A gaming system, device and method for playing a changeable non-visible maze that can be navigated using visible or non-visible cues.
Figure 1

100

Computer with Maze Software

102

Camera or Tracking device

110

Wireless DATA Transmitter

104

User

Mouse Hat or device to be tracked

106

Receiver

108
NON-VISIBLE MAZE GAMING SYSTEM AND METHOD

CROSS-REFERENCE TO RELATED APPLICATIONS


BACKGROUND

[0002] The present invention relates to an interactive game system, more particularly to changeable non-visible maze that can be navigated using visible or non-visible cues.

[0003] Numerous maze games are known which require a player to navigate from one or more entry points to one or more exit points. For example, a hall of mirrors mazes in some amusement parks, and a hedge mazes are commonly known in the art. Prior art mazes have been built with walls and rooms, hedges, turf, pavers stones of contrasting sizes or designs and in fields of crops, such as corn. Additionally, mazes can be generated and played on a computer using various maze generation algorithms. Disadvantageously, the creation of large mazes for players to walk through are expensive to build, non-portable and the path generally remains the same. Additionally, the wall or barriers used in some mazes can confuse and frighten younger players who may get lost in larger mazes thereby requiring assistance to exit the maze.

[0004] Therefore there is a need for a changeable non-visible maze that can be navigated using visible or non-visible cues.

SUMMARY OF THE INVENTION

[0005] A gaming system for a changeable non-visible maze that can be navigated using visible or non-visible cues comprising one or more than one play space; one or more than one computing device comprising maze software for navigating a maze spatially coupled to the one or more than one play space; one or more than one transmitter communicatively coupled to the one or more than one computing device for sending navigation signals to a plurality of players; and one or more than one tracking device for tracking movement of the plurality of players.

[0006] In one embodiment, the play space can comprise a two dimensional area. In another embodiment, the play space can comprise a three dimensional area. The play space can be geographically disparate for one or more than one of the plurality of players. In one embodiment, the tracking device of the system is selected from the group comprising radio frequency devices, infra-red devices, color cameras, magnet resonance tags, radio frequency identification tags, global positioning system devices and IEEE 802.11 standard devices for tracking the player’s progress through the non-visible maze. In a preferred embodiment, the tracking device is a specifically colored hat that can be tracked by the color camera. In one embodiment, the transmitter is selected from the group comprising radio frequency devices, infra-red devices, cameras, magnet resonance tags, radio frequency identification tags, global positioning system devices and IEEE 802.11 standard devices for tracking the player’s progress through the non-visible maze. In another embodiment, the tracking device further comprises built-in wired or wireless headphones for audio clues. In another embodiment, the tracking device further comprises special eyewear for supplying visual clues. In another embodiment, the tracking device further comprises a display for supplying visual clues. In another embodiment, the tracking device further comprises vibration devices for tactile clues. In yet another embodiment, the tracking device is themed to enhance the enjoyment of the plurality of players.

[0007] In one embodiment, the computing device, transmitter and receiver comprise a self contained unit that can control each of the plurality of players’ progress through the maze.

[0008] In one embodiment, the computing device, transmitter and receiver are a stand alone unit. In another embodiment, the stand alone unit is a cellular phone capable of running a program and providing the visible or non-visible cues to play the game.

[0009] In one embodiment, the computing device, transmitter and receiver are a centrally connected unit. In another embodiment, the computing device is programmed to randomly create a maze. In another embodiment, the computing device is programmable by a player to create a maze.

[0010] In one embodiment, there is provided a method for playing a changeable non-visible maze that can be navigated using visible or non-visible cues. The method comprises the steps of: a) providing the system of claim 1; b) informing each player of a set of game rules; c) generating a maze for a player to navigate; d) entering a play space to start a game; e) navigating the play space; f) tracking the player’s movement in the play space; g) transmitting audio clues, visual clues or both audio and visual clues to assist the player in avoiding non-visible maze walls and obstacles; and h) rewarding a player for completing the maze. In another embodiment, the method further comprises the steps of: a) photographing each player navigating the maze; b) displaying each photograph of each player on a display screen at an exit of the play space; and c) making the photograph available for purchase for each player to commemorate the experience.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] These and other features, aspects and advantages of the present invention will become better understood with regard to the following description, appended claims, and accompanying figures where:

