

Meditation and EEG game design
HAS-201: Social Psychology
EEG Game Concept Development for Improving Quality of Life

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Overview

CleanFocus is a calming and interactive game designed to help ADHD patients develop focus and sustained attention. The game environment is a disorganized room that automatically tidies itself when the player maintains focus, reinforcing sustained attention through positive neurofeedback.

Target Group

Our main target group are individuals with ADHD (children, teenagers, and adults) as well as those seeking to improve attention control and executive function through neurofeedback.

Core Features

- The game is integrated with an EEG headset that detects the player's focus levels.
- When the player achieves and maintains a focused state, the virtual room gradually organizes itself; books return to shelves, clothes fold themselves, and objects move to their proper places.
- If the player is less focused, the tidying slows or stops, providing immediate feedback.
- The goal is to keep attention levels steady to complete the tidying process and progress to new rooms with increasing complexity.

Engagement and Motivation

As the player completes more challenging tasks the room will gradually fill up with more distractions, such as, plushies, noisy fans, and running faucets.

Personal space

The player will have a room that they can personalize to their liking; the more they concentrate, the more they can alter it. The player can pick their own themes, such as nature, library or tech focused.

Rewards System

Completing a tidy-up session rewards players with in-game items like decorations, music options, or relaxing animations.

Positive Reinforcement

As the room tidies itself, players receive visual and audio affirmations, such as cheerful sounds, encouraging messages, and character reactions to reinforce their success. This helps create an immediate and satisfying feedback loop that makes the habit of focusing stronger.

Measuring Progress

In progress measurement, we mainly use three different values as a way to analyze the player's progress on the app. They are:

- **Focus Score** - Used for tracking attention levels over time and providing visual feedback on improvements.
- **Session Logs** - Players and caregivers can view trends in focus duration and consistency.
- **Adaptive Difficulty** - The game adjusts tidying speed and complexity based on the player's progress, ensuring an engaging and effective training experience. This promotes personal growth by gradually increasing challenges to help players build stronger attention skills over time.

Benefits

The app is designed to provide the player with a tool to help develop focus and attention which leads to better performance in regulating their attention or focus; it does this using the real-time feedback system that is set to remind the player on their focus level. During the process, the player is also provided with an environment to, not only develop their attention levels, but also a stress free environment that they can use during rehabilitation or for any type of relaxing activities.