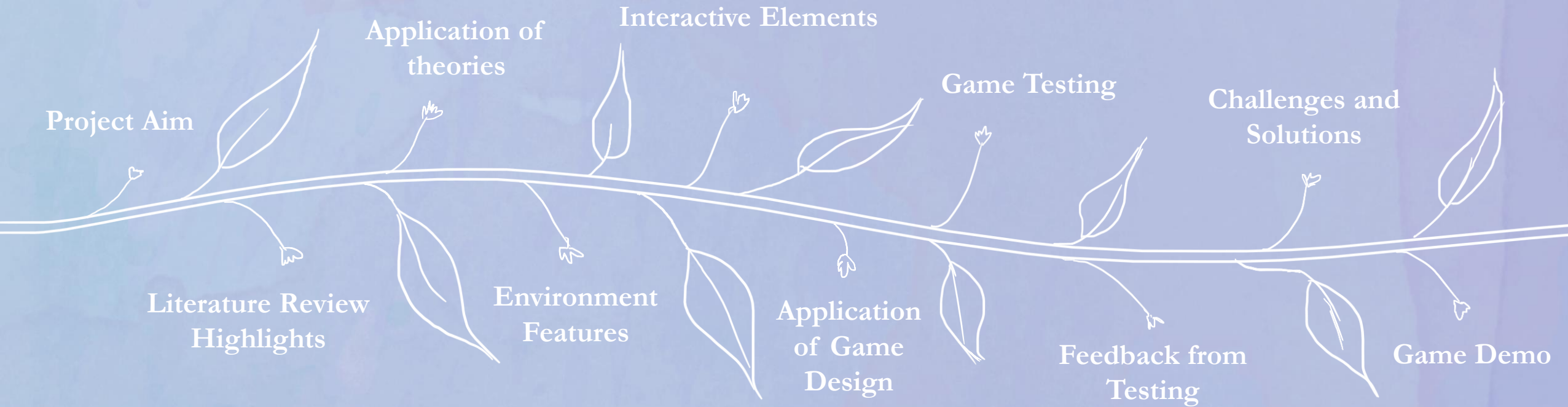


Project Willow

Start Experience

Presentation Structure



Project Aim

Create a VR environment to enhance mindfulness and to be used as a therapeutic tool

Project Aim

Objectives

- Implement a serene environment into unreal engine that can be used in VR
- Implement interactivity into created environment
- Complete player testing to review efficacy

Project Aim

SMART Objectives

- 3 environment features
- 3 interactive elements
- Complete VR testing

- **Specific:** create an environment that promotes mindfulness using completed research and conforms to a correct scale for optimal VR use.
- **Measurable:** evaluate the environment that eliminates motion sickness and promotes calmness with surveys and heartbeat trackers.
- **Achievable:** use extended knowledge of UE and implement knowledge from research
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Literature Review Highlights

- Ecopsychology
 - > Explores the psychological relationship between human and nature

Literature Review Highlights

- Gestalt Nature Therapy
 - > Uses natural environments to enhance mindfulness and address psychological issues

Literature Review Highlights

- Transportation Theory

- > How individuals can become immersed in a virtual environment, leading to changes in attitude or belief.

Literature Review Highlights

- Place Illusion and Plausibility Theory
 - > Suggests a user's sense of being present (place illusion) and the believability of virtual events (plausibility) are key to effective experiences

Literature Review Highlights

- Most Common measurement of mindfulness is subjective
- Asking for opinion from participants
- Measurement of stress through BPM, correlation between a higher heartrate and higher stress, and a lower heartrate and lower stress

Literature Review Highlights



- Most popular VR headset is the Meta Quest 2

Application of Theories

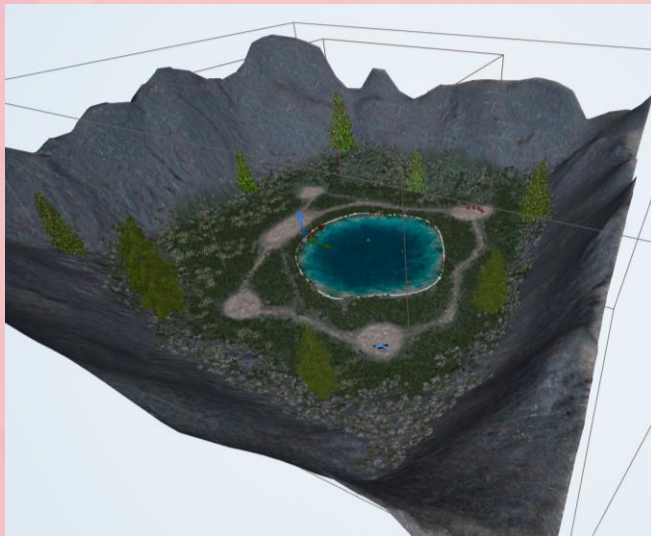
Ecopsychology



- Day/Night Cycle
- Variety of Foliage
- Audio

Application of Theories

Gestalt Nature Therapy



- Map surrounding nature
- Grounding
- Unique Sensory Nature Experiences

Application of Theories

Transportation Theory



- Interactivity For Increasing Immersion
- Audio To Minimise Real World Distractions