[0012] FIG. 1 is a block diagram of a of a system for a changeable non-visible maze that can be navigated using visible or non-visible cues according to one embodiment of the present invention;

[0013] FIG. 2 is a detailed diagram of a space useful for playing the changeable non-visible maze that can be navigated using visible or non-visible cues according to one embodiment;

[0014] FIG. 3 is a detailed block diagram of a system for controlling the changeable non-visible maze of FIG. 1 according to one embodiment of the present invention.

DETAILED DESCRIPTION

[0015] The present invention solve the problems with the prior art by providing a system for creating and method for playing a changeable non-visible maze that can be navigated using visible or non-visible cues. Using the present invention, one or more players can play any number of different mazes either individually or concurrently without the need to reconfigure the play space. Additionally, the mazes can become
more challenging as the player progresses from one level to another level, or the maze can become more challenging as the player progresses within a single level. Using the present invention there are many maze variations possible that could not be physically accomplished using prior art maze methods.

[0016] Methods, systems and devices that implement the embodiments of various features of the invention will now be described with reference to the drawings. The drawings and the associated descriptions are provided to illustrate embodiments of the invention and not to limit the scope of the invention. Reference in the specification to “one embodiment” or “an embodiment” is intended to indicate that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least an embodiment of the invention. The appearances of the phrase “in one embodiment” or “an embodiment” in various places in the specification are not necessarily all referring to the same embodiment.

[0017] Throughout the drawings, reference numbers are re-used to indicate correspondence between referenced elements. In addition, the first digit of each reference number indicates the figure where the element first appears.

[0018] The following description is provided to enable any person skilled in the art to make and use the invention and sets forth the best modes contemplated by the inventor, but does not limit the variations available.

[0019] As used in this disclosure, except where the context requires otherwise, the term “comprise” and variations of the term, such as “comprising,” “comprises” and “comprised” are not intended to exclude other additives, components, integers or steps.

[0020] In the following description, specific details are given to provide a thorough understanding of the embodiments. However, it will be understood by one of ordinary skill in the art that the embodiments may be practiced without these specific details. Well-known circuits, structures and techniques may not be shown in detail in order not to obscure the embodiments. For example, circuits may be shown in block diagrams in order not to obscure the embodiments in unnecessary detail.

[0021] Also, it is noted that the embodiments may be described as a process that is depicted as a flowchart, a flow diagram, a structure diagram, or a block diagram. Although a flowchart may describe the operations as a sequential process, many of the operations can be performed in parallel or concurrently. In addition, the order of the operations may be rearranged. A process is terminated when its operations are completed. A process may correspond to a method, a function, a procedure, a subroutine, a subprogram, etc. When a process corresponds to a function, its termination corresponds to a return of the function to the calling function or the main function.

[0022] Moreover, a storage may represent one or more devices for storing data, including read-only memory (ROM), random access memory (RAM), magnetic disk storage mediums, optical storage mediums, flash memory devices and/or other machine readable mediums for storing information.

[0023] Furthermore, embodiments may be implemented by hardware, software, firmware, middleware, microcode, or a combination thereof. When implemented in software, firmware, middleware or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine-readable medium such as a storage medium or other storage(s). A processor may perform the necessary tasks. A code segment may represent a procedure, a function, a subprogram, a program, a routine, a subroutine, a module, a software package, a class, or a combination of instructions, data structures, or program statements. A code segment may be coupled to another code segment or a hardware circuit by passing and/or receiving information, data, arguments, parameters, or memory contents. Information, arguments, parameters, data, etc. may be passed, forwarded, or transmitted through a suitable means including memory sharing, message passing, token passing, network transmission, etc.

[0024] In the following description, certain terminology is used to describe certain features of one or more embodiments of the invention.

[0025] The term “machine readable medium” includes, but is not limited to portable or fixed storage devices, optical storage devices, wireless channels and various other mediums capable of storing, containing or carrying instruction(s) and/or data.

