NeuroKeya Manual

by Nobaiha Rayta

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Introduction

NeuroKeya is a customizable cognitive training mini-game application designed to support individuals living with dementia, as well as those recovering from head trauma, stroke, or other forms of cognitive impairment. The app features a multilingual interface with support for 66 languages, making it accessible to users from diverse linguistic and cultural backgrounds.

NeuroKeya includes six carefully designed mini games targeting core cognitive skills such as memory, attention, categorization, sequencing, auditory processing etc. Among these, two games are fully customizable, allowing caregivers or family members to upload personal images such as familiar objects or faces, tailoring the experience to the user's unique memories and environment.

This level of personalization is key to enhancing emotional engagement and cognitive recall, making the training not only more effective but also more meaningful. Whether used at home, in care facilities, or during rehabilitation sessions, NeuroKeya provides a simple yet powerful tool to help maintain mental agility, stimulate memory, and improve the quality of life for users at any stage of cognitive decline.

About the mini games

As mentioned earlier, this application includes six unique mini games, each designed with a specific objective to target different cognitive skills. The games are:

1. *Name the Person / Object* –
   This is a personalized memory game where users are shown photos of loved ones or familiar objects (uploaded by caregivers) and asked to identify them from a list of 2 - 4 choices. The goal of this game is to improve or maintain users' memory and recognition skills by identifying loved ones or daily used objects from photos, reinforcing personal connections and cognitive function.
2. *Sort the Groceries* –
   This is a categorization game where users drag & drop some grocery items into their correct storage locations in a kitchen scene. This activity supports visual memory, attention, and real-life problem-solving skills.
3. *Match Sound to the Picture* –
   This is a sensory recognition game where users hear a recorded sound such as a dog barking or a doorbell etc. and match it to the correct image. This activity helps strengthen auditory processing and memory.
4. *Simple Puzzle* –

This is an interactive drag & drop game where patients complete an image by assembling puzzle pieces. Caregivers can upload family photos or familiar photos, which are then turned into customizable puzzles. The goal of this game is to support visuospatial reasoning and fine motor skill development.
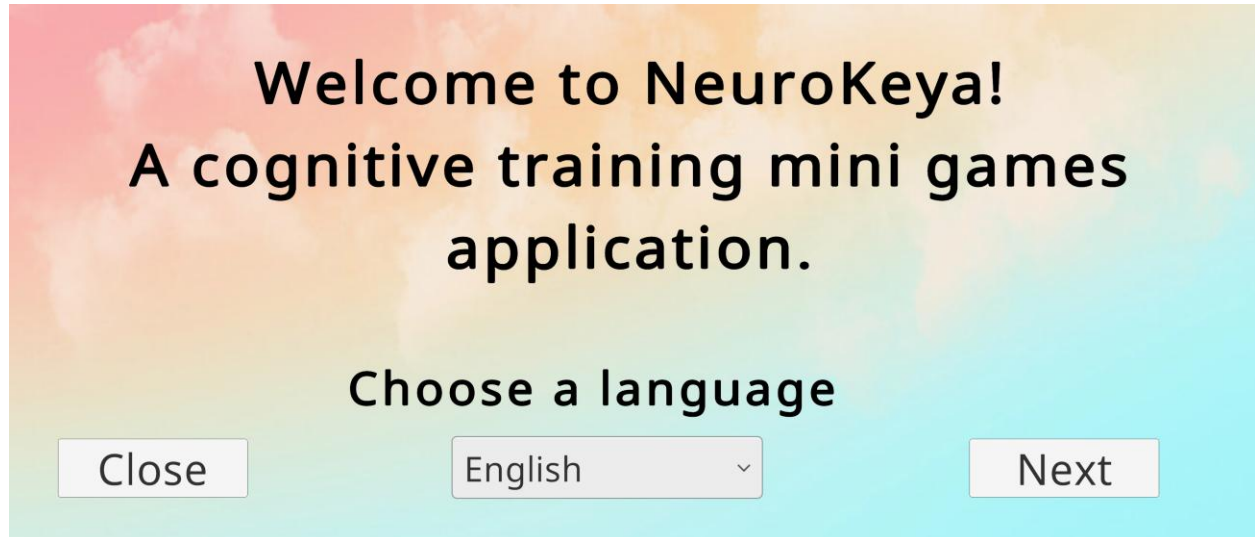
5. *Odd One Out* –

This is a visual reasoning game where users are shown a set of 3 - 4 pictures and must choose the item that doesn't belong, for example, spotting a shoe among fruits. This activity encourages categorization and logical thinking.

6. *Follow the pattern* –

This is a cognitive training game where users observe a sequence of colors, shapes, and lastly piano keys; then they repeat the pattern using the buttons on the screen. The game has 3 levels, and each level has few rounds where difficulty increases from Easy to Hard. This game helps improve working memory and attention span.

How to Play

From the drop-down menu, select your preferred language. The default language is **English**. Once selected, click **Next** to proceed. To exit the application press on the **Close** button.

Choose a game to play

1. Name the Person or Object

This is a personalized memory game where patients are shown photos of loved ones or familiar objects (uploaded by caregivers) and asked to identify them from a list of 2–4 choices. Click on the Customize button to start setup.

Customize

2. Sort the Groceries

This is a categorization game where patients drag & drop grocery items into their correct storage locations in the kitchen. This activity supports visual memory, attention, and real life problem solving skills. Click on the Play button to start.

Play

3. Match Sounds to Pictures

This is a sensory recognition game where patients hear a recorded sound such as a dog barking or a doorbell, and matches it to the correct image. This activity helps strengthen auditory processing and memory. Click on the Play button to start

Play

4. Simple Puzzle

This is an interactive drag & drop game where patients complete an image by assembling puzzle pieces. Caregivers can upload family photos or familiar photos, which are then turned into customizable puzzles. This game supports visuospatial reasoning and fine motor skill development. Click on the Customize button to set up.