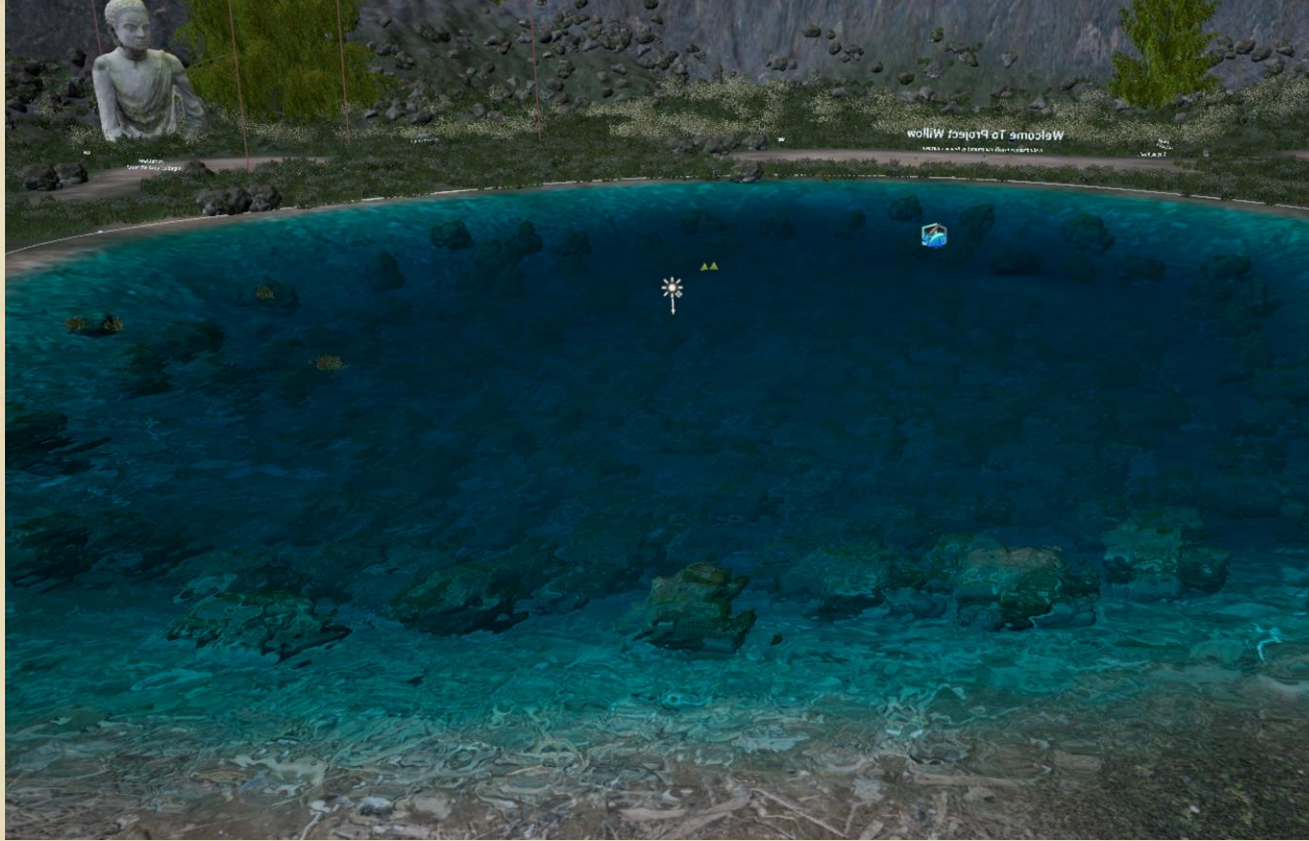
Application of Theories

Place Illusion and Plausibility Theory



- Surround Sound
- (Ambient Music)
- Specific Object Sounds (Singing Bowls)
- High Level of Detail in Assets

Environment Features



- Lake is Unique Sensory Experience that Conforms to GNT
- Mountains to enclose the Area

Environment Features



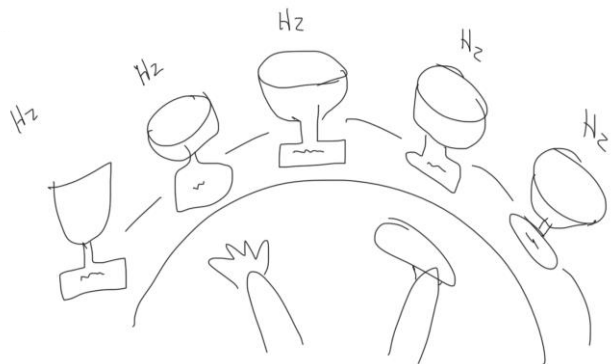
- Variety of Foliage
- Rocks, Bushes, Trees
- Simulates Realism

Interactive Features



- Singing Bowls Play Sound when collision box is entered
- Players can use the bowls like in real life
- By tapping them to make sounds
- Different frequencies that aid with calming

Singing Bowls Concept



Interactive Features

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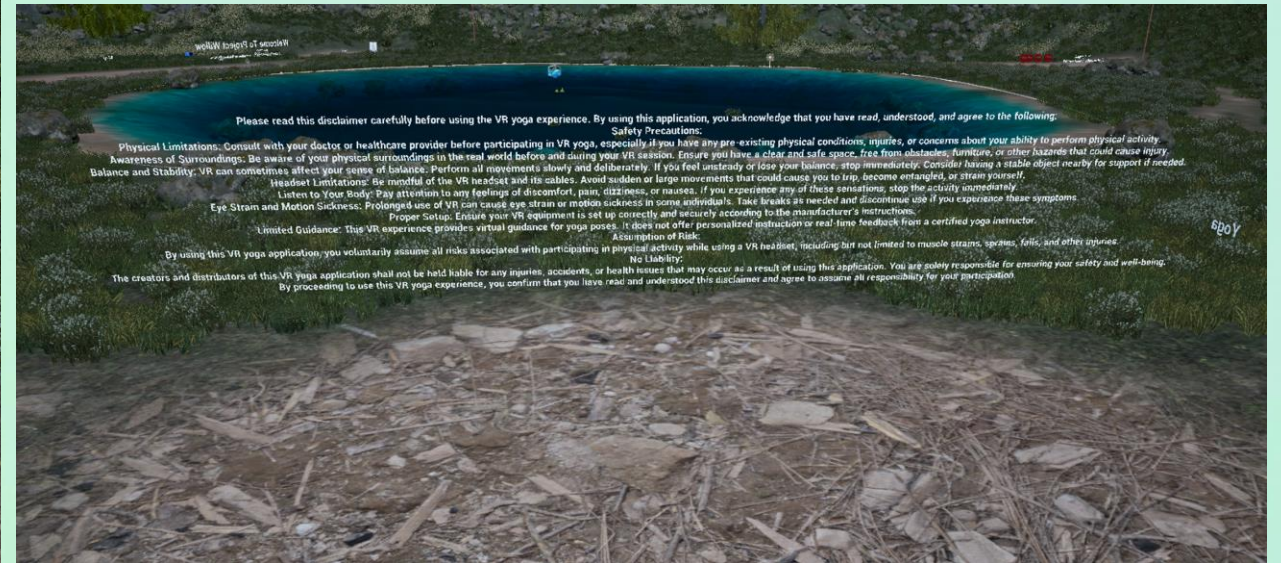
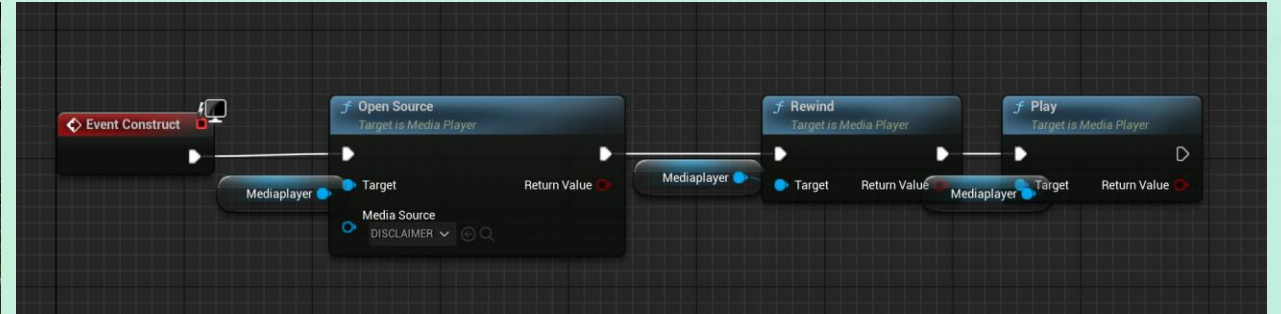
No Liability:

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- Disclaimer before playing the Yoga Video
- Implemented yoga poses that do not require much movement due to the limitations of the headset

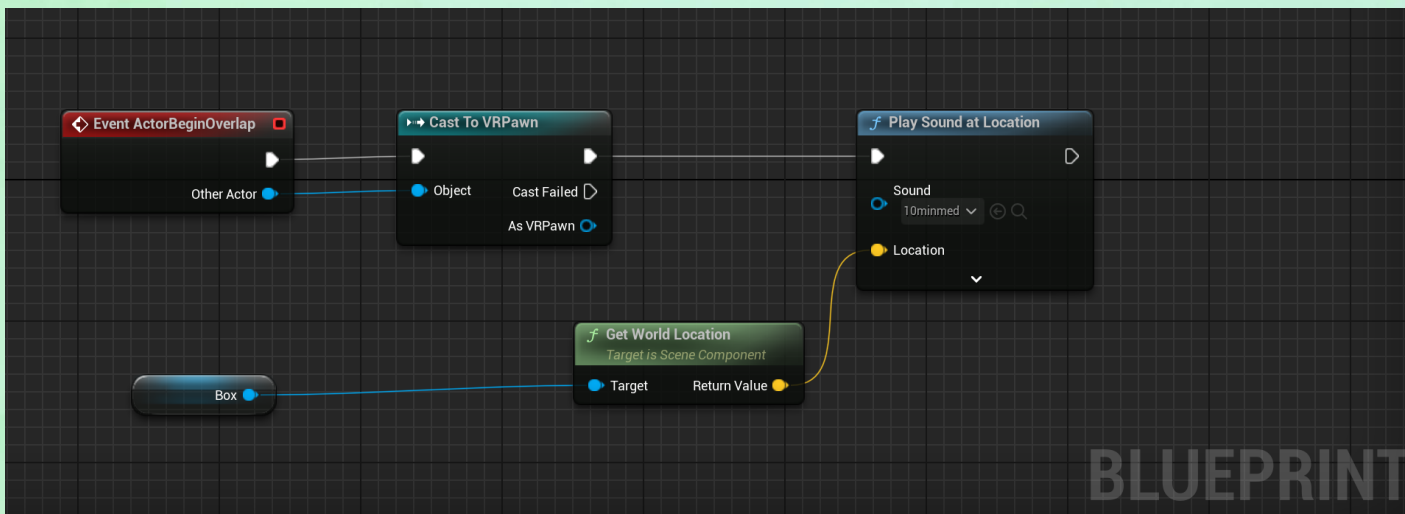
Interactive Features



Interactive Features



- Box Collision around the meditation area



- Begins to play sound when player enters collision

Applications of Game Design

VR Optimisation

- Height of floating text
- Scale of Assets
- Taken out foliage to improve FPS for user comfort
- Yoga Position limitations and Disclaimer
- Controls minimise motion sickness through inability to rapidly move in one direction with the joysticks
- The flow of the interactivity, with no loading screens for optimal comfort of players

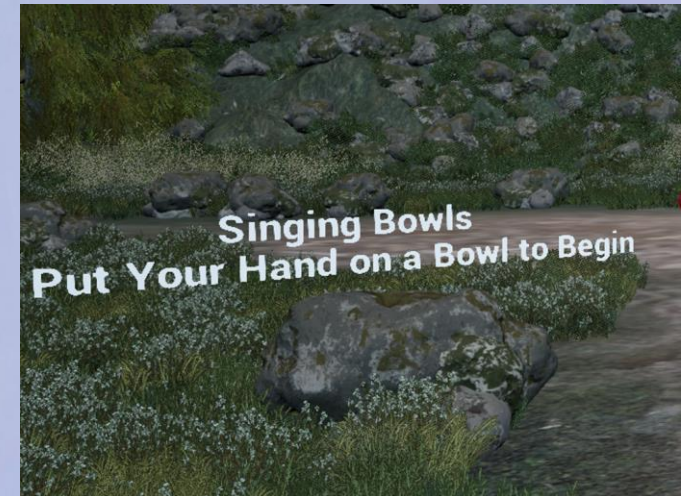
Applications of Game Design

Player Comfort

- Game can be played seated or standing
- freedom to move
- Guided meditation allows players to be still

