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(54) **Game system and method of playing game**

(57) A game system and a method of playing game are disclosed. The game system comprises puzzle blocks being provided with at least one identifier each, reader units for separately reading the identifiers of the puzzle blocks, a storage unit for storing at least one game mode which is corresponding to a permutation data of the puzzle blocks, a selection unit for selecting a desired

game mode, and a processing unit for scanning the reader units and identifying current positions of the puzzle blocks based on the identifiers read by the reader units, and comparing the positions of puzzle blocks with the permutation data of puzzle blocks corresponding to the selected game mode, and generating a response message based on comparison result.

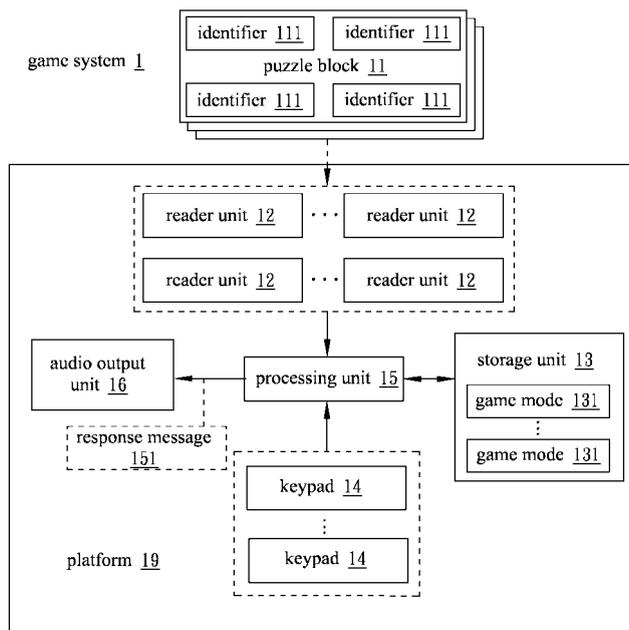


FIG. 1

Description**FIELD OF THE INVENTION**

[0001] The present invention relates to a game system, and more particularly, to a game system and a method of playing game which have automatic comparing function.

BACKGROUND OF THE INVENTION

[0002] There are various kinds of brain games that are very popular among both children and adults. Particularly, puzzle type brain games are useful in children's intellectual development. For example, a game system may include a platform, on a periphery thereof many different patterns or designs, such as cars, buildings, lighthouses, sailboats, animals, plants, etc., are provided. When the game is designed for an old man to drive a car to a lighthouse, a player has to arrange different puzzle blocks to complete a path for the old man to reach the lighthouse, and all the paths shown on the puzzle blocks should be passable. When the player fails to complete the path, he or she may try to find the solution from a handbook for the game.

[0003] There are patented inventions disclosing improvements to prior art brain games. For example, Taiwan Patent No. 391298 discloses a puzzle game, which comprises a framed board having a raised peripheral wall portion and a lowered board portion enclosed in the peripheral wall portion. On the board portion, there are a plurality of puzzle blocks each having a substantially crossed channel provided thereon, a plurality of puzzle blocks each having a substantially straight channel provided thereon, a plurality of puzzle blocks each having a single curved channel provided thereon, and a movable part for moving along a plurality of continuous or discontinuous channels formed from the crossed, the straight, and the curved channels by combining and arranging the puzzle blocks in the framed board. And, a player may try to change the arrangement of the puzzle blocks for the discontinuous channels to become continuous channels. Since the puzzle blocks may be differently arranged, a lot of fun may be created by the puzzle game.

[0004] Besides, Taiwan Patent No. 584015 discloses a puzzle game consisting of a plurality of cubic blocks capable of outputting sounds, a sensing panel, and a sounding circuit. Each of the cubic blocks is externally provided with a fragmentary pattern, and internally provided with a magnetic element. On the sensing panel, the cubic blocks are positioned. The sensing panel is internally provided at areas for positioning the cubic blocks with a plurality of magnetic reed switches, which are electrically connected to the sounding circuit. When the cubic blocks are correctly positioned on the sensing panel to form a complete pattern, the magnetic reed switches in the sensing panel are magnetically attracted by the magnetic elements inside the cubic blocks to be-

come turned on and thereby actuate the sounding circuit to output sounds. With the magnetic elements, the sensing panel, and the sounding circuit, the puzzle game disclosed in Taiwan Patent No. 584015 is able to output interesting sounds and very safe for playing.