Customize

5. Odd One Out

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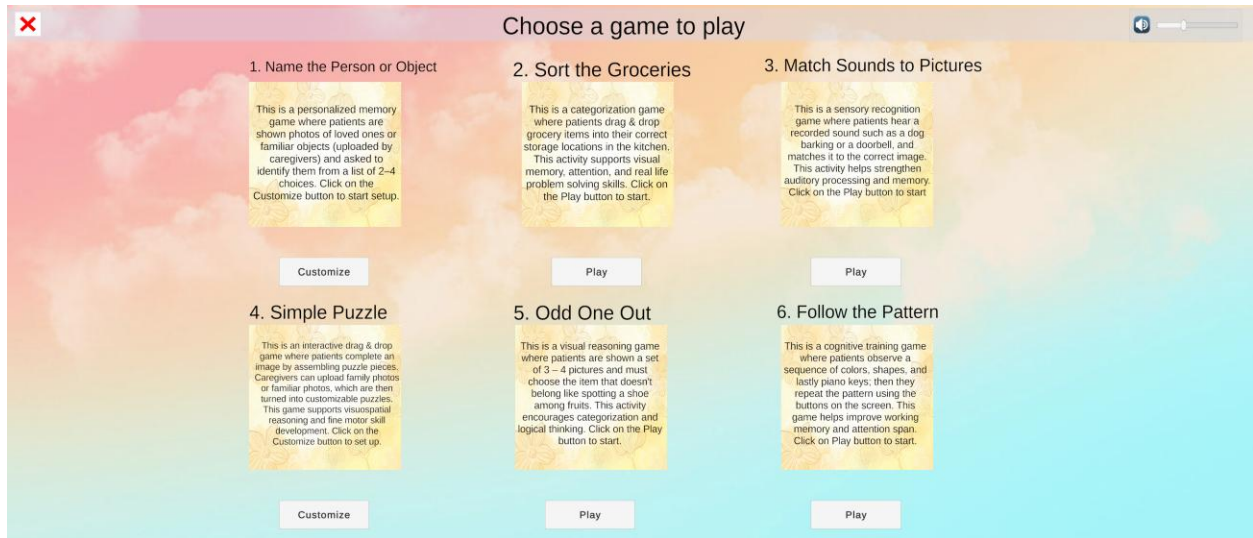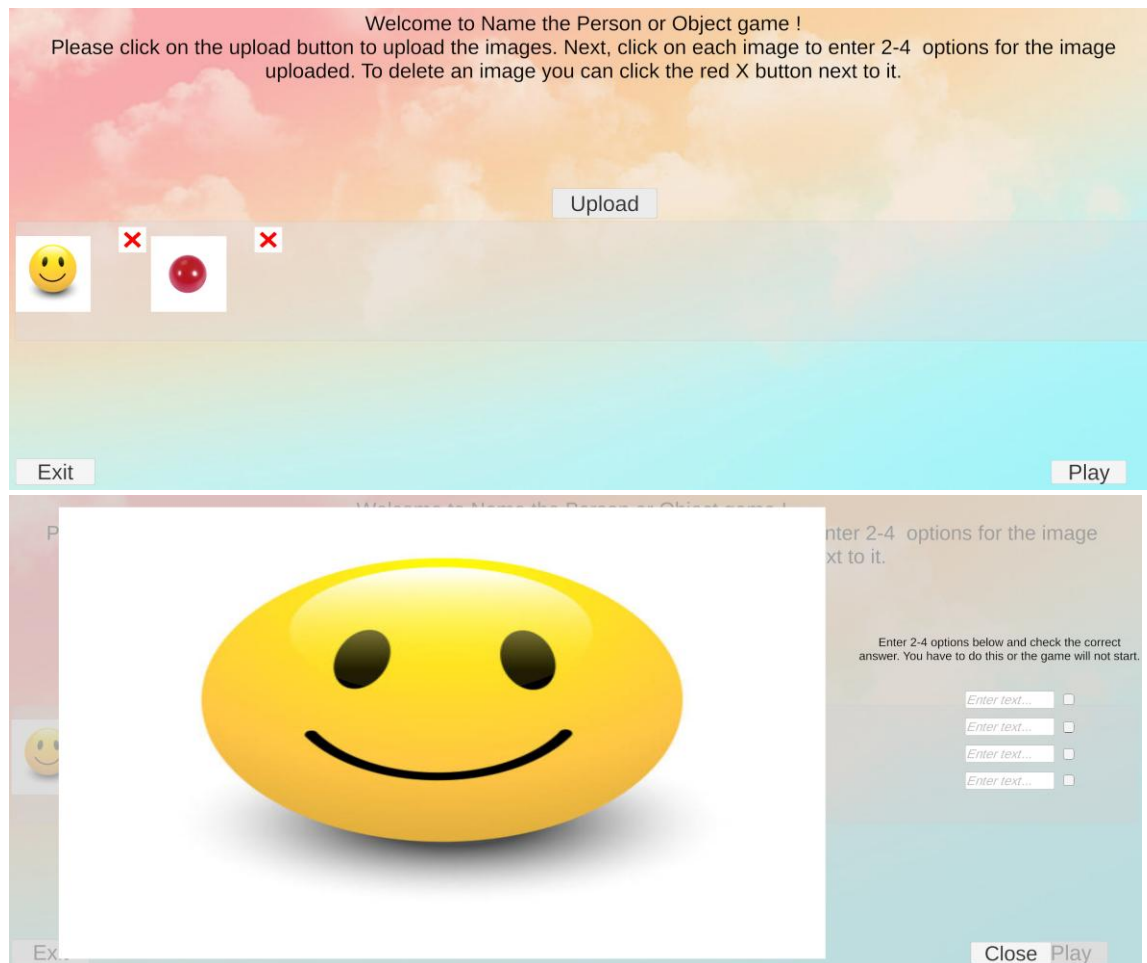
Play

6. Follow the Pattern

This is a cognitive training game where patients observe a sequence of colors, shapes, and lastly piano keys; then they repeat the pattern using the buttons on the screen. This game helps improve working memory and attention span. Click on Play button to start.

