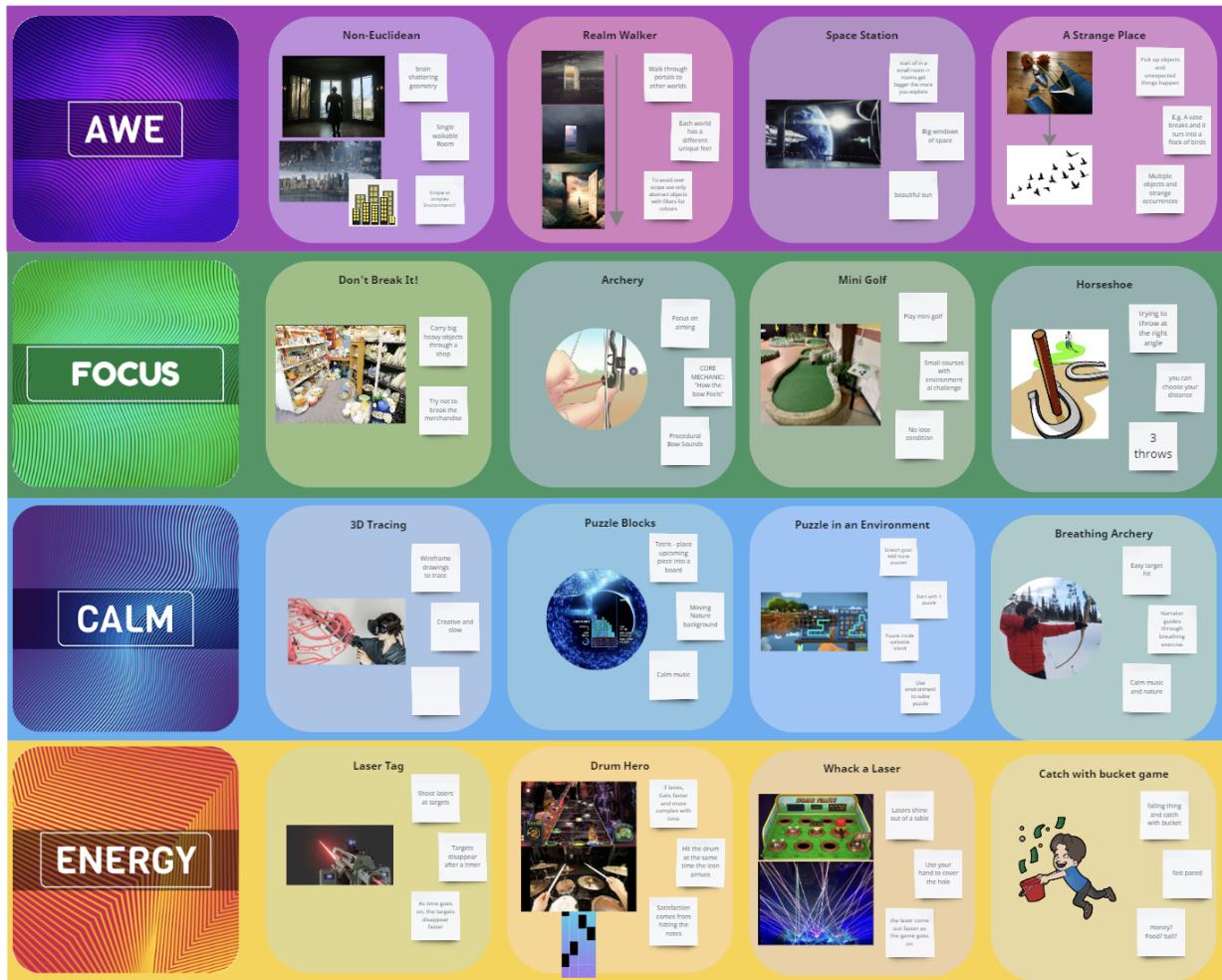


Robins notes on Awe and Focus



Round 2 and 3 of brainstorming

Continuing our second sprint we used our new knowledge from the psych docs to organise our ideas into categories and remove ideas that did not make sense for the scope of Liminal.