[0005] However, the convention puzzle games are monotonous and children tend to rely on the solutions in the handbooks for the puzzle games. Moreover, since most of the conventional puzzle games are built on fixed patterns, they would no longer attract the player very soon. Therefore, it is desirable and tried by the inventor to develop a game system that is more interesting for playing and provides high practicability to overcome the drawbacks in the conventional puzzle games.

SUMMARY OF THE INVENTION

[0006] Therefore, a primary object of the present invention is to provide a game system and method of playing game, which is capable of interacting with a player to thereby provide more fun.

[0007] To achieve the above and other objects, the present invention provides a game system including a plurality of puzzle blocks, a plurality of reader units, a storage unit, a selection unit and the processing unit. Each puzzle block is provided with at least one identifier. The reader units are for separately reading the identifiers of the puzzle blocks. The storage unit is for storing at least one game mode which is corresponding to at least one permutation data of the puzzle blocks. The selection unit is for selecting a desired game mode. The processing unit is operable to scan the reader units and determine positions of the puzzle blocks based on the identifiers having read by the reader units, and compare the positions of puzzle blocks with the permutation data of puzzle blocks corresponding to the selected game mode, and generate a response message based on comparison result.

[0008] Preferably, the game system further comprises a platform, and the storage unit, the selection unit, the processing unit and the reader units are disposed in the platform, and the puzzle blocks can be arranged on the surface of the platform for being detected by the reader units.

[0009] Besides, the present invention further provides a method of playing game. The method comprises the following steps of:

- i) providing at least one game mode and a plurality of puzzle blocks, wherein each the puzzle block is provided with at least one identifier, and the game mode is stored in a storage unit and corresponding to at least one permutation data of the puzzle blocks;
- ii) generating triggering signal by a selection unit to select the game mode;
- iii) using a plurality of reader units to read the identifiers on the puzzle blocks, and scanning the reader units to identify positions of the puzzle blocks;

iv) using a processing unit to compare the identified positions of the puzzle blocks with the permutation data of puzzle blocks corresponding to the selected game mode, and generate a response message according to a comparison result.

[0010] Preferably, the method can further comprise the steps of:

- v) providing a platform;
- vi) disposing the storage unit, the selection unit, the processing unit and the reader units in the platform; and
- vii) arranging the puzzle blocks on the surface of the platform for being detect by the reader units.

[0011] With the above arrangements, the game system and the method of playing game in accordance with the present invention have the following advantages:

- (1) The game system uses the processing unit to perform the automatic comparison, so as to make the game system more convenient for use; and
- (2) The game system uses the processing unit for generating interactive messages to a player, so as to make the game system more interesting for playing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The structure and the technical means adopted by the present invention to achieve the above and other objects can be best understood by referring to the following detailed description of the preferred embodiments and the accompanying drawings, wherein

- Fig. 1 is a block diagram of an embodiment of a game system in accordance with the present invention;
- Fig. 2A is an exploded perspective view of an embodiment of a game system in accordance with the present invention;
- Fig. 2B is an assembled view of an embodiment of a game system in accordance with the present invention; and
- Fig. 3 is a flow chart of an embodiment of a method of playing game in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Fig. 1 illustrates a block diagram of an embodiment of a game system in accordance with the present invention. The game system 1 comprises a plurality of puzzle blocks 11, a plurality of reader units 12, a storage unit 13, a selection unit, a processing unit 15, and an audio output unit 16. The reader units 12, the storage unit 13, the selection unit, processing unit 15, and audio

output unit 16 are disposed in a platform 19. Each puzzle block 11 is provided at least one identifier 111. In this embodiment, the puzzle block 11 is provided with four identifiers 111 disposed in four corners thereon. The reader unit 12 is able to read the identifier 111. The reader units 12 are preferably arranged in an array.

[0014] The storage unit 13 stores game modes 131. Each game mode 131 corresponds to at least one permutation data of the puzzle blocks 11 arranged on the platform 19, it means that the puzzle blocks 11 can display a meaningful image related to the game mode when they are arranged on the platform 19 by permutation data, in other word, the permutation data is the answer of game mode. The player must try his/her best to arrange the puzzle blocks 11 for solving the selected game mode, so as to train the brain during the game.

