

Rulo Roll Puzzle - Patent Application - Description

Title of Invention

- 1. Rulo Roll Puzzle**

Applicant

- Rulo Corporation Pte Ltd (incorporated in Singapore)

Inventor

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Technical Field

- Recreation and entertainment

Technical Problem

- The puzzle consists of a rectangular grid of colored circles. Circles are initially grouped by color in sections of the grid.
- The circles can be moved and shuffled by rotating square-shaped groups of the circles. The objective of the puzzle is to restore all the circles into their original colored sections, after an initial shuffle.
- The examples shown in this application utilize a 8 x 8 grid, with four sections and colours, and allowing selection of 4x4 squares within the grid. Other dimensions are also possible.

Technical Solution and mechanics

- The puzzle is delivered in the form of a computer application ("app"). This can be deployed on smartphones, tablets, personal computers, or other forms of computing platforms.
- The initial set up, the circles are grouped together by colour in sections within the grid. [\[See Figure 1 - Initial set up\]](#)
- Movements can be controlled via touch gestures on a touch screen, mouse movements, stylus control, or other interface options based on the devices being deployed.
- A square group of circles can be selected by touching the screen. The group selected is the square on and immediately below the initial touch point. [\[See Figure 2 - Selection of group\]](#)

13. if a group extends beyond the boundary of the grid, the circles at opposite side are selected, in a “wrap-around” manner. This can be vertically or horizontally. [\[See Figure 3 - Wrap around of group\]](#)
14. The group can then be rotated by sliding or dragging the touch point. [\[See Figure 4 - Rotation of group\]](#)
15. When the touch is finished, the square will rotate to the to the closest regular fitting formation in multiples of 90 degrees from the original position. [\[See Figure 5 - Final position of rotation\]](#)
16. The circles in the grid can thus be shuffled by executing several rotations across various points in the grid. This can be done manually, or by computer random algorithm.
17. The player should then try and restore the colors to their original positions in order to solve the puzzle.
18. A timer and a move counter keep track of how long one has been on the current puzzle, and how many moves one has taken.
19. The app can allow automated instant reset, or automated rewind of all moves to restore the original grid.
20. The puzzle can be set to use different numbers of squares and grids via the “Settings” control on the app.
21. Rather than using colors, squares can be denominated using other identifiers, e.g. numbers, letters or symbols.

Advantageous Effects of Invention

22. The puzzle is for recreation purposes, and is intended to test a person’s logical and puzzle solving abilities

Claims

1. A puzzle, comprising of:
 - a. colored circles, arranged in rectangular grid and initial organised in several groups each of the same color;
 - b. a movement mechanism to shuffle the circles; and
 - c. a target success state of restoring the circles to their original configuration.
2. A movement mechanism to shuffle the circles, comprising of:
 - a. Selection of a smaller square group of circles within the grid;
 - b. An ability to rotate the selected circles around the centre of the group to multiples of 90 degrees from their original positions; and
 - c. repeat of the above steps multiple times in sequence.
3. A wrapping mechanism for selecting the group of squares, whereby:
 - a. circles at the opposite end of the grid, where the selected circles would be outside of the dimensions of the grid.
4. Variations of the puzzle, including:
 - a. alternate shapes to the circles;
 - b. alternate mechanics to select and move the circles dependant on the computing platform used;
 - c. different dimensions for the grid;
 - d. alternate dimensions for the selected square groups of circles; and
 - e. alternate means of identifying the groups of circles, other than colour.