

READ ME!

Welcome to Mio's Mansion! This is an interactive escape game that involves typing, drawing, and shape memorization. Players take on the role of Mio, who is trapped in a haunted mansion and must collect various shapes to unlock a special lock and escape. Starting in the attic, players must complete all three levels to reach the bottom door, where they will need to solve the lock to escape the mansion. In each level, players must defeat ghosts to collect shapes that will be used for the lock at the end of the third level. The first game mechanic involves typing the corresponding alphabetical letters to hit the targeted ghosts. The second mechanic requires players to trace over the corresponding shape at each level. After all three levels are complete, you will turn the lock to the corresponding shapes you received after completing each level. Finally, you will be able to escape the haunted mansion.

Game Info

Disability: Exploring problem-solving with non-linear reasoning for dysgraphia

Game: Mio's Mansion

Main Character: Mio

Instructions for the Game:

Oh no! You're trapped in a haunted mansion and trying to escape. There are ghosts around every corner and are ready to attack at any time. When you see a ghost, type the letter or words located above its head to defeat it. At the end of every level, don't forget to keep an eye out for a shape. You need to collect three shapes in total to unlock the door to escape. Good luck and don't get spooked!

Game and game mechanics:

Mio's Mansion is a fun interactive escape game that involves drawing and shape memorization. Players play as Mio, who is stuck in a haunted mansion and has a goal to unlock the keypad to escape. Starting in the attic, players must complete all three levels to get to the bottom door where the keypad must be solved to unlock freedom. For each level, players are to target the ghosts and kill them for a shape that is used for the keypad to be revealed. Game mechanics include typing the corresponding keys to hit the targeted ghosts. Additionally, at the end of each level, players can draw the revealed shape in their notebook to use as a reference later when unlocking the keypad. At the end of all three levels, players are to use the arrow keys to control the lock and draw the given shapes earned from previous levels. Once completed, the player successfully escapes the haunted mansion.

Dysgraphia

[2] What is it? Dysgraphia is a learning disability that makes it difficult for children and adults to write. It has two sides: motor weaknesses that affect the physical process of writing and cognitive challenges with written expression.

What are the signs? There are two categories of symptoms related to dysgraphia: motor weaknesses and cognitive challenges. Children may experience challenges with just one area or both of them.

Motor Issues:

- Consistent difficulty with forming letters, making them the same size, and spacing them correctly. Letters may be clustered together without spaces or not in a straight line.
- Trouble holding a pencil, such as holding it awkwardly or needing to grip it extra tightly
- Writing fatigue - writing can be tiring and cause hand cramps or pain.

Cognitive sides:

- Difficulties with writing mechanics, like spelling, grammar, punctuation, and sentence structure
- Trouble organizing their writing - they might have great ideas, but have a hard time getting them down onto paper in a coherent, structured way

[2] Anon. Dysgraphia: What it is, types, symptoms, testing, and more. Retrieved February 25, 2025b from <https://www.medicalnewstoday.com/articles/dysgraphia#summary>

Different types of dysgraphia

- Dyslexia Dysgraphia
 - Illegible writing without reference
 - Poor spelling
- Motor dysgraphia
 - Poor fine motor skills
 - May have poor dexterity
 - Written work (including copies and drawings) tends to be poor or illegible
 - Short writing may be somewhat legible
- Spatial dysgraphia
 - May have difficulty staying within lines or using correct spacing between words
 - Usually illegible