Play

The Main Menu displays all six mini-games.

- **Hover** over a game description to enlarge it for easier reading.
- The **background music controller** can be found in the top-right corner; use the slider to adjust volume.
- To start a game, click either **Play** or **Customize** (for games that allow personalization).
- To exit the application, click the X button on the top left corner.

## Game 1 – Name the Person or Object

Setup:

1. Click **Upload** to add as many images as needed.
2. To remove an image, click the **X** button.
3. Click an image to:
   - Enter name options.
   - Mark the correct answer.
     The game will not play if all the steps are not completed.

4. After setting up each image, click **Close**.
5. Once setup is done, click **Play**.

Uploading Image

When upload button is pressed, it will open the file browser view. To access your Pictures folder, click on *C:\ → Users → username → Pictures*
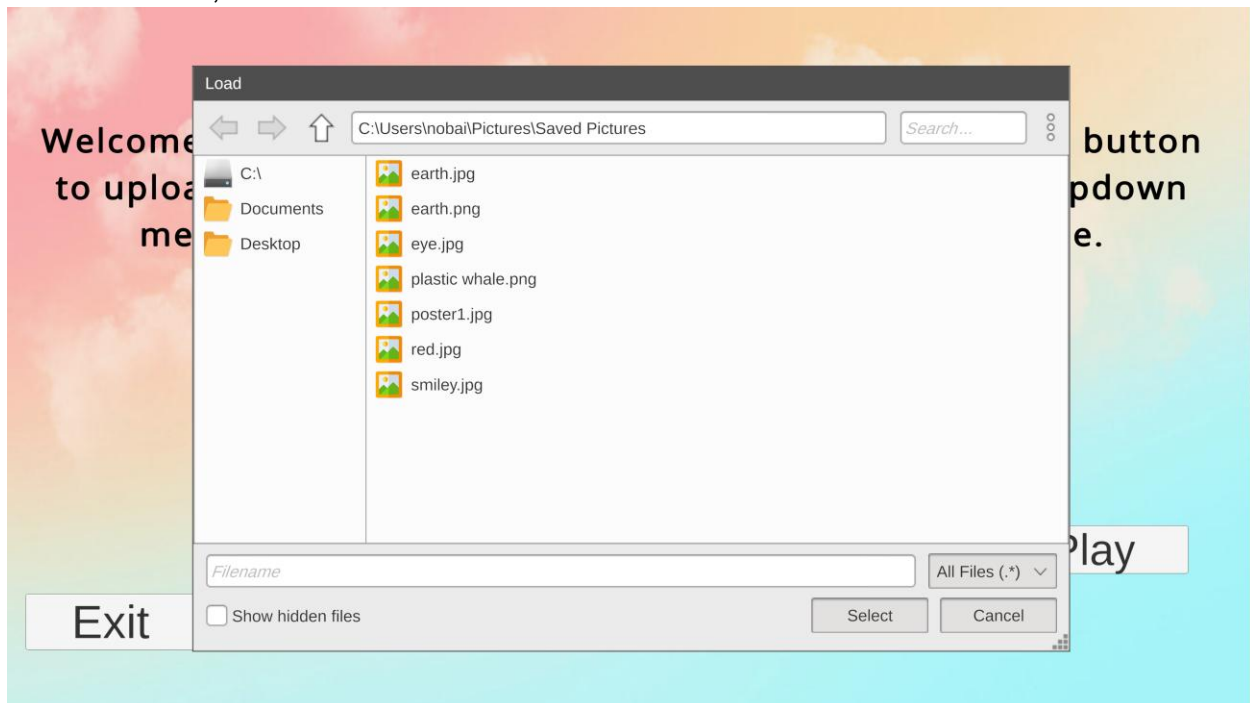
Gameplay:

- Select an answer; your choice will be highlighted.
- Click **Next** to move to the next image.
- Click on **Exit** button to go back to the menu at any time.

Congrats you finished the game! You got 1 out of 2 questions right.
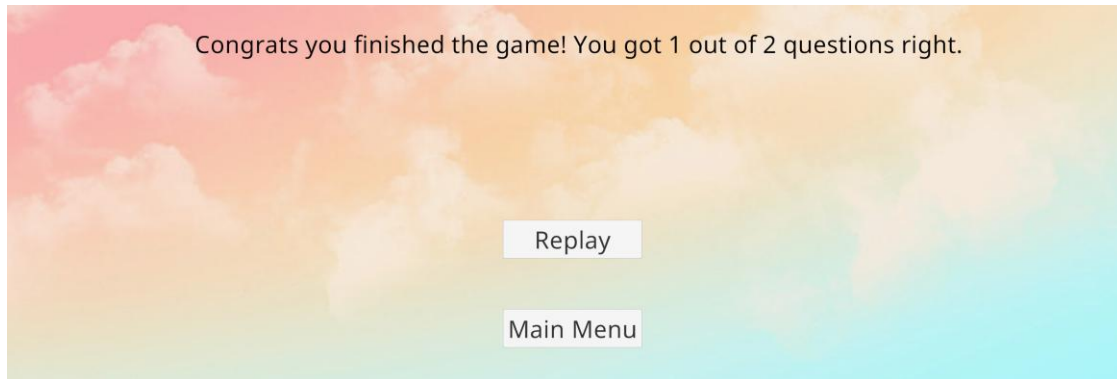
Replay

Main Menu

Results:

- At the end, a results screen shows the number of correct answers.
- Choose **Replay** or **Return to Main Menu**.