[0015] The selection unit is for allowing the player to select one of the game modes 131. In this embodiment, the selection unit comprises a plurality of keypads 14. Besides, the selection unit can further comprise a single keypad, a touch panel or any input device allowing the player to input selection command. If the selection unit comprises only a single keypad, the player can press the single keypad to select one of game modes in preset order, and the game system can further comprises a plurality of lighting units disposed on the platform for indicating the selected mode. The processing unit 15 is operable to scan the reader units 12 to obtain the identifiers 111 read by the reader units 12, and identify the positions of the puzzle blocks 11 based on the obtained identifiers 111. Then, the processing unit 15 compares the identified current positions of the puzzle blocks 11 with the permutation data of puzzle blocks corresponding to the selected game mode 131, and generate a response message 151 based on the comparison result, and transmit response message 151 to the audio output unit 16.

[0016] Preferably, each the puzzle block 11 has an image layer embedded therein. Preferably, the identifier 111 can be a RFID tag or a code. In the case of a code, the identifiers 111 can be selected from the group consisting of one or more alphabets, one or more numerals, one or more symbols, a combination of one or more alphabets and numerals, a combination of one or more alphabets and symbols, a combination of one or more symbols and numerals, and a combination of one or more alphabets, symbols, and numerals. Preferably, the reader unit 12 can be a radio frequency identification (RFID) tag reader or a code reader. In the case of a code reader, the reader units 12 can be an image reader, a bar code reader, or an optical reader. The keypads 14 is provided with a specific image, which may be, for example, a plant, an animal, a building, a vehicle, words, symbol and many other things known in people's daily life. When a plurality of identifiers 111 are disposed in the same side of the puzzle blocks 11, the processing unit 15 can determine, based on the identifiers 111 read by each of the reader units 12, the position status and rotation status of the puzzle block 11.

[0017] Figs. 2A and 2B illustrate an exploded view and an assembled perspective view of an embodiment of a game system in accordance with the present invention, respectively. As shown, the game system comprises a platform 20, a plurality of keypads 24A to 24K disposed along a periphery of the platform 20, and a plurality of puzzle blocks 21 with an embedded road pattern each. When the puzzle blocks 21 are correctly arranged on the platform 20, a complete picture showing a map can be obtained. In this embodiment, the keypads 24A to 24K are represented by different figures, including a tiger 24A, a deer 24B, a monkey 24C, a bamboo 24D, a bear 24E, a bird 24F, a panda 24G, a cluster of bananas 24H, a corn 24I, a tuft of grass 24J, and a pot of honey 24K.

[0018] A plurality of game modes are stored in the storage unit of the game system, and each game mode corresponds to at least two of the keypads 24A to 24K. The player can use the keypads to select a desired game mode, for example, when the monkey keypad 24C and the bananas keypad 24H are pushed, the processing unit of the game system searches the game mode (not shown) corresponding to the monkey key 24C and the bananas key 24H in the storage unit, and retrieves a permutation data of puzzle blocks corresponding to the searched game mode. Each puzzle block 21 is provided with a RFID tag 211. The platform 20 is provided with a plurality of arrayed RFID readers 22 which are disposed in array and used for separately reading the RFID tag 211 on the puzzle blocks 21. In this embodiment, the game system can further comprise a start button, and the player is required to press the start button before selecting the game mode or after selecting the game mode.

[0019] When the puzzle blocks 21 are placed on the platform 20, and the RFID tags 211 on the puzzle blocks 21 separately read by the RFID readers 22 are found as being arranged in a manner matching the permutation data of puzzle blocks corresponding to the game mode corresponding to the monkey keypad 24C and the bananas keypad 24H, the processing unit then generates a matching message, which is output via a loudspeaker 26. The game mode can comprise two ends game mode, or three or more ends mode, so on. In two-ends game mode, as the game system shown in Figs. 2A and 2B, the player presses two keypads, such as keypad 24C and keypad 24H, and the player is required to arrange the puzzle blocks 21 on the platform 20 to show a correct map, on which a road is extended from the monkey keypad 24C to the bananas keypad 24H. In three or more ends game mode, the player must press three or more keypads and arrange the puzzle blocks 21 on the platform 20 to show a correct map, on which roads are extended from the three or more selected keypads,

[0020] When the puzzle blocks 21 are correctly arranged on the platform 20 by a player, an encouraging message, such as you are great, you are marvelous, you are smart, etc., is output via the loudspeaker 26 to encourage the player. If the player is a child, he/she will

have great experience and brain training in playing this game. Or, a short story related to the selected game mode can be broadcasted via the loudspeaker 26 to increase the practicability of the game system of the present invention.

