

IMAGE-PUZZLE : 3 X 3 square

Needs :

- A grid board 3 X 3
 - o 50px for each grid
 - o Width : $50\text{px} \times 3 = 150\text{px}$
 - o Height : $50\text{px} \times 3 = 150\text{px}$
 - o One empty grid.
- An image :
 - o Piece of 50px image per grid
 - o 8 pieces of image (one empty grid)
- Empty grid:
 - o For allowing movement of a puzzle piece.

Algorithm

- Move a piece at a time until all the pieces are at the right position for winning.

How to move a puzzle piece?

- Detect the puzzle pieces available around the empty grid
- Move one of the available puzzle piece toward the empty grid
(Note: one is allowed to move at a time)
- Loop

How to know that all the puzzle pieces match in other to stop and display win?

- Detect the correct position of each puzzle pieces, if all positions correct then win

E₁	E₂	E₃
E₄	E₅	E₆
E₇	E₈	E₉

Detect the available puzzle pieces around the empty grid

- Find the position of the empty grid
 - Check the cells with background-image
 - If cell background-image = none
 - Then return it coordinates (a x b)
 - a is the row number
 - b is the col number
- if (a x b) of empty grid returned
 - then available puzzle pieces are at the coordinates:
 - if empty grid is at the middle of the grid:
 - (a-1) x b; a x (b-1); a x (b+1); (a+1) x b
 - If empty grid is at the top left edge E1
 - a x (b+1); (a+1) x b
 - if empty grid is at the top right edge E2
 - a x (b-1); (a+1) x b
 - if empty grid is at the bottom left edge E3
 - (a-1) x b; a x (b+1)
 - If empty grid is at bottom right edge E4
 - a x (b-1); (a-1) x b

- if empty grid is at the top middle horizontal row E2
 - $a \times (b-1)$; $a \times (b+1)$; $(a+1) \times b$
- if empty grid is at the bottom middle horizontal row E8
 - $a \times (b-1)$; $a \times (b+1)$; $(a-1) \times b$
- if empty grid is at the left middle vertical column E4
 - $(a-1) \times b$; $(a+1) \times b$; $a \times (b+1)$
- If empty grid is at the right middle vertical column E6
 - $(a-1) \times b$; $(a+1) \times b$; $a \times (b-1)$

Note: a and b are the row, column number of the empty grid respectively

Move available puzzle piece toward the empty grid

- a cell is clicked.
 - It returns its coordinates $(a \times b)$
- If the return cell coordinates $(a \times b)$ are not in the return available puzzle piece.
 - then these cells are not clickable.

Note: Only the cell coordinates present in the list are clickable.

Note: a and b are the row and column number of the clicked cell respectively.

Challenges:

Is it possible to make a table cell clickable like a button in order to react to certain events?