Game 2 – Sort the Groceries

Welcome to Sort the Groceries game !
In this game players will drag grocery items into their correct storage locations : fridge, freezer, cabinet or fruit bowl.
Click on the Play button to start.

Play

Exit
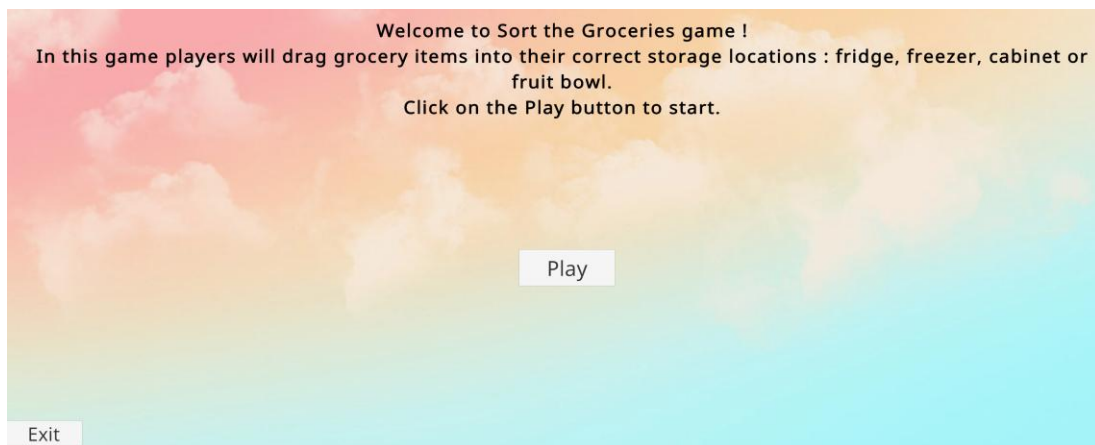
Setup:

- Read the welcome screen instructions.
- Click **Play** to start.

Gameplay:

- Grocery items are displayed on the table.
- Click and hold an item to drag & drop it to one of four locations: **Fridge**, **Freezer**, **Fruit Bowl**, or **Cabinet**.
- Some items may have multiple correct locations (e.g., soda can be stored in the fridge or cabinet).
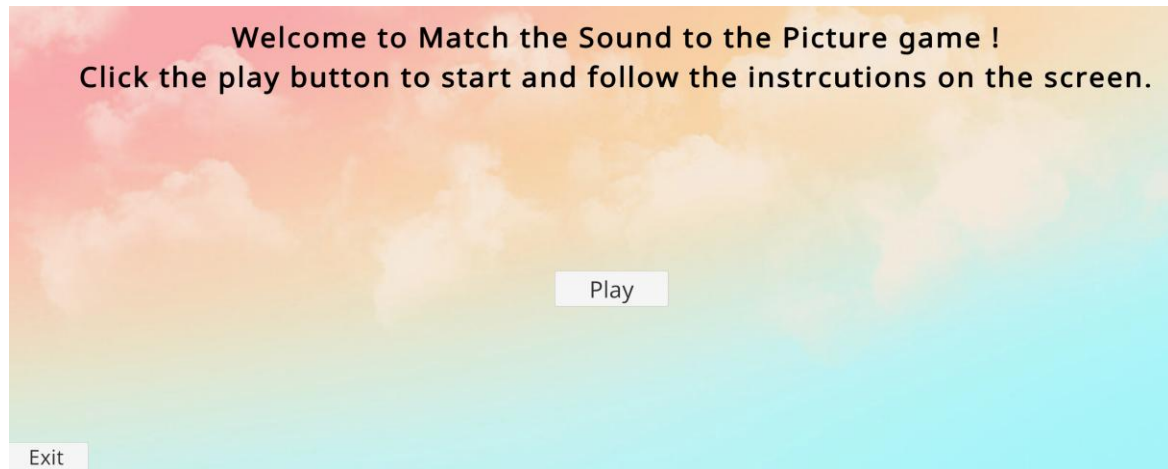- The selected item's name appears in the right-hand panel.

Results:

- Once all items are sorted, results will display correct and incorrect placements.
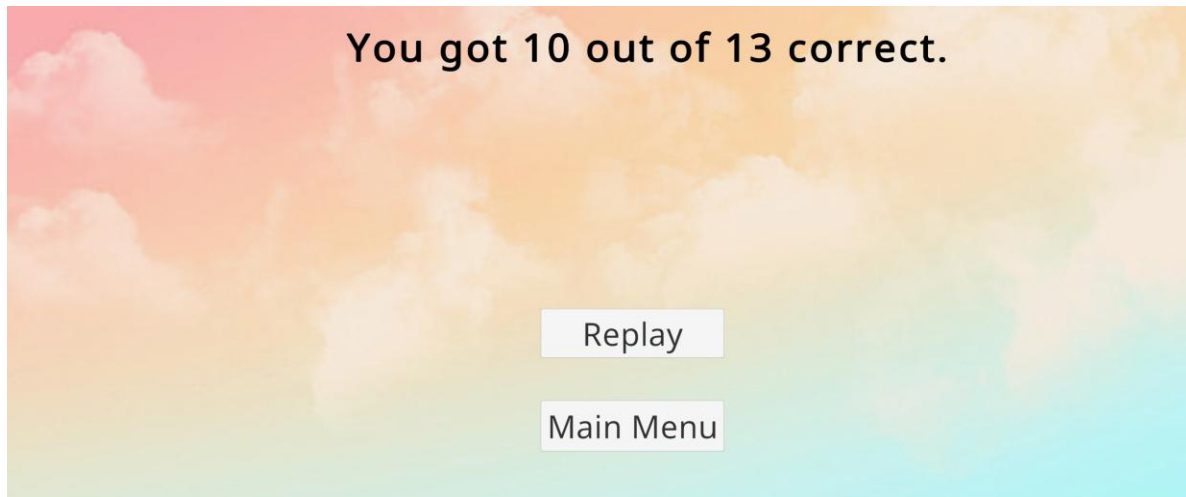- Choose **Replay** or **Return to Main Menu**.