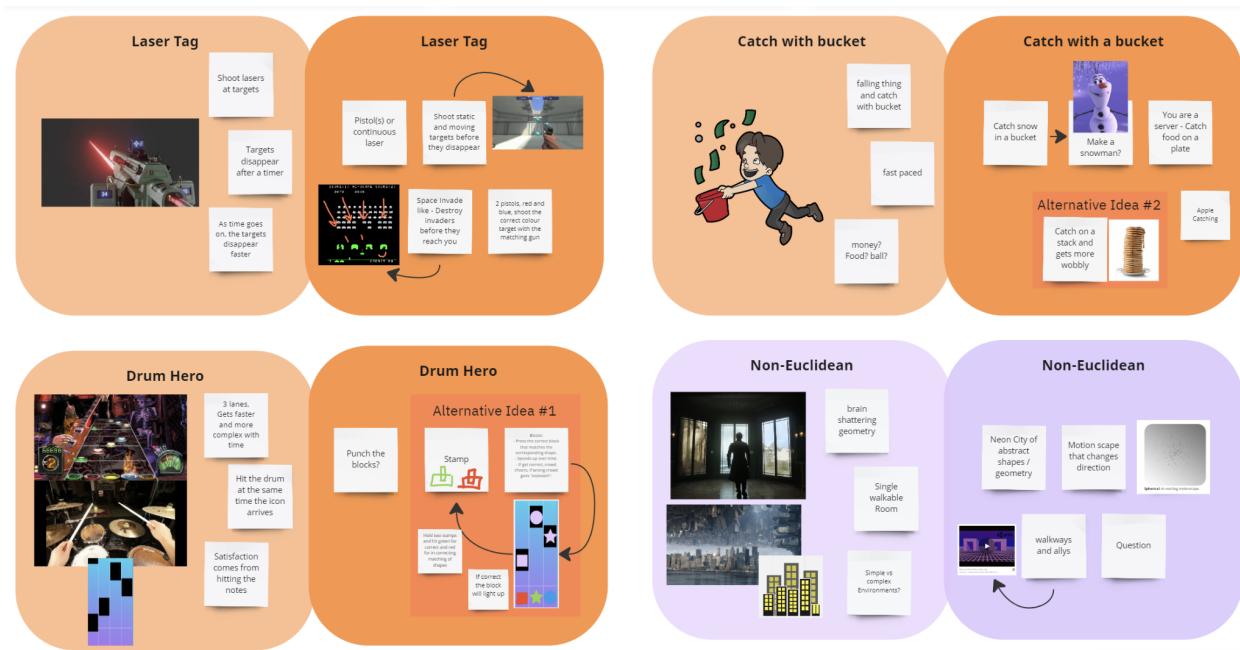


After the second round of brainstorming, we began the third round, where we chose our favourite four ideas and developed them further by identifying how the game would play, and possible variants of gameplay.

The final four ideas were:

- Laser Tag
- Catch (Something) with a bucket
- Drum Hero / Stamp Hero
- Non-Euclidean

Brainstorming round 3



Choose and defined 2 concepts for proposal

From the final 4 ideas, we choose the two that we believed would be in scope and do-able for the Liminal collaboration project

My final idea: Laser Tag



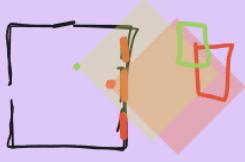
Robin's final idea: Non-Euclidean

Non-Euclidean Place

A vast event - Shock
Motionscape



Piece of art - Confusion

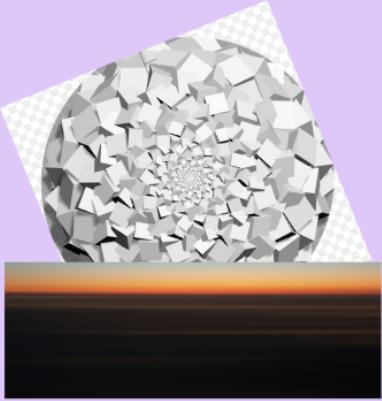


Astonishment,
Wonder,
Shock,
Surprise,
Confusion,

Non-Euclidean -
Its experience to evoke a sense of Awe
Main concept:
Normal room
Schema adjustment - Realise windows are looking into a different world with abstract shapes filling them (physically impossible).

Stretch goals:

- More Windows
- Shutters on windows - Interactable



1 page GDDs for collaboration

To set up potential collaborations for the project, we created a one page GDD for both our final concepts. Students from other classes could review the projects and reach out to the team if they were interested in working on the project. Unfortunately we did not receive any interest from other students during this time.

Link to the 1 page GDD:

https://docs.google.com/document/d/1QmcIYBrV_LlgfWMPJmsOmQiWLvVe1mvwY2nozO2IZkY/edit?usp=sharing

1 page GDD document for the laser beat concept

Elevator Pitch

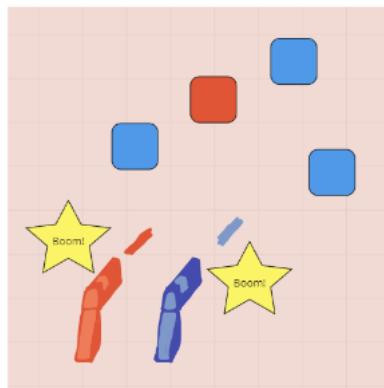
Shoot targets and make the beat for the song in this high tempo, exciting VR experience!