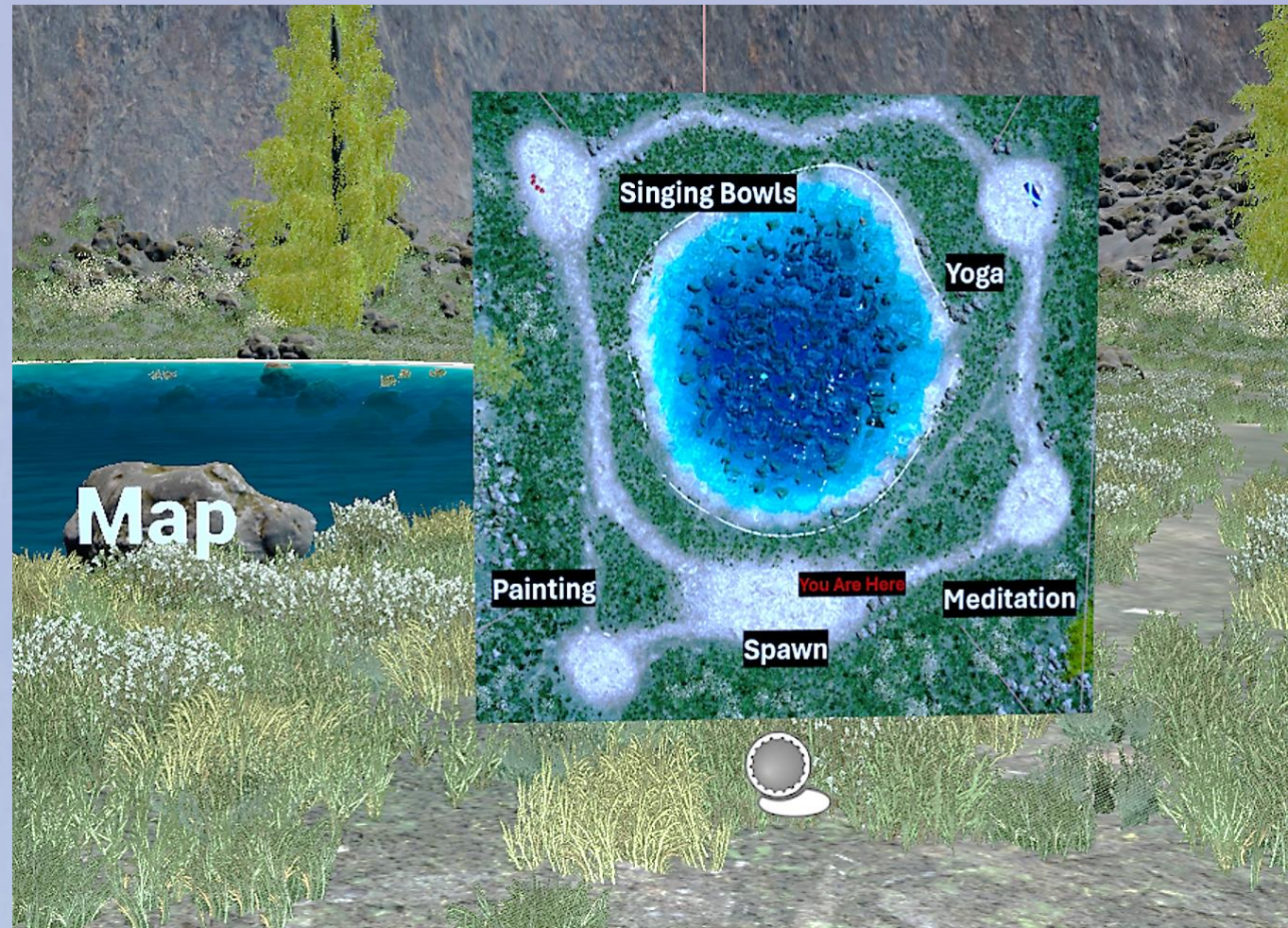
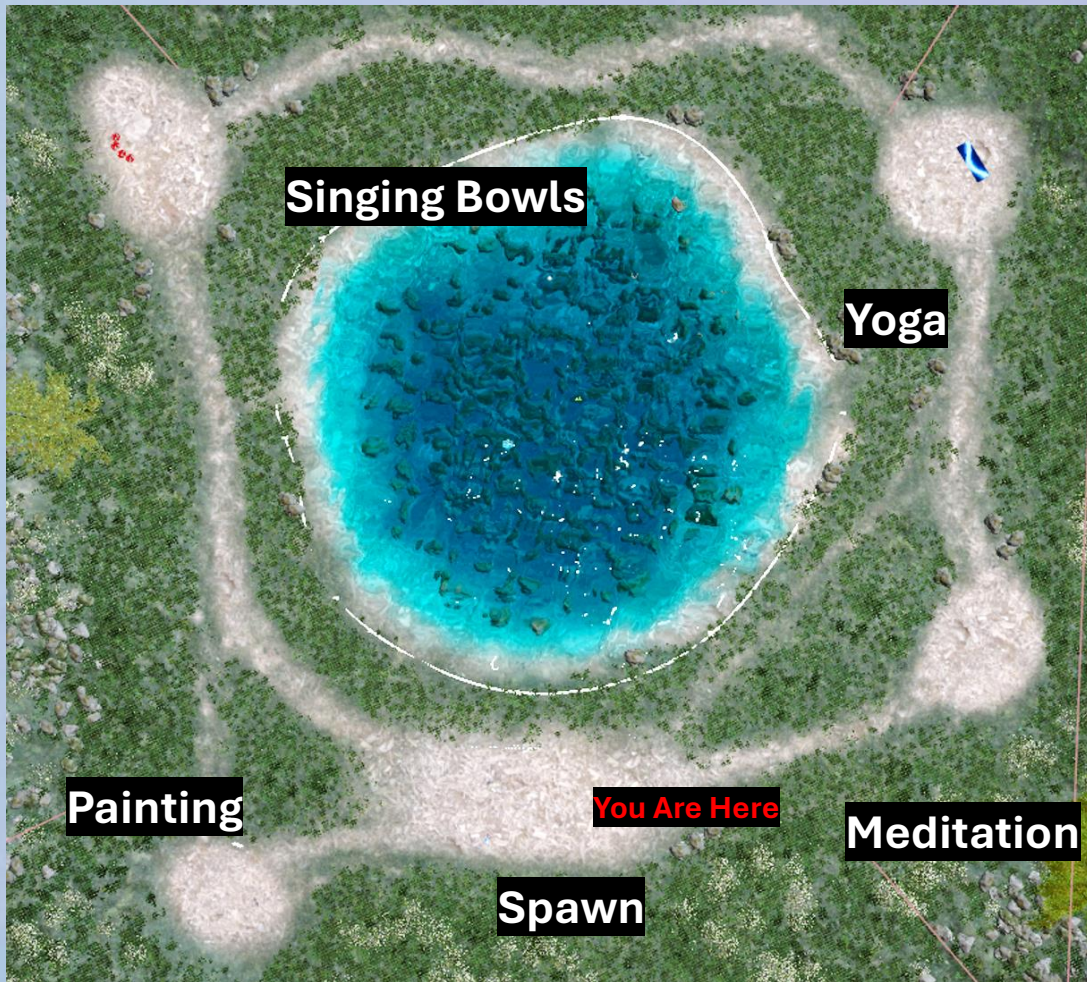
Applications of Game Design