[0026] The term “computing device” includes, but is not limited to computers, cellular telephones, hand held computers and other devices that are capable of executing programmed instructions that are contained in a storage including machine readable medium.

[0027] Referring now to FIG. 1, there is shown a block diagram 100 of a system for a changeable non-visible maze that can be navigated using visible or non-visible cues according to one embodiment of the present invention. As can be seen, the system 100 can comprise a one or more computers with maze software 102 for playing the game, one or more wireless data transmitters 104 for sending navigation signals to one or more players. In one embodiment, the player wears a thematic head covering comprising a tracking device 106, such as, for example, a head covering shaped like a mouse, or movie characters, etc. The tracking device 106, also has a receiving device 108, such as, for example, a radio frequency (RF) device, an infra-red device, a magnet resonance tag, a radio frequency identification tag (RFID), a global positioning system device (GPS) or any standard IEEE 802.11 (WiFi) device, for receiving signals from the computer with maze software 102. A tracking device 110, is employed to follow each of a plurality of players’ movement through a maze. In one embodiment, one or more cameras can be used to as a tracking device to track the color of each of the player’s hat.

[0028] Optionally, the player can be fitted with a self contained unit that can control the player’s progress through the maze. The unit can be a stand alone unit or a centrally connected unit depending upon the implementation. Also, a cellular phone capable of running a program and providing the visible or non-visible cues to play the game can be used as the game controller. One or more players can download the software for playing the game and can use a yard, a house, a building or a park as the play space. Further, internet capable cellular phones can make game play available to multiple players at geographically different locations. For example, a player with an Apple® iPhone® can download the maze program and either enter the space dimensions into the program, or have the program create a maze from the players location based on the available geographic information system built into the iPhone®.

[0029] Referring now to FIG. 2, there is shown a diagram of a play space 200 useful for playing the changeable non-visible maze that can be navigated using visible or non-visible cues. A player 202 enters a play space 200 and dons the appropriate tracking device 106. The tracking device 106 can
comprise built-in wired or wireless headphones for audio clues, special eyewear for visual clues, vibratory gloves or other vibration devices for tactile clues among others. In this example the tracking device is a mouseshaped head covering with a built-in wireless headphone. Once the player 202 enters the maze area 204 the tracking monitor 214 acquires the player. In this example the tracking monitor 214 is a camera attached to a computer that is programmed to recognize and follow different colors of each player's 202 head dress. Once the player 202 has entered the maze area 204 the computer attached to the tracking monitor 214 generates a random maze for the player 202. As the player 202 moves through the maze area 204, the tracking monitor 214 sends positive audible clues, such as, for example, music, words such as, for example, "on track" or "on maze," to the player's 202 receiving device. When the player 202 hears negative audible clues, such as, for example, cat sounds, or words such as, for example, "off track" or "off maze," the player 202 must navigate away from the negative audible clues until the player 202 positive audible clues. When the player 202 navigates to the end of the maze 208 a completion signal is sent to the player 202 such as, for example, "welcome to the cheese bar," or "you made it to the end of the maze," etc. The player 202 can then view a display 210 of various pictures of the player 202 navigating the maze area 204. If the player 202 would like a memento of the experience, a digital photo can be purchased at the sales counter 212.

Optionally, there are different levels for each maze, such as, for example, easy, medium, or hard, including many different mazes for each level. Each player 202 can not follow the player 202 ahead of them because each player 202 will be on a different maze. Also optionally, each player can construct their own maze with a maze builder application on a computing device.

Additionally, the play space 200 can be three dimensional. Using a play space 200 with several floors, the players 202 can navigate from one floor to another. Traps can be placed along the maze space 204 that would lead to other doors that may take the player 202 back a level or advance one or more levels. This type of play space 200 maximizes the playing time and enjoyment for the player 202.