Setup:

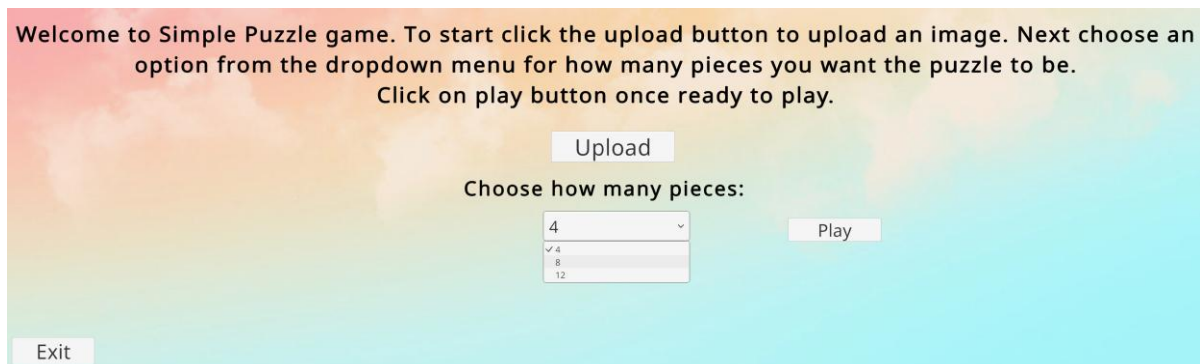- Click **Play** and follow the on-screen instructions.
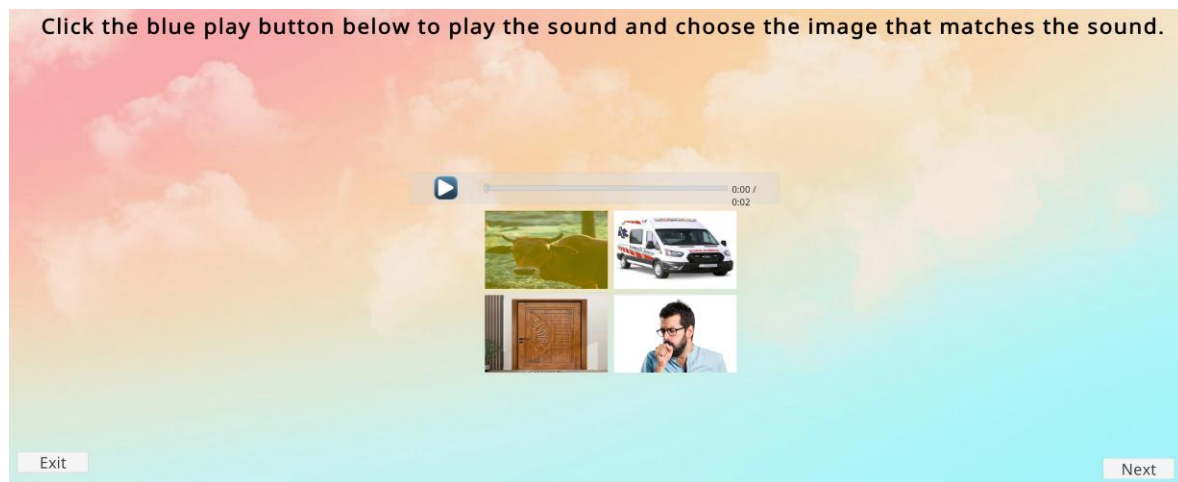
Gameplay:

- Click the blue button to play a sound.
- Sounds can be paused and replayed as needed.
- Select the matching image; your choice will be highlighted.
- Click **Next** to move to the next round.

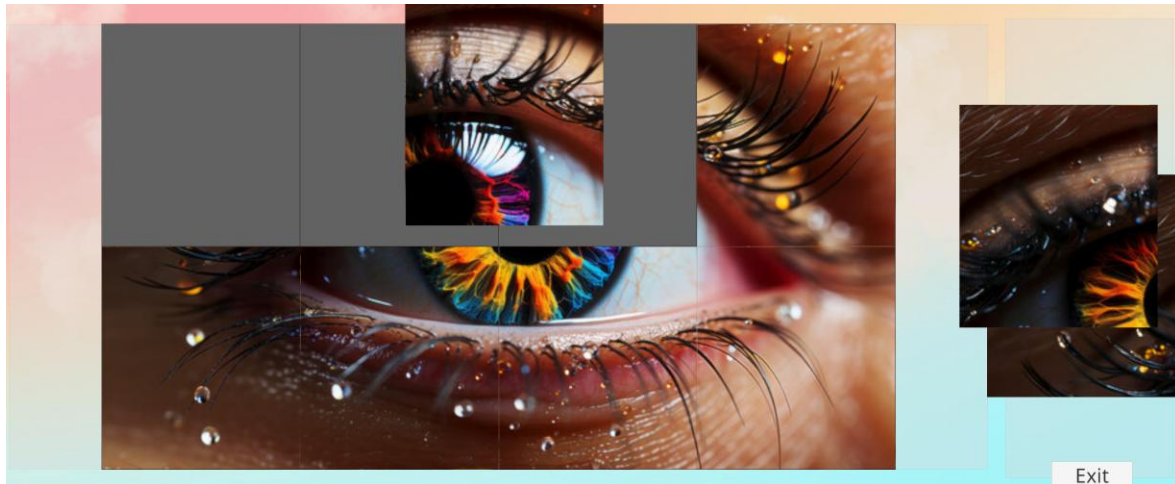You got 10 out of 13 correct.