User Frustration



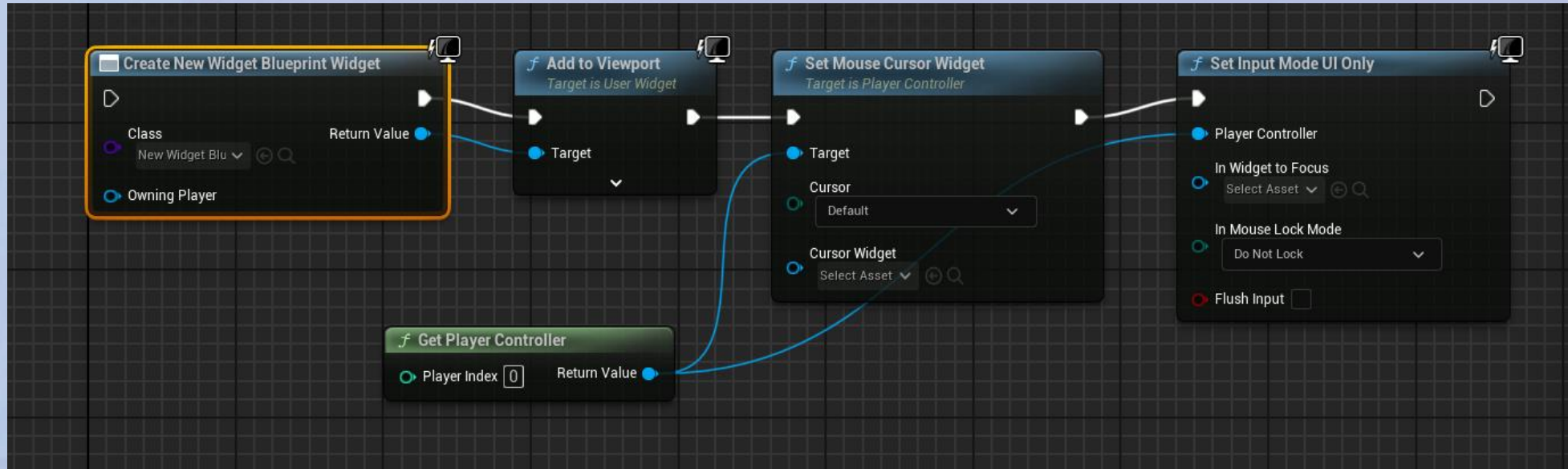
Applications of Game Design

User Navigation



Applications of Game Design

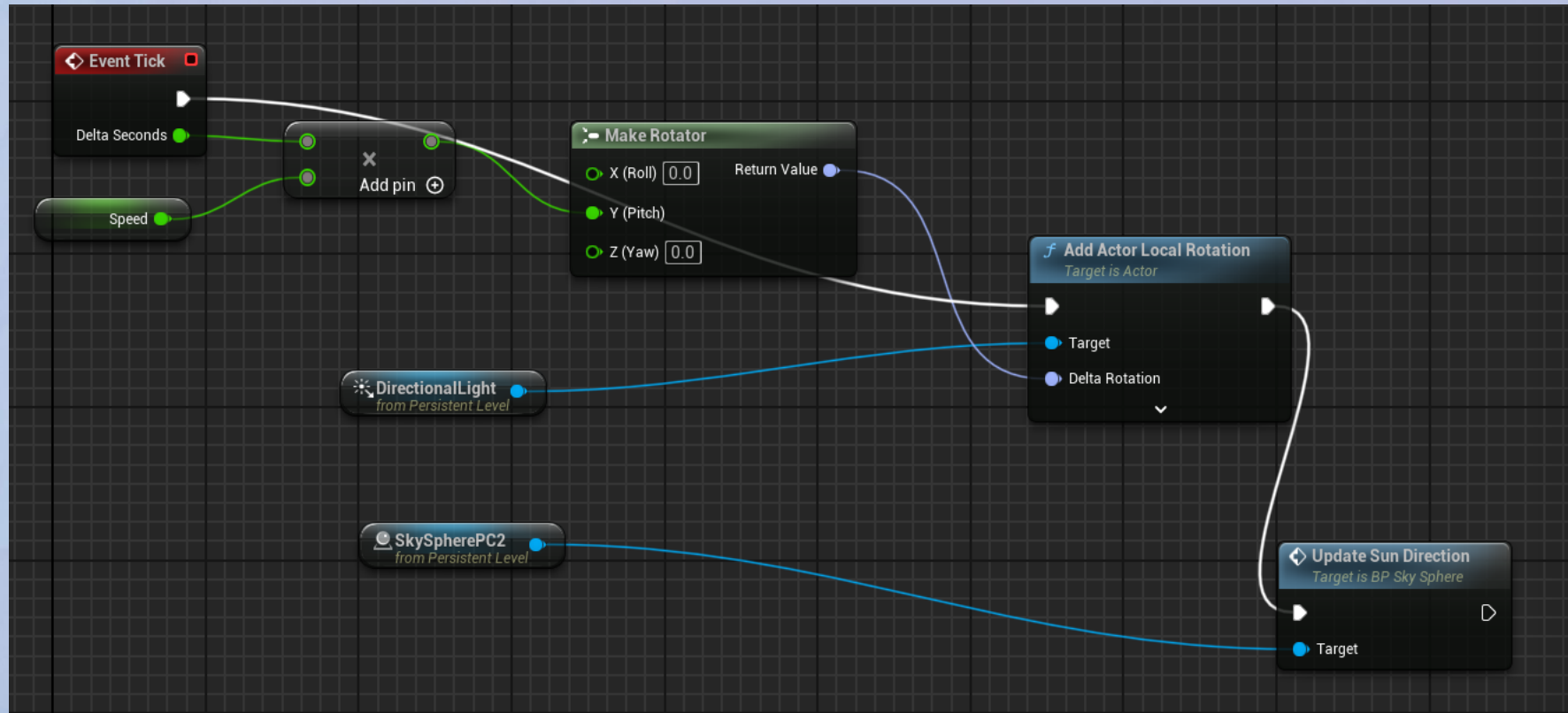
Blueprints



Main menu system