References

Beat Saber VR (Gun mod)	Pistol Whip VR	Aimlabs
		
2 Colour Targets & Weapons	Shoot and create the beat with your pistols	Shoot static and moving targets before they go

Gameplay

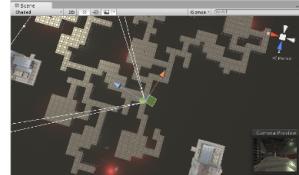
- Player will spawn holding 2 sci-fi pistols (Red and Blue)
- Red and Blue targets will spawn and disappear after a set amount of time
- The player needs to shoot the Red and Blue targets with the correct colour gun before they disappear
- If you use the wrong gun for the target, it will not be destroyed (There is a low penalty to avoid stress)
- An energetic track will play in the background to energise the player
- When fired, the guns will make a loud drum kick sound, making the beat to the song
- The target's time to disappear will reduce as the track progresses. This will increase the beat tempo as the track nears its end increasing the player's arousal levels.



Log No. 2 - 5SAE0PE102 23T3 [LON]

Reviewed this week's lessons

As my teammate Robin was part of the Liverpool class and unable to attend the London lessons for Wednesday, I decided to take notes on the lesson and present them to Robin during the end of the week. This would give me a chance to review the lesson and deepen my understanding as I would find points I was less confident in, giving me a clear direction of what I needed to look into further as questions were asked about specific points. It would also allow my teammate to keep up to date with VR lessons that they were unable to attend.

VR lesson Notes (Week 2)	
<p>Continues First person, moving, easily cause sickness</p> <p>Passenger No movement in the world, can easily cause sickness</p> <p>Teleporting: Locomotion Move from one to point to another - Blink and Shift Can be hard to set up</p> <p>Movement: Room scale: Map out room and use that area to play in Need a large environment to play Safety concerns, walking into or hitting something - Require safety guardians</p>	<p>Further Reading</p> <div style="display: flex; justify-content: space-around;"><div style="text-align: center;"><p>pimax.com VR Locomotion: How People Move In VR Pimax</p><p>Locomotion in virtual reality (VR) is all about how people move around in the virtual worlds they experience through VR technology. Just like in the real</p></div><div style="text-align: center;"><p>www.gameuidatabase.com Game UI Database</p><p>The ultimate screen reference tool for game interface design. Explore over 1000 games and 42,000 individual images, and filter by screen type, material, layout, texture, shapes, patterns, genre and more!</p></div></div>
<p>Points to consider</p> <ul style="list-style-type: none">- Consistency in 3d objects- Player should be able to figure out where they are going.- Make sure all items in your scene are necessary - E.g don't use invisible walls.- To increase immersion, reduce the amount of blank.- Think about POV, can the player see the edge of the map?	<p>noclip.website noclip</p> <p>A digital museum of video game levels</p>
<p>Keep the game at 72Hz / FPS</p> <p>Optimise assets :</p> <ul style="list-style-type: none">- Reduce the complexity of 3d Objects - Low poly / Triangles- Use LOD- Use Occlusion culling - prevent rendering objects not in view- Rigid body Interpolation and physics layers to reduce computational load- Static Batching - Draw in a signal call reducing overhead (CPU / GPU)- Dynamic batching- GPU instancing- Frame Timing Data- Shader Optimisation - Avoid complex sampling- VR Ready materials - Use from asset store / designed for VR- Reduce draw calls - Manage loading sequences- Minimise Post Processing Effects - Requires a lot of power, reduce the amount used- Baked lighting - Limit the number of real-time lights- Use adaptive quality settings - Implement adjustable graphics for device	 <p>docs.unity3d.com Occlusion Culling OLD DOCS!</p> <p>The Unity Manual helps you learn and use the Unity engine. With the Unity engine you can create 2D and 3D games, apps and experiences.</p>

In Progress Tasks:

- Completing sprint 3 (Submission of proposals to Liminal), finishing proposals of the final designed concepts by developing and identifying each part of the gameplay loop

Challenges Encountered:

- Was not able to finish the design sprint tasks in the planned time, so to adjust we decided on changing the sprints of prototyping and concept submission to Liminal with each other. This will provide more time to receive feedback for the proposals from Liminal, and adjust accordingly
- Was not able to submit before the end of the week, so delayed the submission of concepts to the 5th October

Team Members:

Robin Pound - Co-Lead:

Individual works:

- Completed the Source control documentation
- Presentation of current progress to the Liverpool class
- Created notes for the Awe and Focus psychological docs, provided by Liminal
- Developed one of the final ideas, Non-Euclidean

Team works (works done together in call using Miro):

- Review of Agile and Source control documentation
- Presentation to each other of notes made from our chosen 2 psych docs
- Brainstorming rounds 2 and 3
- Created learning agreement for our business module

Next Week's Goals:

- Complete sprint 2 (Design) and start sprint 3 (Submission of concepts to Liminal)
- Complete and Submit proposals of our 2 final concepts to Liminal
- Complete the Learning Agreement documentation for the business module

Sprint 3: Concept Proposal Submission to Liminal VR

Submitting our final iterations of two concepts to Liminal for feedback.

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Feedback and Comments: