ELECTRONIC GAME DEVICE AND METHOD OF USING THE SAME

Inventors: Janice E. Ritter, Redondo Beach, CA (US); Brian M. Yu, Los Angeles, CA (US); Tadd L. Callies, Pasadena, CA (US); E. Ernst Ginkel, La Verne, CA (US); Darin Marshal Barri, Rolling Hills, CA (US); Robert John Grzesek, Redondo Beach, CA (US); Jorge Castro Sanchez, Redondo Beach, CA (US); Daniel Stelung, Irvine, CA (US); Luis Ruiz, Torrance, CA (US)

Correspondence Address:
EDELL, SHAPIRO & FINNAN, LLC
1901 RESEARCH BOULEVARD, SUITE 400
ROCKVILLE, MD 20850 (US)

ABSTRACT
An electronic question and answer game device in accordance with the present invention comprises a housing that has several side walls or surfaces. A display screen is disposed on one of the sides. The display screen is configured to present a question to the user of the electronic device. The electronic game device includes several mechanisms that vary the methods in which a user can play the game.
FIG. 8
INITIALIZATION PROCESS

1. CONNECT DEVICE TO COMPUTER

2. IS THIS THE FIRST TIME HAS BEEN CONNECTED?
   - NO
   - YES
     - IDENTIFICATION SOFTWARE ON DEVICE PLACES APPLICATION ON COMPUTER

3. LAUNCH WEBSITE ASSOCIATED WITH PROGRAM

4. IS THIS THE INITIAL TIME?
   - YES
     - PROMPT USER FOR USER INFORMATION AND DEVICE INFORMATION
   - NO
     - COLLECT AND STORE INPUTED INFORMATION

5. PROCEED TO GAME DOWNLOAD PROCESS

FIG.14
GAME DOWNLOAD PROCESS

USER SELECTION OF "PLAY A NEW GAME ON WEBSITE"

PRESENTATION OF MULTIPLE OPTIONS OF GAMES

USER SELECTION OF ONE GAME OPTION

DID USER SELECT "QUICK PICK GAME"?

DATABASE RANDOMLY SELCTS A SET OF CHALLENGE QUESTIONS

A

DID USER SELECT "TOURNAMENT GAME"?

SPECIAL GAME CURRENTLY AVAILABLE IS SELECTED

A

DID USER SELECT "CUSTOM GAME"?

PROMPT USER FOR INPUT

B

FIG.15
GAME DOWNLOAD PROCESS (CONT.)

PRESENT MULTIPLE CATEGORIES OF QUESTIONS FROM WHICH USER CAN SELECT

PROMPT USER TO SELECT A PARTICULAR NUMBER OF CATEGORIES

DID USER SELECT THE APPROPRIATE QUANTITY OF CATEGORIES?

YES

SELECT QUESTIONS FROM IDENTIFIED CATEGORIES

A

DOWNLOAD QUESTIONS CONTENT TO DEVICE

DISCONNECT DEVICE FROM COMPUTER

NO

SELECT DEFICIENT NUMBER OF CATEGORIES TO COMPLETE THE SET

FIG. 16
GAME PLAY PROCESS

500

USER ORIENTS THE DEVICE

502

USER CONTACTS DEVICE TO START GAME

504

PRESENTATION OF QUESTION ON DISPLAY

506

USER READS QUESTIONS AND ANSWERS, IF PROVIDED

508

USER MANIPULATES DEVICE TO SELECT ANSWER

510

IS THE ANSWER CORRECT?

512

INCORRECT ANSWERS

518

INCORRECT TALLY OF INCORRECT ANSWERS

514

INCORRECT TALLY OF CORRECT ANSWERS

516

PROVIDE APPROPRIATE OUTPUT BASED ON THE ANSWER

FIG. 17
**MANIPULATION PROCESS**

1. **USER REVIEWS THE VISUAL INDICATORS ASSOCIATED WITH THE ANSWERS**

2. **USER MOVES THE DEVICE TO LOCATE THE DESIRED VISUAL INDICATOR**

3. **USER MOVES THE DEVICE TO POSITION THE DESIRED VISUAL INDICATOR IN THE ANSWER CONFIGURATION**

4. **USER CONTACTS DEVICE TO REGISTER SELECTION**

*FIG. 18*
MANIPULATION PROCESS

1. User reviews the answers and determines the appropriate answer.
2. User determines the appropriate direction for movement of the device to input answer.
3. User moves the device in that direction the proper number of times.

FIG. 19
FIG. 28
ELECTRONIC GAME DEVICE AND METHOD OF USING THE SAME

CROSS-REFERENCE TO RELATED APPLICATIONS


BACKGROUND OF THE INVENTION

This invention relates generally to an electronic game device, and in particular, to an electronic game device with a variety of game playing features.

There are many types of electronic game devices. Typically, these electronic game devices have one or more buttons that a user can press to provide input to an activity on the electronic device. The repeated pressing of same button or buttons to play a game may render an electronic device unappealing and boring. Such electronic devices lack the ability to provide creative, dynamic and enjoyable game play for a user.

Thus, a need exists for an electronic game device that includes creative ways for a user to select answers and to play a game. Further, there is a need for an interactive electronic game device that continuously changes the play pattern or use of the game device.

SUMMARY OF THE INVENTION

An electronic game device in accordance with the present invention comprises a housing that has several side walls or surfaces. A display screen is disposed on one of the sides. The display screen is configured to present a question to the user of the electronic device. The electronic game device includes several mechanisms that vary the methods in which a user can play the game.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an embodiment of a game system according to the invention.
FIG. 2 is a block diagram of an embodiment of an individual user’s game device according to the invention.
FIG. 3 is a block diagram of an alternative embodiment of an individual user’s game device according to the invention.
FIG. 4 is a block diagram of an embodiment of the components of the electronic device according to the invention.
FIG. 5 is a front perspective view of an embodiment of an electronic device according to the invention.
FIG. 6 is a side view of the electronic device illustrated in FIG. 5.
FIG. 7 is a rear view of the electronic device illustrated in FIG. 5.
FIG. 8 is an exploded perspective view of some components of the electronic device illustrated in FIG. 5.
FIG. 9 is a front perspective view of an alternative embodiment of an electronic device according to the invention.
FIG. 10 is a side perspective view of the electronic device illustrated in FIG. 9 in a different orientation.
FIG. 11 is a perspective view of the electronic device illustrated in FIG. 5 and the relative directions of its movement.
FIG. 12 is a perspective view of the electronic device illustrated in FIG. 5 in a first orientation.
FIG. 13 is a perspective view of the electronic device illustrated in FIG. 12 in a second orientation.
FIG. 14 is a flowchart of an exemplary initialization process according to the invention.
FIGS. 15 and 16 are flowcharts of an exemplary game content download process according to the invention.
FIG. 17 is a flowchart of an exemplary game play process according to the invention.
FIG. 18 is a flowchart of an exemplary game device manipulation process according to the invention.
FIG. 19 is a flowchart of an alternative exemplary game device manipulation process according to the invention.
FIG. 20 is a perspective view of an alternative embodiment of an electronic device.
FIG. 21 is an exploded perspective view of an alternative embodiment of an electronic device.
FIG. 22 is a perspective view of an alternative embodiment of a light panel for an electronic device.
FIG. 23 is a cross-sectional side view of the light panel illustrated in FIG. 22.
FIG. 24 is a perspective view of an alternative embodiment of a light panel for an electronic device.
FIG. 25 is a perspective view of an alternative embodiment of a light panel for an electronic device.
FIGS. 26 and 27 are a perspective view and a partial cross-sectional view of an alternative embodiment of a light panel for an electronic device.
FIG. 28 is a perspective view of an alternative embodiment of a light panel for an electronic device.
FIG. 29 is a partial top view of an alternative embodiment of a light panel for an electronic device.
FIG. 30 is a side view of the portion of the light panel illustrated in FIG. 29.

DETAILED DESCRIPTION

The phrase “question and answer” as used herein is intended to include, but not be limited to any type of problem, question, query, inquiry, answer, fact, clue, topic, or statement.

A block diagram of a system according to an embodiment of the present invention is illustrated in FIG. 1. The system 10 includes a website 20 that includes information relating to one or more games. In one embodiment, the information may include game content, such as different games or questions, and other user activities. The website 20 includes a game database 30 in which information relating to the games can be retained. For example, information relating to the scores and results of players from playing the games can be stored and maintained in the database 30. The website 20 is accessible via a network such as the Internet 40 in any conventional manner. It is to be understood that the website 20 forms a part of the Internet 40, but is illustrated as a separate item for purposes of discussion herein.
The website 20 and database 30 can be located on a game server (not shown) that is associated with the game. Periodic updates of game content, including questions, challenges and players’ scores can be made to the game database 30. The database 30 can have multiple levels of information and accessibility, all of which can be governed based upon the identification of a user. In other words, a user’s name and password can provide the user with access to different levels of information.

As illustrated in FIG. 1, one or more players can connect to the website 20 and download particular game content and upload game statistics. In one embodiment, each player can access the website 20 by using his or her electronic device and a personal computer. As shown, there are electronic devices 60, 62, and 64 that are connected to computers 50, 52, and 54 respectively, via conventional communication links. Similarly, the computers 50, 52, and 54 are connected to the Internet 40 via conventional communication links. In one embodiment, the content that is downloaded to an electronic device can be downloaded on a continuous basis. For example, the electronic device can be in constant communication with a website or other source of game content and information and can be updated on a continuous or otherwise frequent basis. As a result, the game content on the electronic device can be kept new and current and when a player or players picks up the electronic device to play with it, the game content on the electronic device can be current and up-to-date automatically.

In other embodiments, a user may connect an electronic game device to the website 20 via a wireless connection and without the use of a computer. In that embodiment, the electronic device has the wireless communication functionality that would enable such communications. In various embodiments, such wireless communications can be performed using RFID technology, BLUETOOTH technology, a wireless LAN-based communication system, and/or an infrared technology.

Access to the website 20 will enable users to receive upgrades to the game on the electronic device, have their scores posted, have the computer unlock hidden features in the database 30 associated with the website 20.

A block diagram of an embodiment of a user system is illustrated in FIG. 2. In this embodiment, the user system 70 includes an electronic device 72 and a personal computer 76. The electronic device 72 can be operated by itself in a stand-alone mode. However, the electronic device 72 can also be connected to the computer 76 to facilitate the downloading of information from the website 20 to the electronic device 72 and the uploading of information from the electronic device 72 to the website 20. The downloaded information may include a new lights and sounds sequence each time a new game is downloaded.

The electronic game device 72 of the present invention can have multiple modes of operation. One exemplary mode is an ambient mode and the other mode is a game play mode. In the game play mode, game challenges will be a part of each download to include audio and visual enhancement of the play of the device. The ambient mode is a lights and/or sounds mode that has dedicated programming that generates outputs. In the ambient mode, various combinations of lights and/or sounds, or other visual and audible outputs, are generated by the electronic game device as entertainment. The ambient mode can occur either if the electronic game device is not being used or is in the hands of a user being mindlessly manipulated, such as being rotated or shaken. In other words, the ambient mode can occur whenever a game is not being played. The lights and/or sounds sequences that accompany the download of a new game may be used in the ambient mode of operation. The continually changing lights and/or sounds sequences increases the variety and unpredictable outputs generated by the electronic game device 72.

The electronic device 72 can be connected to the computer 76 via a cable 74. In one implementation, the cable 74 is fixedly coupled or tethered at one end to the device 72 and removable coupleable to the computer 76 at its other end. In another implementation, each end of the cable 74 can be removable coupleable to either the electronic device 72 or the computer 76. The cable 74 may be, for example, a USB cable. The electronic device 72 can include preloaded game software, such as a sample game, for the user to play prior to connecting the electronic device 72 to the computer 76.

A block diagram of an alternative embodiment of a user system is illustrated in FIG. 3. In this embodiment, the user system 80 includes an electronic device 82 and a personal computer 86. Similar to the electronic device 72, the electronic device 82 can be operated by itself in a stand-alone mode. In this implementation, information from the website 20 can be downloaded to the computer 86 and transferred to the electronic device 82 via a flash disk or drive 84.

In the various embodiments of the invention, the game software and any applications related to the electronic game are compatible with any type of computer system and any type of operating system. For example, the software, applications, and electronic game device can be compatible with an APPLE MACINTOSH computer system. Alternatively, the software, applications, and electronic game device can be compatible with any type of MICROSOFT WINDOWS operating system or platform.