Applications of Game Design

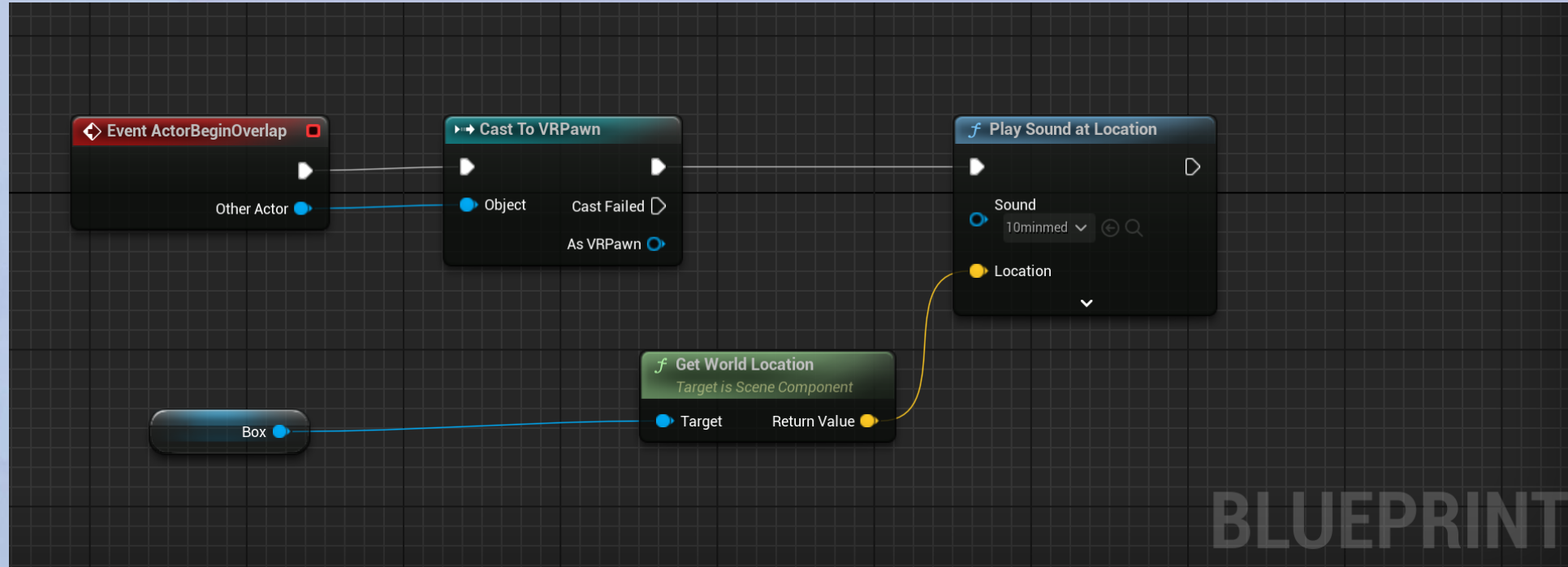
Blueprints



Day/Night Cycle

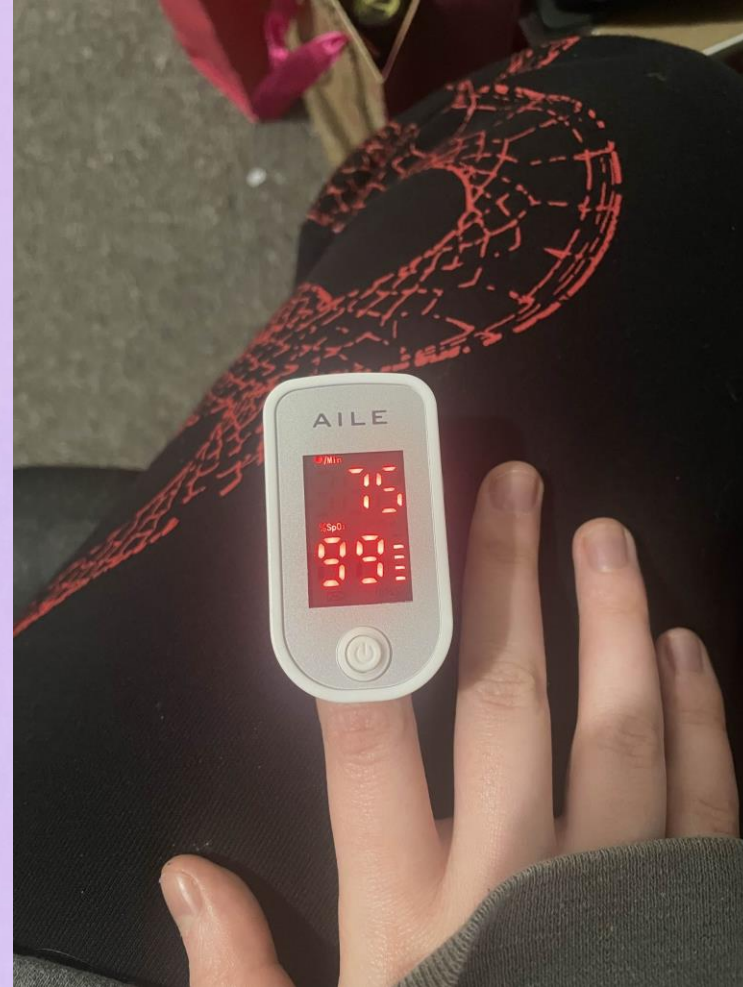
Applications of Game Design

Blueprints



Meditation Area

Game Testing



[illegible]

Feedback From Testing

Mindfulness Game Experience Survey

⊕ PAGE TITLE

1. Do you believe you feel more calm after playing the mindfulness game?

- ☐ Yes
- ☐ No
- ☐ Maybe

2. How would you rate your overall experience with the mindfulness game?

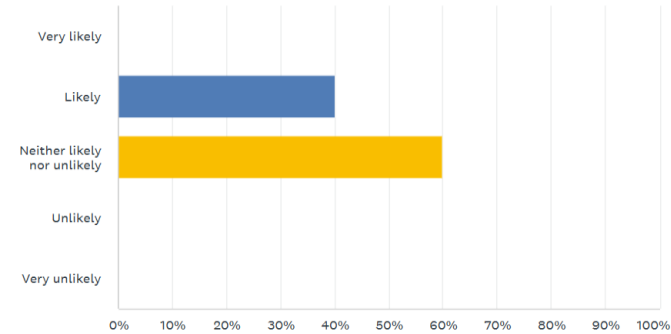
- ☐ Excellent
- ☐ Good
- ☐ Average
- ☐ Poor
- ☐ Very Poor

3. How effective did you find the playing singing bowls feature in enhancing your mindfulness?

- ☐ Very Effective
- ☐ Effective
- ☐ Neutral
- ☐ Ineffective

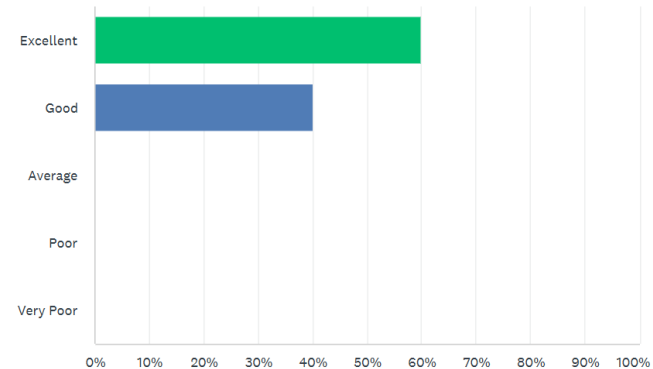
How likely are you to recommend this mindfulness game to a friend or colleague?

Answered: 5 Skipped: 0



How would you rate the quality of the nature sounds and music in the game?

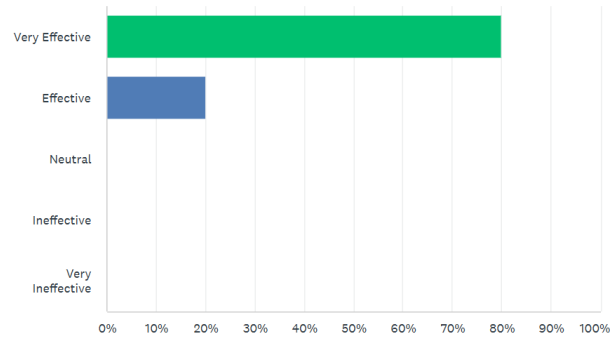
Answered: 5 Skipped: 0



Feedback From Testing

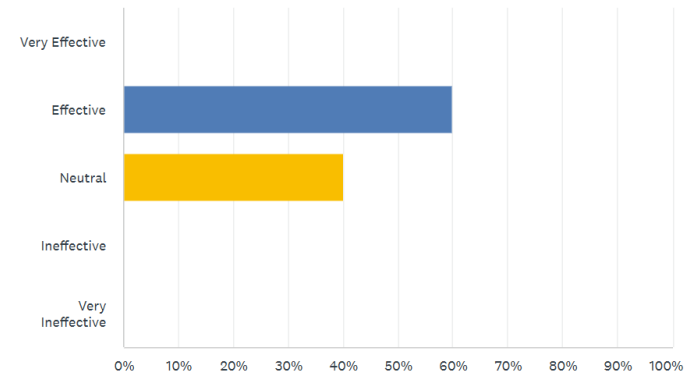
How effective did you find the meditation feature in enhancing your mindfulness?

Answered: 5 Skipped: 0



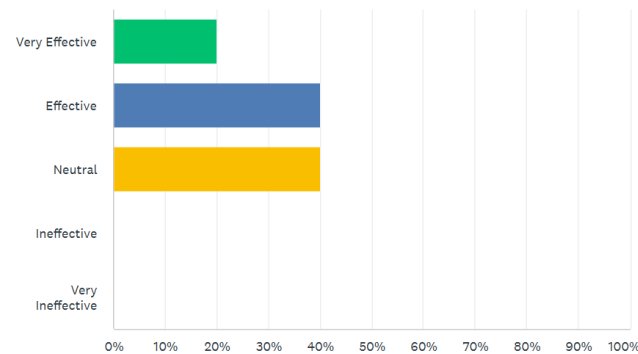
How effective did you find the yoga feature in enhancing your mindfulness?

Answered: 5 Skipped: 0



How effective did you find the playing singing bowls feature in enhancing your mindfulness?

Answered: 5 Skipped: 0



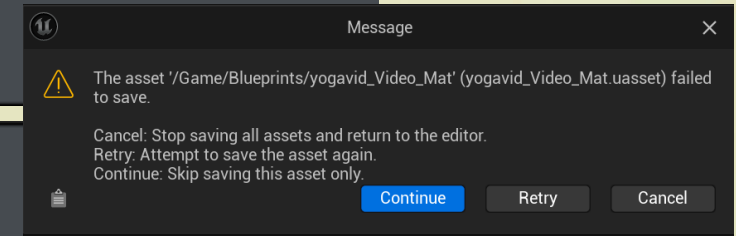
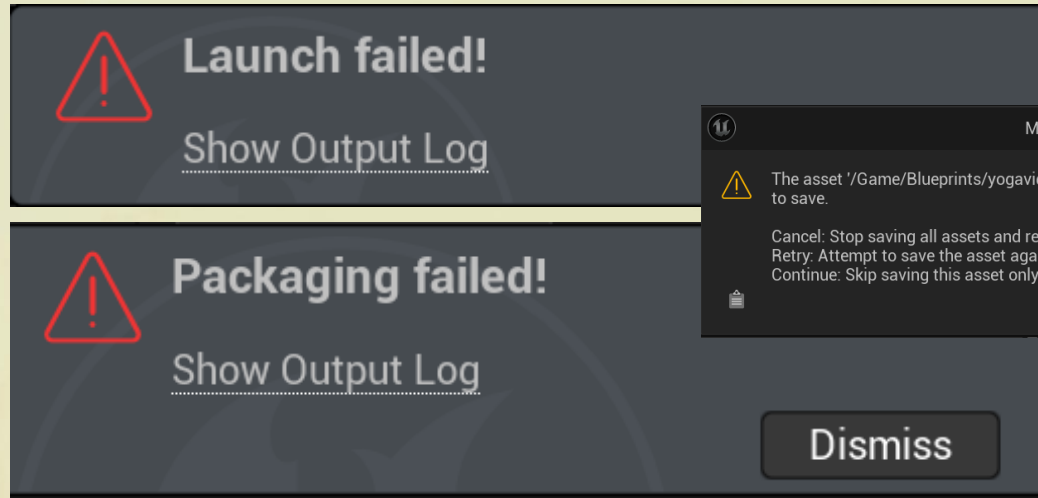
Challenges and Solutions