[0021] Preferably, each puzzle blocks 21 has an embedded image layer. When the puzzle blocks 21 are correctly arranged on the platform 20, the embedded image layers would together form a map showing a specific route or path. In addition to the above-illustrated figures, the keypads 24A to 24K can also be represented by images of other different types of plants, animals, buildings, vehicles, words, symbol and other common things in people's daily life. Besides, the RFID tag 211 can be replaced by a code, such as the code which is selected from the group consisting of one or more alphabets, one or more numerals, one or more symbols, a combination of one or more alphabets and numerals, a combination of one or more alphabets and symbols, a combination of one or more symbols and numerals, and a combination of one or more alphabets, symbols, and numerals. The RFID readers 22 can be replaced by a code reader, such as an image reader, a bar code reader, or an optical reader.

[0022] Similarly, the image shown in the embedded image layers of the puzzle blocks 21 are not necessarily a road, but can be any other suitable images.

[0023] Fig. 3 is a flow chart of an embodiment of a method of playing game in accordance to the present invention. The method comprises the following steps. In step S31, a plurality of game modes are stored in a storage unit and a plurality of puzzle blocks are provided. The game mode is corresponding to at least one permutation data of the puzzle blocks. Each puzzle block has at least one identifier, such as a RFID or a code.

[0024] In step 32, at least two of keypads are pressed to generate at least two first triggering signals for selecting a game mode, as the player presses the monkey keypad 24C and the bananas keypad 24H shown in Fig. 2B. Each keypad is represented by a specific image, which may be the image of different types of plants, animals, buildings, vehicles, words, symbol and many other things common in people's daily life. In step 33 a start keypad or other function keypad is pressed to generate at least one second triggering signal for starting game,

[0025] In step 34, The puzzle blocks are arranged on the platform, and in step 35 a plurality of reader units, such as the RFID readers 22 shown in Fig. 2A, are used to respectively read the identifiers on each puzzle block, and the positions of the puzzle blocks on the platform are determined based on the identifiers obtained by scanning the reader units. Preferably, the reader unit can be a RFID reader or a code reader. In the case of a code reader, the reader units each can be an image reader, a bar code reader, or an optical reader.

[0026] In step 36 the game mode corresponding to the first triggering signals are retrieved by searching the storing unit. In step 37, the identified positions are determined whether they match the retrieved game mode. If yes, a

matching message is outputted in step 371; or if no, a failure message is outputted in step 372, and then go to the step 34. The matching message and the failure message are output via an audio output unit.

[0027] The present invention has been described with a preferred embodiment thereof and it is understood that many changes and modifications in the described embodiment can be carried out without departing from the scope and the spirit of the invention that is intended to be limited only by the appended claims.

Claims

1. A game system, comprising:

a plurality of puzzle blocks, each of which being provided with one or more identifiers;
 a plurality of reader units for separately reading the identifiers on the puzzle blocks;
 a storage unit for storing at least one game mode, and the game mode being corresponding to at least one permutation data of the puzzle blocks;
 a selection unit for selecting the game mode; and
 a processing unit for scanning the reader units to obtain the identifiers read by the reader units for determining the positions of the puzzle blocks, and comparing the determined positions of the puzzle blocks with the permutation data of the puzzle blocks corresponding to the selected game mode, and generating a response message based on a comparison result.

2. The game system as claimed in claim 1, further comprising a platform, wherein the storage unit, the selection unit, the processing unit and the reader units are disposed in the platform, and the puzzle blocks can be arranged on the surface of the platform for being detecting by the reader units.

3. The game system as claimed in claim 2, wherein the platform further comprises a storing space for accommodating the puzzle blocks therein.

4. The game system as claimed in claim 1, wherein the identifier can be a RFID tag or a code.

5. The game system as claimed in claim 4, wherein the code can be selected from the group consisting of one or more alphabets, one or more numerals, one or more symbols, a combination of one or more alphabets and numerals, a combination of one or more alphabets and symbols, a combination of one or more symbols and numerals, and a combination of one or more alphabets, symbols, and numerals.

6. The game system as claimed in claim 1, wherein the reader unit can be a RFID reader or a code reader.

7. The game system as claimed in claim 6, wherein the code reader can be an image reader, a bar code reader, or an optical reader.