Replay

Main Menu

Results:

- Final score is displayed.
- Choose **Replay** or **Return to Main Menu**.

Game 4 – Simple Puzzle

Welcome to Simple Puzzle game. To start click the upload button to upload an image. Next choose an option from the dropdown menu for how many pieces you want the puzzle to be. Click on play button once ready to play.

Upload
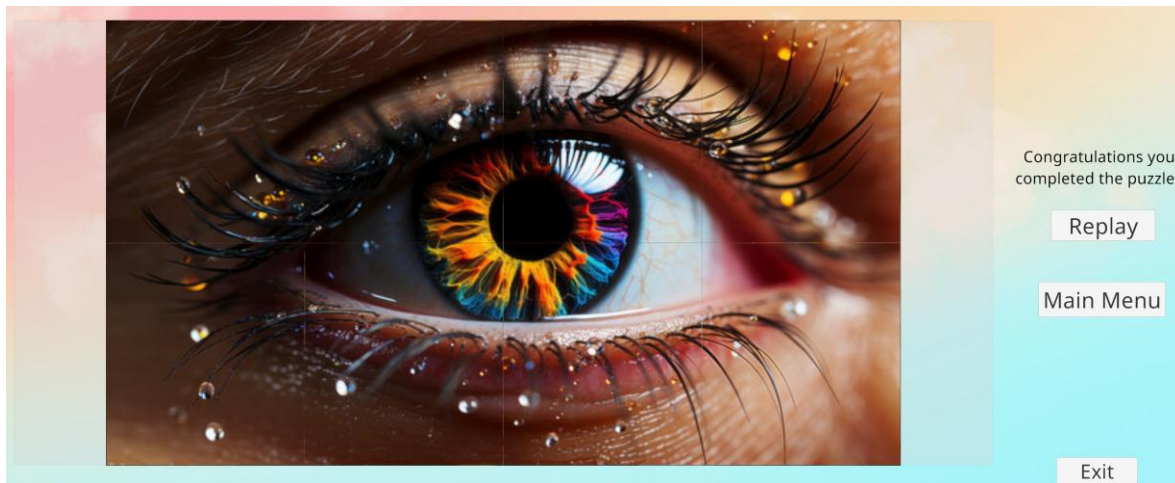
Choose how many pieces:

4
✓ 4
8
12

Play

Exit

Setup:

1. Upload an image.
2. Select puzzle size: **4**, **8**, or **12** pieces.
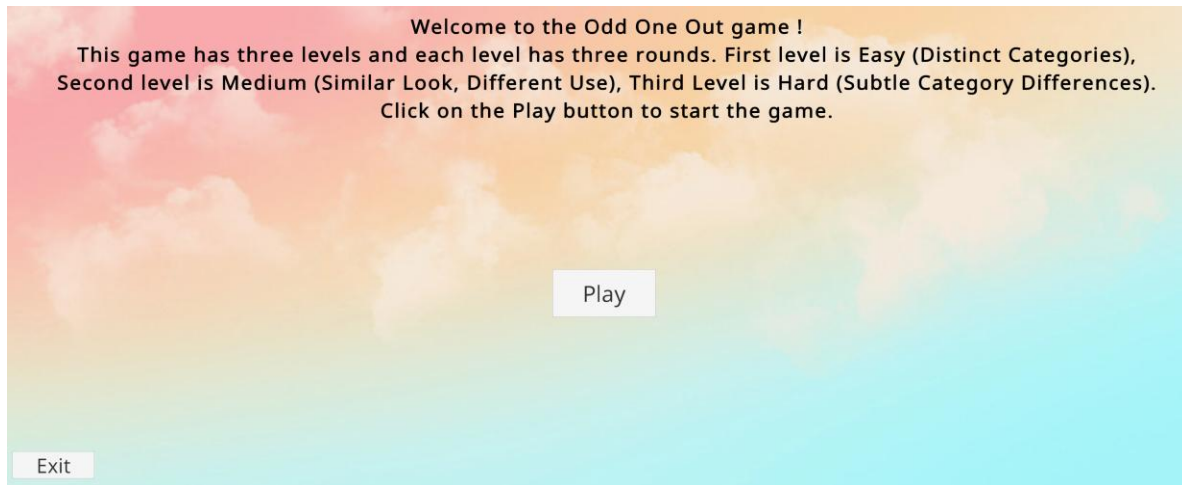3. Click **Play** to start.

Gameplay:

- Pieces appear on the right side.
- Drag and drop pieces into the correct positions.
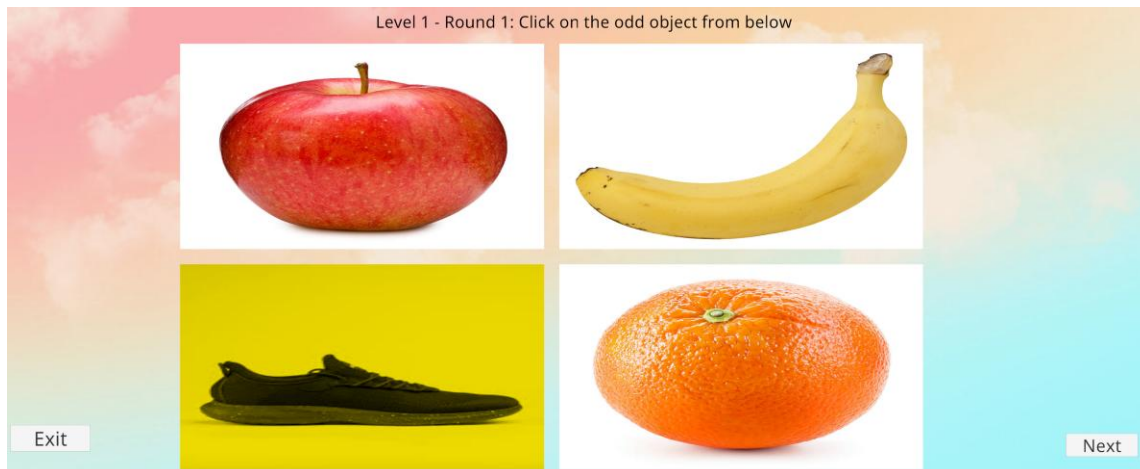- Pieces snap into place when close to their correct location.