Project Willow

Enter Experience

Quit

Challenges and Solutions



```
-pak -iostore -compressed -prereqs -archivedirectory="D:\Epic Games\UE_5.3\IPUE\Project_Willow 5.3" -clientconfig=Development -nocompile -nocompileuat
UATHelper: Packaging (Windows): Initializing script modules...
UATHelper: Packaging (Windows): Total script module initialization time: 5.99 s.
UATHelper: Packaging (Windows): Executing commands...
UATHelper: Packaging (Windows): Installed Sdk validity:
UATHelper: Packaging (Windows): Win64: (Status=Invalid, MinAllowed_Sdk=10.0.00000.0, MaxAllowed_Sdk=10.9.99999.0, Current_Sdk=, Allowed_AutoSdk=10.0.18362.0, Current_AutoSdk=, Flags="Platform_ValidHostPrerequisites")
UATHelper: Packaging (Windows): Will install ''
UATHelper: Packaging (Windows): Scanning for envvar changes...
UATHelper: Packaging (Windows): ... done!
UATHelper: Packaging (Windows): Cleaning Temp Paths...
UATHelper: Packaging (Windows): BUILD SUCCESSFUL
UATHelper: Packaging (Windows): Setting up ProjectParams for D:\Epic Games\UE_5.3\IPUE\Project_Willow 5.3\Project_Willow.uproject
UATHelper: Packaging (Windows): ***** BUILD COMMAND STARTED *****
UATHelper: Packaging (Windows): Running: D:\Epic Games\UE_5.3\Engine\Binaries\ThirdParty\DotNet\6.0.302\windows\dotnet.exe "D:\Epic Games\UE_5.3\Engine\Binaries\DotNET\UnrealBuildTool\UnrealBuildTool.dll" Project_Willow Win64 Development -Project="D:\Epic Games\UE_5.3\IPUE\Project_Willow 5.3\Project_Willow.uproject"
UATHelper: Packaging (Windows): Log file: C:\Users\andre\AppData\Roaming\Unreal Engine\AutomationTool\Logs\D+Epic+Games+UE_5.3\UBT-Project_Willow-Win64-Development.txt
UATHelper: Packaging (Windows): Creating makefile for Project_Willow (no existing makefile)
UATHelper: Packaging (Windows): Total execution time: 18.13 seconds
UATHelper: Packaging (Windows): Platform Win64 is not a valid platform to build. Check that the SDK is installed properly.
UATHelper: Packaging (Windows): Took 20.26s to run dotnet.exe, ExitCode=6
UATHelper: Packaging (Windows): UnrealBuildTool failed. See log for more details. (C:\Users\andre\AppData\Roaming\Unreal Engine\AutomationTool\Logs\D+Epic+Games+UE_5.3\UBT-Project_Willow-Win64-Development.txt)
UATHelper: Packaging (Windows): AutomationTool executed for 0h 0m 39s
UATHelper: Packaging (Windows): AutomationTool exiting with ExitCode=6 (6)
UATHelper: Packaging (Windows): BUILD FAILED
LogAudioDerivedData: Display: Building compressed audio format BINKA hash BINKA_SCVER_5028_R4DV_false_SR0_0.000000_SR1_0.000000_SR2_0.000000_SR3_0.000000_SR4_0.000000_QMOD_0.000000_CQLT_-1_ASTH_0.000000_INLC_false_CSZE_65536_LCF_false_ZCS_0_MCSO_0_END wave CompileFailed...
LogAudioDerivedData: Display: Compression Quality for SoundWave /Engine/EditorSounds/Notifications/CompileFailed.CompileFailed will be modified from 80 to 1, with modifier [0.00]
LogAudio: Display: Chunk sizes for SoundWave /Engine/EditorSounds/Notifications/CompileFailed.CompileFailed: Chunk0=28 bytes, Chunk1-N=256k
PackagingResults: Error: Unknown Error
```

PackagingResults: Error: Unknown Error

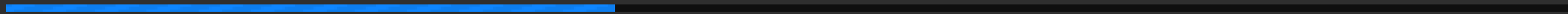
Challenges and Solutions

Saving map /Game/VRTemplate/Maps/VRTemplateMap

70%



Saving map: VRTemplateMap.umap...



Packaging failed!

Show Output Log

PackagingResults: Error: Unknown Error

[illegible][illegible]

Challenges and Solutions

Project Willow Asset List	Modelled	Textured	Added to UE
Willow Tree	NO	NO	NO
Bush	NO	NO	NO
Flowers	NO	NO	NO
Grass	NO	NO	NO
Rocks	NO	NO	NO
Birds	NO	NO	NO
Fireflies	NO	NO	NO
Yoga Mat	NO	NO	NO
Candles	NO	NO	NO
Easel	NO	NO	NO
Paintbrush	NO	NO	NO
Canvas	NO	NO	NO
Palette	NO	NO	NO
Fence	NO	NO	NO
Autumn Leaves	NO	NO	NO
Sound Healing	NO	NO	NO

- Downloaded Assets from UE's FAB Store
- Saved Time
- Unable to Sell my Game

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Demo If VR Doesn't Work





Demo If VR Doesn't Work

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