8. The game system as claimed in claim 1, wherein the selection unit comprises at least one keypad or a touch panel.

9. The game system as claimed in claim 8, wherein the keypad is provided with a specific image, and the specific image is selected from the group consisting of plant, animal, building, vehicle, words, symbol and other thing common in daily life.

10. A method of playing game, comprising the following steps of:

providing at least one game mode and a plurality of puzzle blocks, wherein each of the puzzle blocks is provided with at least one identifier, and the game mode is stored in a storage unit and corresponding to at least one permutation data of the puzzle blocks;
 generating at least one triggering signal by using a selection unit to select the game mode;
 using a plurality of reader units to read the identifiers on the puzzle blocks, and scanning the reader units to determine positions of the puzzle blocks; and
 using a processing unit to compare the determined positions of the puzzle blocks with the permutation data of puzzle blocks corresponding to the selected game mode, and generate a response message according to a comparison result.

11. The method as claimed in claim 10, wherein the game mode is corresponding to permutation data of the puzzle blocks.

12. The method as claimed in claim 10, wherein the identifier can be a RFID tag and a code.

13. The method as claimed in claim 12, wherein the code is selected from the group consisting of one or more alphabets, one or more numerals, one or more symbols, a combination of one or more alphabets and numerals, a combination of one or more alphabets and symbols, a combination of one or more symbols and numerals, and a combination of one or more alphabets, symbols, and numerals.

14. The method as claimed in claim 10, wherein the reader unit can be a RFID reader or a code reader.

15. The method as claimed in claim 10, wherein the reader unit can be an image reader, a bar code reader, or an optical reader.

16. The method as claimed in claim 10, further comprising the steps of: 5

providing a platform ;
disposing the storage unit, the selection unit, the processing unit and the reader units in the platform; and 10
arranging the puzzle blocks on the surface of the platform for being detect by the reader units.

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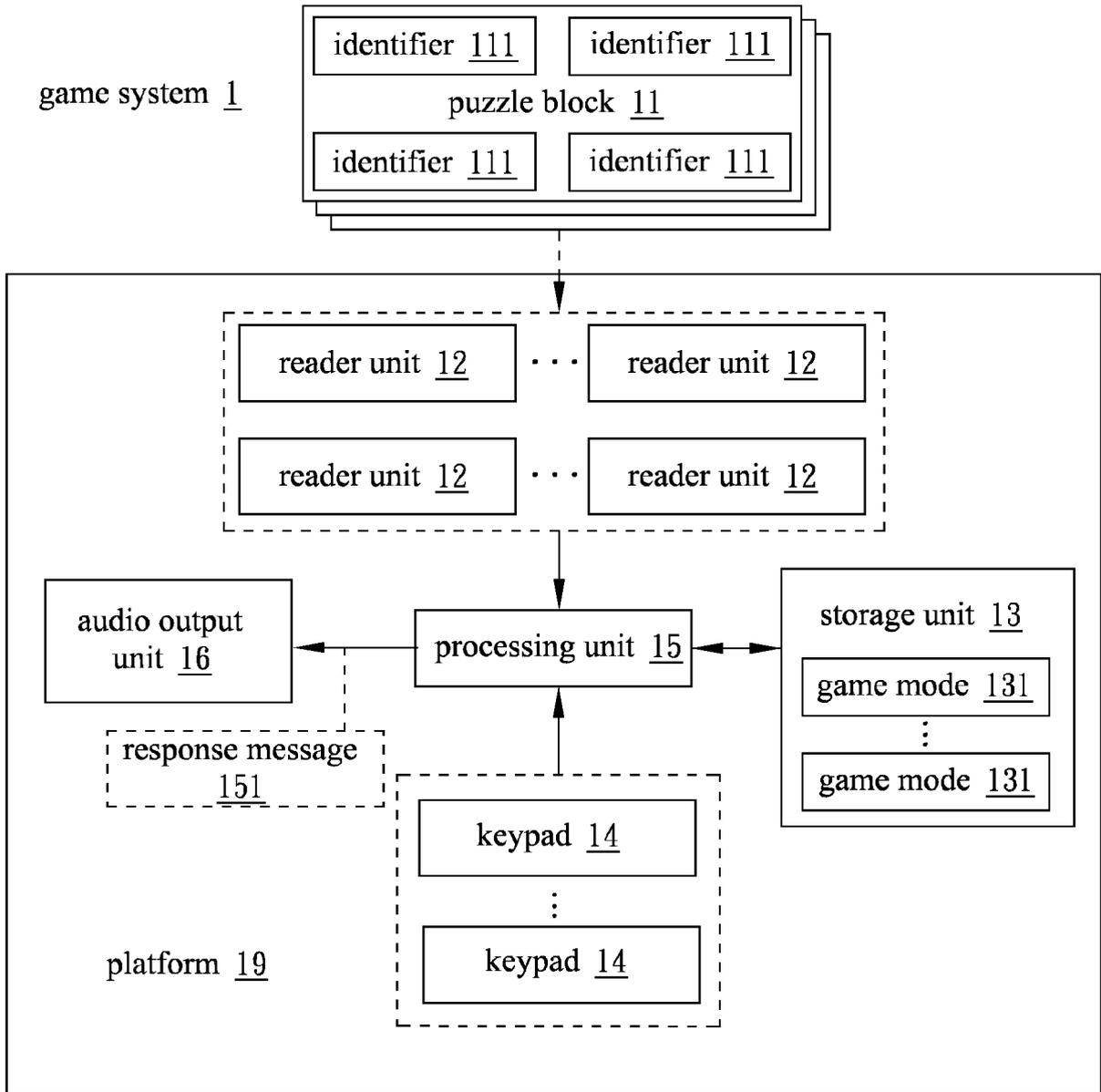


