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References

Content Research

(2021). *Mindfulness & Relaxation*. McMaster University.

The Mindfulness and Relaxation webpage from McMaster University offers guided relaxation audio for diaphragmatic breathing, progressive muscle relaxation (PMR), and other calming exercises for the the benefits of students at McMaster University. The progressive muscle relaxation audio is based on research from Edmund Jacobson, creator of the PMR technique. The audio walks listeners through a cycle of PMR, mentioning which muscles to tighten and release and including audio triggers for when to tighten and release those muscles. I used this audio as the main point of reference for my PMR minigame, and compared the audio for diaphragmatic breathing with Quest 11: The Power Breath to make sure that my timing for my diaphragmatic breathing exercise was correct.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties *Journal of Consulting and Clinical Psychology*, 56(6), 893–897. <https://doi.org/10.1037/0022-006x.56.6.893>

The Beck Anxiety Inventory (BAI) is a 21-question survey created by Aaron T. Beck and others designed to self-report a participant's level of anxiety. The BAI lists 21 symptoms of anxiety, each one of which falls on a scale from 0-3, with 0 being that the participant

did not experience that symptom, and 3 being that the participant was significantly bothered by that symptom. I used the BAI to accurately depict symptoms of anxiety through the use of visual metaphors (for example, replicating a shortness of breath with a depiction of drowning).

Craske, M. G. (2010). *Cognitive-Behavioral Therapy*. American Psychological Association.

In this book, Dr. Michelle Craske, Professor of Psychology, Psychiatry, and Behavioral Sciences at UCLA, outlines the history and practices of Cognitive Behavioral Therapy (CBT) and includes case studies from therapists who have practiced CBT with their own clients. All CBT treatments depicted in this book are the product of a wide array of clinical research conducted by multiple groups. This book was used to understand the theory of CBT, and Chapter Four: The Therapy Process, was used as reference to create a minigame based around cognitive restructuring, a type of CBT treatment.

Donvan, J. (Host). (2012, July 3). ‘Monkey Mind’: When Debilitating Anxiety Takes Over [Radio

broadcast episode]. <https://www.npr.org/transcripts/156200170>

In this “Talk Of The Nation” segment, John Donvan interviews Daniel Smith, author of “Monkey Mind: A Memoir Of Anxiety” about how he turned his experience living with anxiety into a brutally funny and honest memoir. Throughout the program, Donvan takes calls and emails from listeners who’ve also struggled with anxiety to share their experiences with both the disorder and treatment. I used the descriptions Daniel Smith and NPR listeners gave of their panic attacks as reference when creating the anxiety attack portion of my game, similarly to how I used the Beck Anxiety Inventory. I did this

to depict personal feelings of anxiety within my project, rather than only referencing the broader symptoms outlined by the BAI.

McGonigal, J. (2016). *SuperBetter: The Power of Living Gamefully*. Penguin Books.

SuperBetter: The Power of Living Gamefully was written by Jane McGonigal, designer of the game SuperBetter, a strength-building game which helps users alleviate depression, anxiety, and other mental health issues. In SuperBetter, McGonigal organizes different mental health treatments into “quests” that readers can perform at home, shares the personal experiences that drove the creation of these quests, and outlines the science that forms each of these quests in a way that’s accessible to readers without knowledge of the research she references. In contrast to Cognitive-Behavioral Therapy by Dr. Michelle Craske, SuperBetter was written for a wide audience who may be unfamiliar with the theory or history behind CBT, and as such, the exercises in SuperBetter are easier to understand and perform at home. Quest 11: The Power Breath, was my main inspiration for the deep breathing minigame in my project, as the quest was created from two separate studies on the mental health benefits of one minute of concentrated breathing.

Ruberg, B. (2020). *The Queer Games Avant-Garde: How LGBTQ Game Makers Are Reimagining the Medium of Video Games*. Duke University Press.

The Queer Games Avant-Garde is a collection of twenty interviews with queer game developers whose work ranges from small indie development to game development for AAA companies. These interviews were conducted by Bonnie Ruberg, an associate professor at UC Irvine, and each interview discusses the developer’s lives, identities, and the role their queerness plays in their work. Collectively, The Queer Games Avant-Garde presents varied opinions of what it means for marginalized developers to make “empathy

games”- games which force the player to empathize with protagonists or situations they may be unfamiliar with. Although my game is not based around queer identity, the interviews featured in *The Queer Games Avant Garde* gave further insight into the ethics of “empathy games”, and served as a guide to portraying the feeling of life with anxiety in a humanizing way.

Technical Research

Java Enums. W3Schools. https://www.w3schools.com/java/java_enums.asp

W3School’s article on enums describes the type and function of an enum, and provides several examples of how to use enums in your own code. In my project, I used Java enums for the switch case in my project that transitions between minigames. By using enums, I was able to give each switch case a descriptive name to increase the legibility of my code and make it easier for myself to reference scenes while inside different cases.

John McCaffrey. (2020, November 2). *How to Add Sound to a Processing Project* [Video].

YouTube. <https://www.youtube.com/watch?v=I6fG1wneXWo>

John McCaffrey is a teacher of Interactive Design and Video Production at Hennepin Technical College, and posts instructional tutorials for Harmony, Javascript and Processing on his YouTube channel. In this video, McCaffrey walks through the process of adding sounds to processing, including importing the sound library to a project, looping the sound in the setup method, and playing sound in the draw method. I used this tutorial to add sound to my project, and change sounds via a specific trigger during one of my cases.

Shiffman, D. (2008). Chapter 18: Data. In *Learning processing: A beginner's guide to*

programming images, animation, and interaction. Elsevier Inc.

Daniel Shiffman is an associate professor at New York University Tisch School For The Arts, and author of *Learning Processing*, the book that this example is drawn from.

Example 18-1 from *Learning Processing* saves each character the user types to a string, and displays the full string to the screen. When enter is pressed, the string is stored to a separate variable, and the initial line of text is cleared. I used this example as a basis for my final minigame, where players answer four short cognitive restructuring questions by typing text. This example helped me display the characters the player types as one cohesive sentence by saving each character in a string variable that I could display on screen even after the player had stopped typing.

Shiffman, D. *Noise Wave*. Processing. <https://processing.org/examples/noisewave.html>

Daniel Shiffman's article on noise waves uses perlin noise, rather than sine waves, to generate natural wavelike patterns using PShape. Daniel Shiffman is an associate professor at New York University Tisch School For The Arts, and founder of the Youtube channel Coding Train, where he creates easy-to-understand tutorials covering a wide array of creative coding topics. Perlin noise is a pseudorandom number generator developed by Ken Perlin in 1983 that's used to create smoother, more realistic computer graphics, and it can be accessed in Processing by calling the `noise(x, y)` function. In my project, I heavily referenced Shiffman's example to generate three overlapping perlin waves in the main scene and instructional menus. I elected to use Perlin waves rather than sine waves or random waves as the waves created with `noise()` better resemble the motion of real water, which adds a level of realism that helps immerse my player in the game.