

Breath Works VR Experience

A meditation and breathwork VR application designed for users who prefer an active, exploration-based approach to mindfulness and relaxation.

Overview

This VR experience combines mindfulness practices with interactive elements in an explorable virtual environment. Users can learn breathwork techniques through hands-on interaction with various objects and environments, leveraging the Method of Loci (Memory Palace) technique for better retention.

Setup Requirements

- Built with Unity 2021.3
- XR Interaction Toolkit
- Meta Quest or Quest 2/Pro headset
- Oculus Integration package from Unity Asset Store

Note: Using different Unity versions may cause compatibility issues.

Features

Core Systems

- Interactive breathwork tutorials
- Memory Palace-based learning environments
- Progressive relaxation exercises
- Multiple interaction methods (grab, touch, swipe)

Interaction Systems

1. Movement & Navigation
 - Teleportation system
 - Elevator movement
 - Climbing system
2. Object Interaction
 - Grab and manipulation system
 - Physics-based interactions
 - Scanner mechanics with three variations

- Card reader and security systems
- 3. Environment Features
 - Dynamic door systems
 - Interactive dispensers
 - Number pad security system
 - Customizable spawn points

Implementation Details

My Key Scripts

- `ElevatorPlayerParent.cs`: Handles player movement in elevators
- `GrabTriggerAction.cs`: Core grabbing mechanics
- `AdvancedPrefabDispenser.cs`: Object spawning system
- `CardReader.cs`: Security access system
- `NumberPad.cs`: Interactive keypad system
- `GameManager.cs`: Handles core game mechanics including scoring system, streak tracking, and high score persistence
- `Keycard.cs`: Implements VR-compatible grabbable keycard functionality with physics interactions
- `KeycardSpawner.cs`: Controls the spawning and animation of keycards from dispenser points
- `ScannableObject.cs`: Comprehensive system for objects that can be scanned, with events, limitations and visual effects management
- `StreakEffectsManager.cs`: Advanced effects system managing visual and audio feedback for scoring streaks with object pooling
- `SwipeZone.cs`: Detects keycard swipe interactions and communicates with the card reader system
- `TouchButton.cs`: Tactile button interactions
- `FloatingLantern.cs`: Manages interactive lantern objects that float upward when triggered by flame or proximity

Custom-Built Elements

- Main building structure
- Elevator system
- Prefab dispenser
- Locked safe system
- Sandbox environment
- Closets and closet doors
- Materials and textures
- Sound effects

Asset Attribution

SketchFab Assets

- **"Paper lantern_3"** (<https://skfb.ly/ovvBX>) by Sparrow is licensed under Creative Commons Attribution (<http://creativecommons.org/licenses/by/4.0/>).
- **"Chess Board"** (<https://skfb.ly/6BDGq>) by Yanez Designs is licensed under Creative Commons Attribution (<http://creativecommons.org/licenses/by/4.0/>).
- **"The Steampunk Vault"** (<https://skfb.ly/opGq9>) by Ljm 3D is licensed under Creative Commons Attribution (<http://creativecommons.org/licenses/by/4.0/>).
- **"Animated Old Chest"** (<https://skfb.ly/IYux>) by NOT_Lonely is licensed under Creative Commons Attribution (<http://creativecommons.org/licenses/by/4.0/>).
- **"Buster Drone"** (<https://skfb.ly/TBnX>) by LaVADraGoN is licensed under Creative Commons Attribution-NonCommercial (<http://creativecommons.org/licenses/by-nc/4.0/>).
- **"Vintage Boombox"** (<https://skfb.ly/6R9vQ>) by rsboros is licensed under Creative Commons Attribution-NonCommercial (<http://creativecommons.org/licenses/by-nc/4.0/>).
- **"Book"** (<https://skfb.ly/6TJRN>) by zoging is licensed under Creative Commons Attribution (<http://creativecommons.org/licenses/by/4.0/>).

Unity Pathway Assets

- Environmental elements (waterfall, pool, water bodies)
- Interactive objects (cubes, pyramids, torus)
- Basic primitives
- Example assets (candles, ribbon, piggy banks, mallet)
- Door frame
- Key unlock system
- Button interfaces

Unity Asset Store

- [Mesh Effects](#) by krypto289
- [HQ Rocks](#) by Next Level 3D

Daz Assets

- Rooftop glass room
- Downstairs Living Room
- Backyard deck and furniture
- Treehouse structure (modified balcony)

Educational Content

Referenced videos:

1. [5 Ways To Improve Your Breathing](#) by James Nestor
2. [Box Breathing](#) (University of Alabama at Birmingham)
3. [Vagus Nerve Stimulation](#) — The Holistic Psychologist
4. [The Psychological Sigh](#) by Dr. Andrew Huberman

Development Notes

This project was developed as part of the Unity Pathway program, implementing various VR interaction techniques and systems. The current build represents a slice of the full application's potential features.