FIG. 1

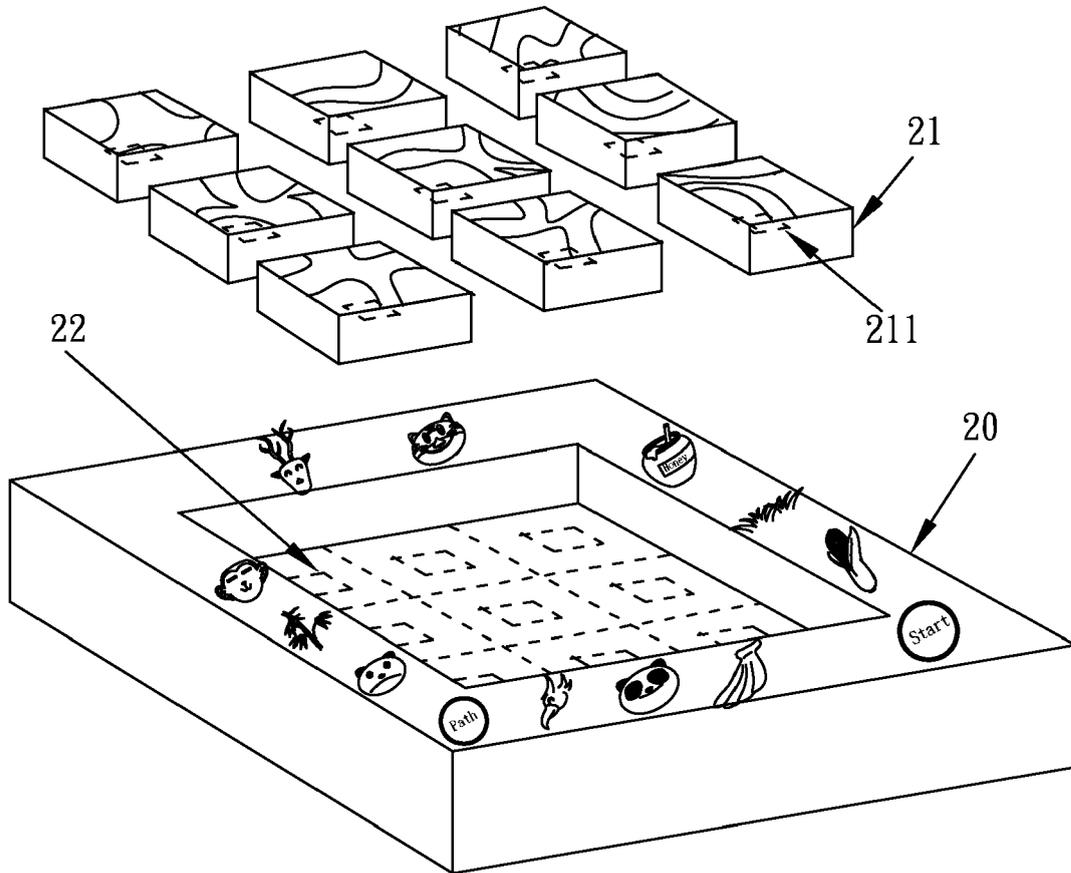


FIG .2A

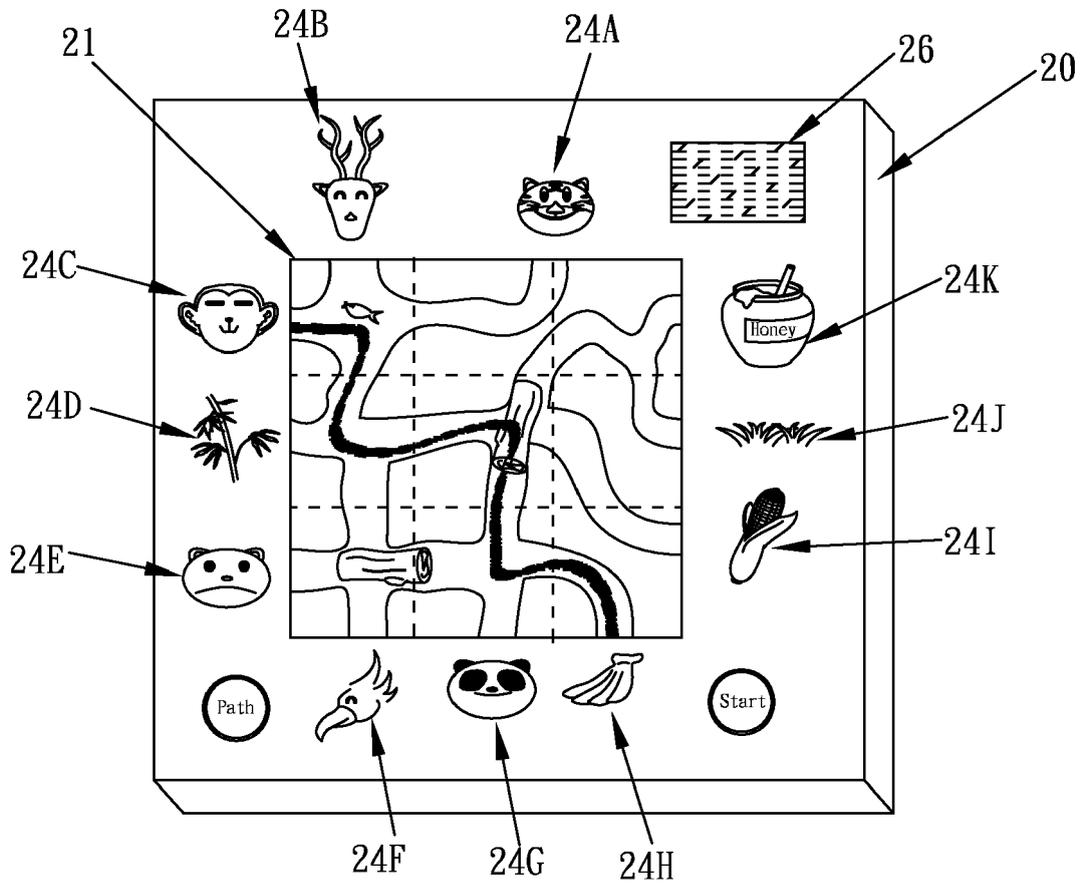


FIG .2B

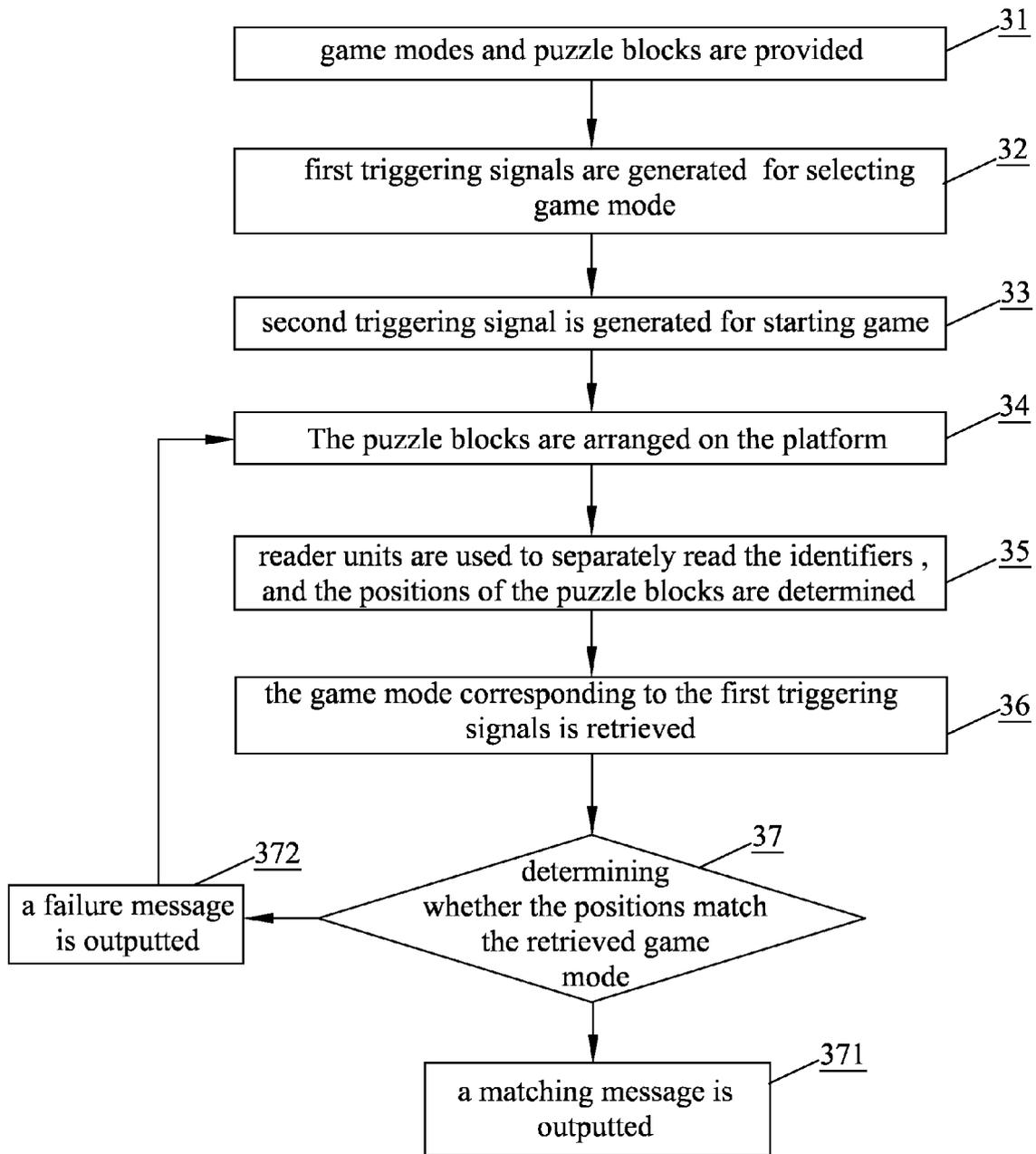


FIG .3



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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 63 of the European Patent Convention EP 08 15 9621 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/002042 A1 (MARCUS BRIAN I [US] ET AL) 1 January 2004 (2004-01-01) * paragraph [0036] - paragraph [0040]; figures 1-9 *	1-9	INV. A63F9/10
X	----- US 6 979 245 B1 (GOODWIN RICHARD P [US]) 27 December 2005 (2005-12-27) * column 2, line 37 - column 3, line 56; figures 1-5 *	1-9	
X	----- US 4 796 891 A (MILNER RONALD E [US]) 10 January 1989 (1989-01-10) * claims 1-18; figures 1-6 *	1-9	
TECHNICAL FIELDS SEARCHED (IPC)			
A63F G10H G09B			
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search: see sheet C</p>			
Place of search		Date of completion of the search	Examiner
Munich		17 September 2008	Shmonin, Vladimir
CATEGORY OF CITED DOCUMENTS			
<p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p>		<p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>	

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EPO FORM 1503 03.82 (P04E07)



Claim(s) searched completely:
1-9

Claim(s) not searched:
10-16

Reason for the limitation of the search (non-patentable invention(s)):

Article 52 (2)(c) EPC - Scheme, rules and method for playing games

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 15 9621

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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17-09-2008

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- TW 584015 [0004] [0004]