Ideas and Inspiration

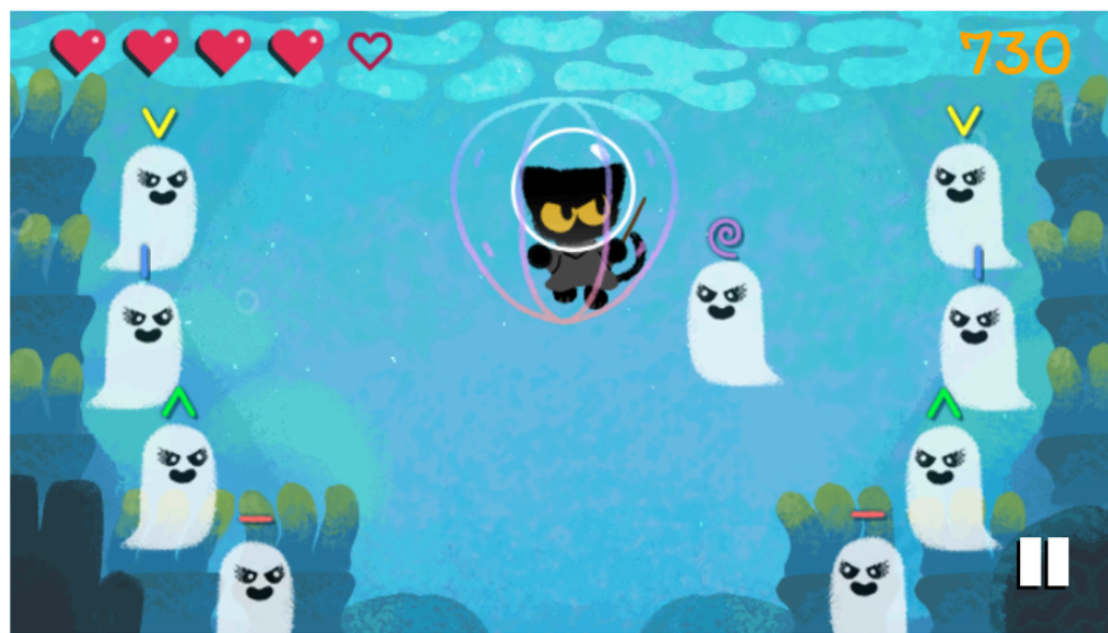
The overall game is inspired by Taiko no Tatsujin and the Google Cat game, which was released on Halloween in 2016. We changed up a lot of our game because we believed the previous idea

didn't convey the disability well and wasn't engaging enough. So we considered these fast-paced games because we targeted another aspect of dysgraphia: poor motor skills, instead of the inability to write.

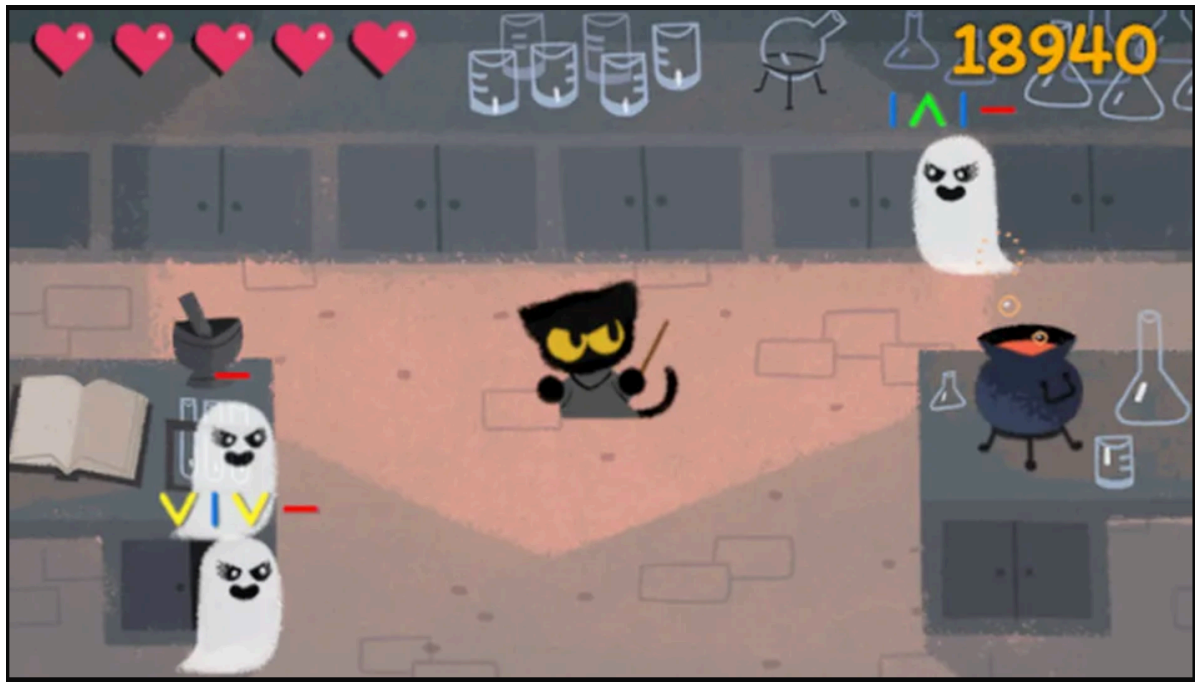
[7]