Referring now to FIG. 3, there is shown a block diagram of a system for controlling the changeable non-visible maze of FIG. 1 according to one embodiment of the present invention. Cameras 302, 304, 306 and 308 are attached to an IEEE 1394 (also known as FireWire, iLink or Lynx) repeater 310 to a computing device 312. Each camera 302-308 is associated with and tracks a single player 202 in the maze area 204. The computing device 312 is connected to an audio transmitter 316 that sends audio clues to each individual player 202 associated with the cameras 302-308. The computing device 312 is also connected to a scoring/imaging computer 318. The scoring/imaging computer 318 scores each player's 202 progress through the maze area 204 and also takes images of the players 202 as the players 202 navigate the maze area 204. The scoring/imaging computer 318 transmits each player's 202 score to a display 320 for viewing. Additionally, a plurality of dimmers 322 change the lighting in the space based on when the player 202 started or finished the game there. The dimmers 322 are controlled by a DMX to USB that sends level information to the dimmers 322 to control the power to the lights. At the entrance of the play space 200 there is an introduction computer 324 that displays the rules of the game and how to play the game to each player 202.

What has been described is a new and improved system and method for stereoscopic imaging to compensate for the offset between the optical axis and the center of the field of view to zoom the left eye and right eye images without the need for back end processing overcoming the limitations and disadvantages inherent in the related art.

Although the present invention has been described with a degree of particularity, it is understood that the present disclosure has been made by way of example. As various changes could be made in the above description without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be illustrative and not used in a limiting sense.

What is claimed is:

1. A gaming system for a changeable non-visible maze that can be navigated using visible or non-visible cues comprising:
   a) one or more than one play space;
   b) one or more than one computing device comprising maze software for navigating a maze spatially coupled to the one or more than one play space;
   c) one or more than one transmitter communicatively coupled to the one or more than one computing device for sending navigation signals to a plurality of players;
   d) one or more than one tracking device for tracking movement of the plurality of players.

2. The system of claim 1, where the play space comprises a two dimensional area.

3. The system of claim 1, where the play space comprises a three dimensional area.

4. The system of claim 1, where the play space is geographically disparate for one or more than one of the plurality of players.

5. The system of claim 1, where the tracking device is selected from the group comprising radio frequency devices, infra-red devices, color cameras, magnet resonance tags, radio frequency identification tags, global positioning system devices and IEEE 802.11 standard devices for tracking the player's progress through the non-visible maze.

6. The system of claim 5, where the tracking device is specifically colored hat that can be tracked by the color camera.

7. The system of claim 1, where the transmitter is selected from the group comprising radio frequency devices, infra-red devices, cameras, magnet resonance tags, radio frequency identification tags, global positioning system devices and IEEE 802.11 standard devices for tracking the player's progress through the non-visible maze.

8. The system of claim 1, where the tracking device further comprises built-in wired or wireless headphones for audio clues.

9. The system of claim 1, where the tracking device further comprises special eyewear for supplying visual clues.

10. The system of claim 1, where the tracking device further comprises a display for supplying visual clues.

11. The system of claim 1, where the tracking device further comprises vibration devices for tactile clues.

12. The system of claim 1, where the tracking device is thematic to enhance the enjoyment of the plurality of players.
13. The system of claim 1, where the computing device, transmitter and receiver comprise a self contained unit that can control each of the plurality of players’ progress through the maze.

14. The system of claim 1, where the computing device, transmitter and receiver are a stand alone unit.

15. The system of claim 8, where the stand alone unit is a cellular phone capable of running a program and providing the visible or non-visible cues to play the game.

16. The system of claim 1, where the computing device, transmitter and receiver are a centrally connected unit.

17. The system of claim 1, where the computing device is programmed to randomly create a maze.

18. The system of claim 1, where the computing device is programmable by a player to create a maze.

19. A method for playing a changeable non-visible maze that can be navigated using visible or non-visible cues, the method comprising the steps of:

   a) providing the system of claim 1;
   b) informing each player of a set of game rules;
   c) generating a maze for a player to navigate;
   d) entering a play space to start a game;
   e) navigating the play space;
   f) rewarding a player for completing the maze.

20. The method of claim 18, further comprising the steps of:

    a) photographing each player navigating the maze;
    b) displaying each photograph of each player on a display screen at an exit of the play space; and
    c) making the photograph available for purchase for each player to commemorate the experience.

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