

Dynamic Image Puzzle Game

Project Overview

The **Dynamic Image Puzzle Game** is an interactive web-based puzzle game where a given image is split into a grid of tiles and shuffled randomly. The player must rearrange the tiles through drag-and-drop actions to form the original image. The game includes features like move tracking, puzzle completion detection, and optional enhancements like a timer, difficulty levels, and custom image upload.

How to Open / Run the Game

Option 1: Run Locally

1. Clone or download the project from the GitHub repository.
2. Open the index.html file in any modern web browser.
3. Click the "Start" button to begin playing.

Option 2: Run Online

1. Visit the **Live Deployment Link** (hosted on GitHub Pages).
2. Play directly in your browser—no installation required.

Key Components

1. Puzzle Grid Setup (HTML)

- Container to hold puzzle tiles
- Start button to shuffle and begin the game
- Move counter display

2. Styling (CSS)







- Grid layout for seamless visual alignment
- Hover effects for interactivity
- Responsive layout for different screen sizes

3. Game Logic (JavaScript)

- Dynamically loads and splits the default image into tiles
- Random shuffling of tiles on game start
- Drag-and-drop functionality to swap tiles
- Tracks moves and detects when the puzzle is solved

- Displays success message upon completion

✦ Features

-  Drag-and-drop tile rearrangement
-  Move counter
-  Shuffle puzzle on game start
-  Puzzle completion detection
-  Timer to track solving time.
-  Custom image upload.



Technology Stack

- **HTML5** – Structure and layout
- **CSS3** – Styling and responsiveness
- **JavaScript** – Core game logic (tile generation, shuffling, interaction)



How to Play






1. Click the **Start** button.
2. Tiles will be shuffled randomly.
3. Rearrange the tiles by dragging and dropping.
4. The game automatically detects when the image is correctly formed.
5. A congratulatory message appears upon completion.



Challenges Faced (Summary)

1. **Tile Alignment** – Ensuring perfect grid layout and responsive design.
2. **Drag-and-Drop** – Implementing smooth tile swapping without glitches.
3. **Puzzle Solved Detection** – Efficiently checking correct tile order.
4. **Image Splitting** – Maintaining clarity and proportion of sliced tiles.
5. **Responsive Design** – Adapting layout for all screen sizes.
6. **Move & Timer Sync** – Accurate move tracking and time calculation.
7. **Feature Integration** – Adding enhancements without affecting core gameplay.

Future Enhancements

-  Add a **countdown or stopwatch** timer.
-  Add **difficulty levels** (3x3, 4x4, 5x5).
-  Introduce a **hint system**.
-  Implement **leaderboard** or **high score system** with localStorage.
-  Use the **Canvas API** for smoother image manipulation.

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GitHub Repository: https://github.com/subha123-ux/Image_Puzzle_Game

Deployed link: https://subha123-ux.github.io/Image_Puzzle_Game/