[8]



[8]



Adaptations and Challenges

[3] Challenges include

- Handwriting difficulties
- Legibility of handwriting
- Remembering how to write certain letters or numbers
- Speed of writing
- Planning and organizing

[3] Instructional activities that improve the handwriting of people with dysgraphia

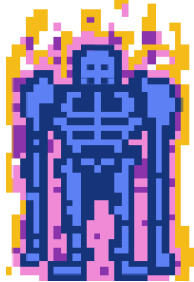
- Keeping lines within mazes to develop motor control
- Connect dots or dashes to create complete letters
- Tracing letters with a finger or the end of a pencil
- Copying letters from models
- Practicing writing activities

Including game mechanics like letter tracing and stamp collection can help users practice their motor and writing skills. Seamlessly integrating these into the game acts as a daily practice that will help with these challenges and make users more comfortable with writing.

Game's Structure and Mechanics

- Problem-solving and tactical game

- Mission:
 - Mio's goal is to escape the haunted house without dying from the monsters that are trying to chase him
 - By defeating each level, the player will collect a shape that they must remember to unlock the lock to escape
- Taking Damage:
 - Depending on the size of the ghost, they do different amounts of damage



Does 3 hearts of damage



Does 2 hearts of damage



Does 1 heart of damage

- Unlocking the lock
 - You will trace each shape after completing every level, so it will be saved in a journal
 - If you don't remember what the shapes are, you won't be able to escape
- Game mechanics:
 1. Typing the corresponding alphabetical letters to defeat the ghosts
 2. Tracing the shape at the end of each level

Universal or globally adaptable design

- Anyone can play the game
- Universal can adapt to different languages to be played globally across the world

- It's a fast pace and exciting for anyone who is looking for a challenge in both hand-eye coordination and memorization
- The game will have accessible features and customizable text settings to adjust font size and letter spacing
- Positive reinforcement of the stamp collections and gradual improvements in Mio's skills foster empathy and community support
- The game can be adapted into classroom settings, as it can test students' fine motor skills and let students have fun playing an exciting interactive game

Game Design

The flow of the game:

1. Starting Screen
2. Mio starts in the attic, which you are level 1
3. Mio sees the ghosts coming towards him
 - a. Mio defeats all the ghosts
 - b. Mio takes damage from the ghosts
 - c. Mio dies from the ghosts
4. Mio collects the first shape
5. Mio moves on to the next room, which is level 2
6. If Mio completes level 2 and collects the second shape, then he moves on to the attic, which is level 3
7. After completing all three shapes, you must remember them all
8. Mio turn the lock to the corresponding shapes you collected from each level
9. Mio escapes the haunted mansion
10. Ending Screen

Core game mechanics

Typing: When the ghosts are spawned, you have to type random letters that are above each ghost's head to defeat them. The player has to think fast and type without making any mistakes to defeat all the ghosts.

Writing/Drawing: When completing a level, players will get to collect a shape and write it in their journal. The writing is to help you remember the shape of the final lock to escape the mansion.

Goal and Challenges

The game's goal is to help our character, Mio, escape the haunted house or else he will be trapped inside forever.

The main challenge for Mio is to defeat all the ghosts and collect all the shapes to unlock the final lock to escape the mansion.

Delivering the game concepts

The game will be in a pixel style with a retro and spooky vibe. We want to deliver something that is easily playable for all audiences. We want to convey something simple but something also replayable.

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