Congratulations you completed the puzzle !

Replay

Main Menu

Exit

Results:
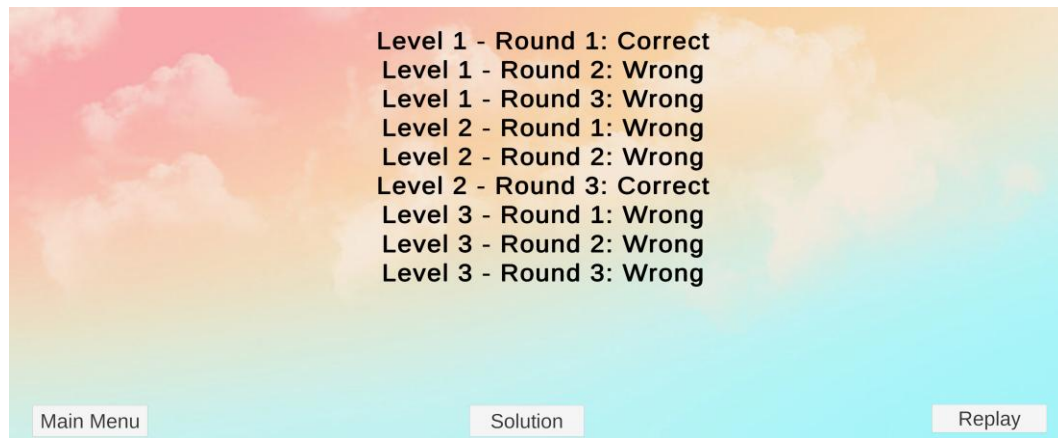
- Choose **Replay** or **Return to Main Menu**.

Setup:

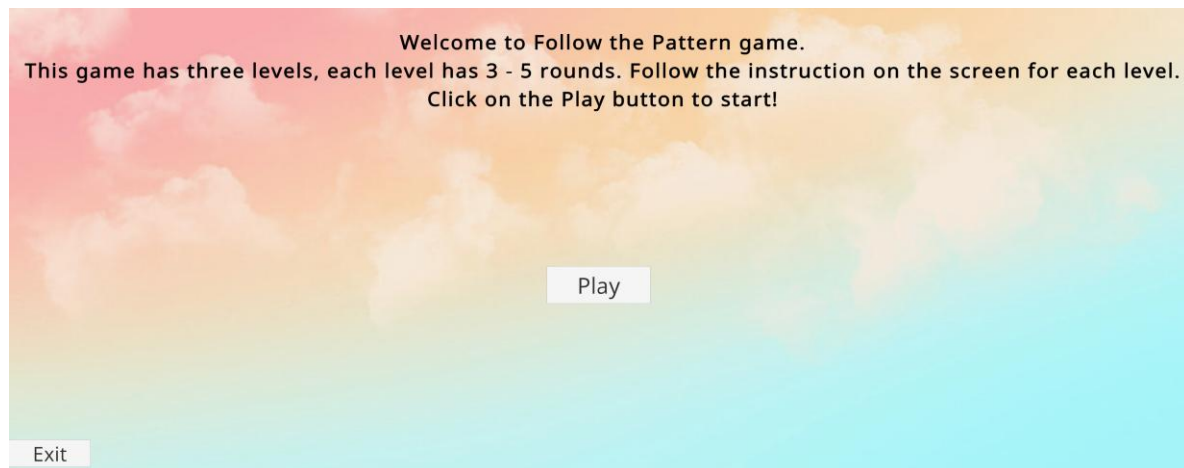- Read the welcome screen, then click **Play** to begin at Level 1, Round 1.

Gameplay:

- Click the image you believe is the "odd one out."
- The **Next** button becomes available after making a selection.
- Continue through all rounds and levels.

Level 1 - Round 1: Correct
Level 1 - Round 2: Wrong
Level 1 - Round 3: Wrong
Level 2 - Round 1: Wrong
Level 2 - Round 2: Wrong
Level 2 - Round 3: Correct
Level 3 - Round 1: Wrong
Level 3 - Round 2: Wrong
Level 3 - Round 3: Wrong

Main Menu   Solution   Replay

Results:

- Final results are shown.
- To check the solutions of all the rounds, click on the **Solution** button.
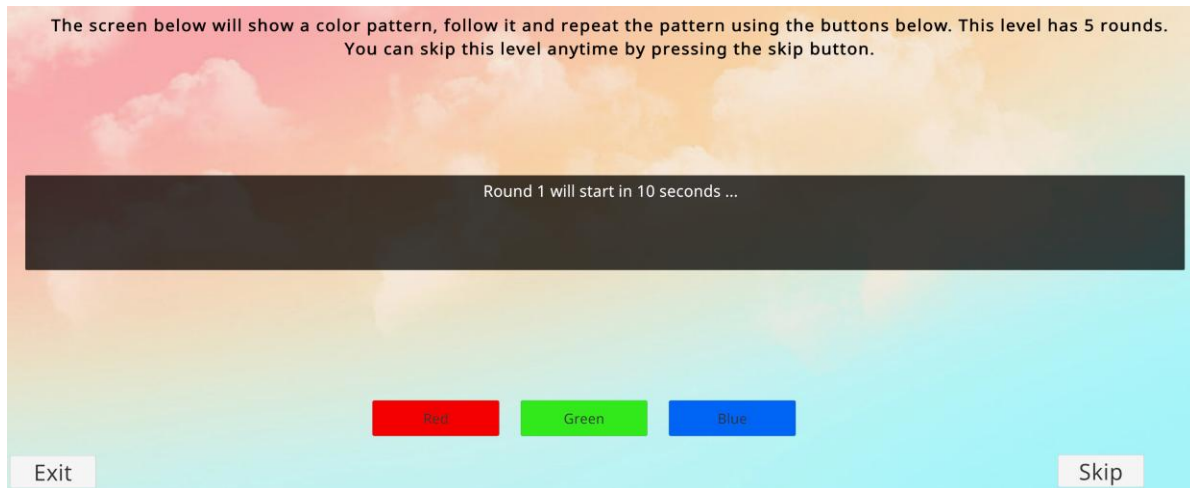- Choose **Replay** or **Return to Main Menu**.

Game 6 – Follow the Pattern

Welcome to Follow the Pattern game.
This game has three levels, each level has 3 - 5 rounds. Follow the instruction on the screen for each level.
Click on the Play button to start!

Play

Exit

Setup:

- Read the welcome screen, then click **Play**.

The screen below will show a color pattern, follow it and repeat the pattern using the buttons below. This level has 5 rounds. You can skip this level anytime by pressing the skip button.

Round 1 will start in 10 seconds ...

| Red | Green | Blue |

Exit

Skip
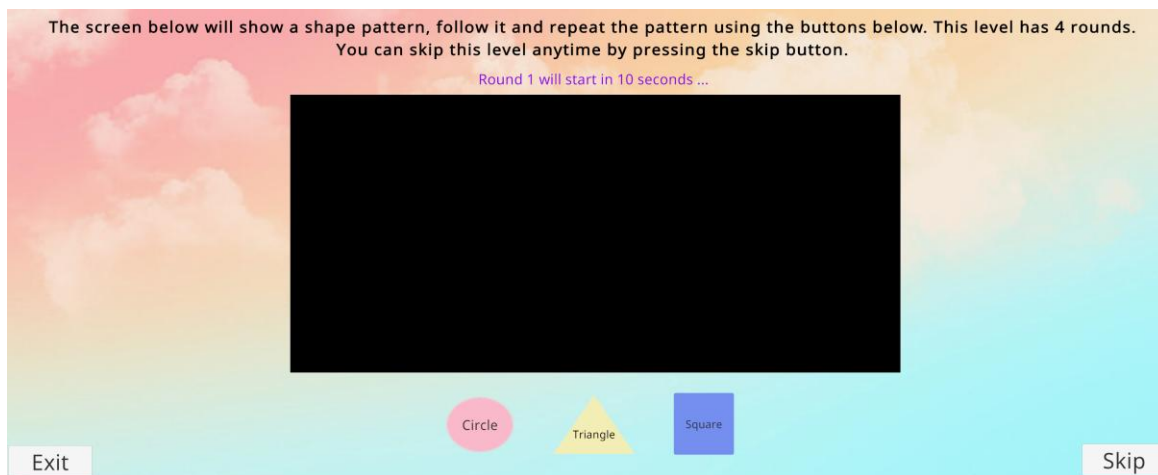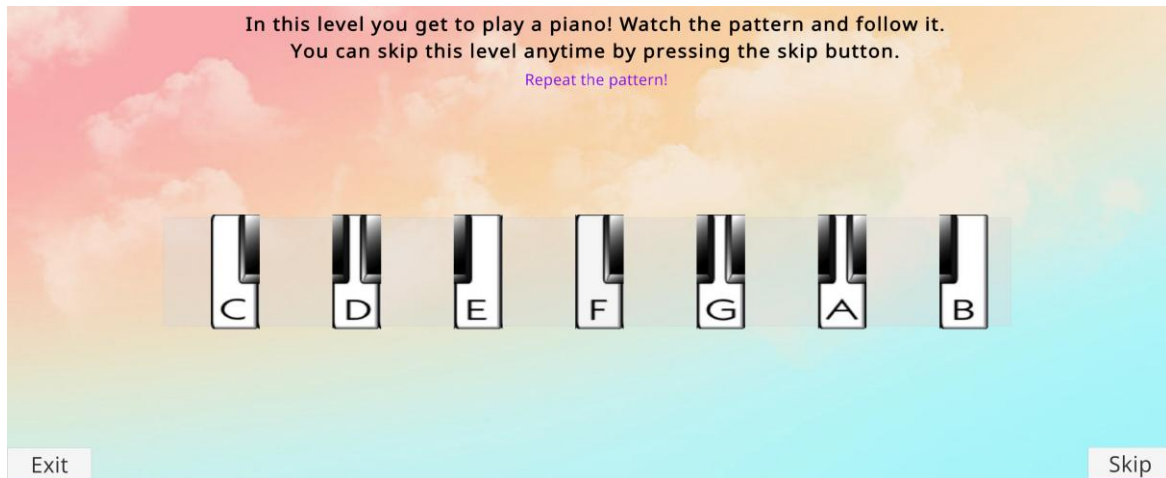
Level 1

Gameplay:

- Each level and round begins with instructions at the top of the screen.
- Difficulty increases from **Easy** to **Hard**.
- A short delay before each round allows time to prepare.
- Click **Skip** at any time to move to the next level.

The screen below will show a shape pattern, follow it and repeat the pattern using the buttons below. This level has 4 rounds. You can skip this level anytime by pressing the skip button.

Round 1 will start in 10 seconds ...

Circle   Triangle   Square

Exit

Skip

Level 2

Level 3

Results:

- At the end, choose **Replay** or **Return to Main Menu**.

Contact Info

If there is any question, concerns or suggestions please feel free to send an email at
raybridgetechnologies@gmail.com