A block diagram of an embodiment of an electronic game device is illustrated in FIG. 4. In this embodiment, the electronic game device 100 includes a housing 110 and several components that facilitate the playing of a game on the electronic game device 100. In this embodiment, the electronic game device 100 includes a controller 120 that controls the operation of the electronic device 100. The device 100 includes a memory 122 in which preprogrammed game content as well as game content and information subsequently downloaded from the website 20 may be stored. The memory 122 can include any conventional memory device.

In one embodiment, the device 100 includes a communication port 124 to which a connector may be coupled to connect the device 100 to a computer. A power supply 150, such as conventional batteries, is provided to allow the device 100 to operate in a stand-alone manner. In another embodiment, the power supply 150 may include rechargeable batteries.

The electronic game device 100 can generate audio and/or visual outputs. The outputs may be part of a game, such as the presentation of a question or statement to a user, or an indication of whether an answer inputted by the user is accurate. Each of these types of outputs may include audible and/or visual components. The electronic game device 100 includes an output generator 126 that functions to generate the appropriate audible or visual outputs.

In one embodiment, the electronic game device 100 includes a visual display mechanism 134 on which a visual output may be presented. The visual display mechanism 134 can be an LCD screen or other similar type of screen. During
the operation of the electronic device 100, the visual output such as a question or statement can be displayed on the screen 134 and the user can read the output. The electronic device 100 also includes a speaker 136 that generates the audible outputs. The audible outputs can include sound effects, speech, music or other audible sounds. The audible outputs can be generated in response to particular inputs by a player, in response to movement of the housing 110, or continuously or intermittently in an "ambient" mode of operation.

[0049] The electronic game device 100 includes several mechanisms that are used to obtain user input during the operation of a game. In the embodiment illustrated in FIG. 4, the electronic game device 100 includes a motion detector 128, an orientation detector 130 and a switch or input mechanism 132. The function of each of these will be described in detail below. The electronic game device 100 is configured so that a user physically interacts with the electronic game device 100.

[0050] In alternative embodiments, the electronic game device may not include each of these items. For example, the functions of detecting motion and detecting orientation may be performed by a single component, such as an accelerometer. Alternatively, the electronic game device may not include both of those functions. The accelerometer can be used to find the angle at which the housing is tilted with respect to the ground and/or to find the direction in which or the speed at which the housing is moving.

[0051] The motion detector 128 is used to determine movement of the housing 110 in a particular direction or directions. In one embodiment, the electronic game device 100 can be used to play a game in which the user must move the housing 110 in a particular direction or directions to input an answer to the game. The motion detector 128 can determine whether the user is moving the housing 110 in the appropriate manner. An exemplary motion detector 128 is a piezoelectric switch or accelerometer which is connected to the controller.

[0052] In this embodiment, the orientation detector 130 is used to determine the orientation of the housing 110. The housing 110 may include multiple sides or surfaces and the orientation detector 130 can determine the orientation of the sides or surfaces with respect to a particular configuration. For example, the electronic game device 100 can be used to play a game in which the user must place the housing 110 in a particular configuration or orientation to input a response or answer. When the user selects or registers an answer, the orientation detector 130 determines the orientation of the housing 110 and compares the orientation to the stored, correct answer.

[0053] The switch or input mechanism 132 can be actuated by a user to input or register an answer. In one embodiment, the switch 132 is an internal switch that is closed when the user taps or contacts the housing 110. In another embodiment, the switch 132 is an external switch that is contacted by the user to register an answer. In another embodiment, the electronic game device includes multiple switches at different locations on the housing, each of which can be selected by a user to input a particular answer.

[0054] When the switch or input mechanism 132 is actuated, the controller, through the components previously described, obtains the other input or inputs that the user has performed, such as the movement of the housing 110 or the re-orientation of the housing 110. This analysis is used to determine whether the appropriate response or answer has been inputted by the user.

[0055] In one embodiment, an inductive switch may be used. A hot spot or a touch pad may be provided on one or more of the sides or surfaces of the housing. The inductive switch can provide an interactive option in place of or in addition to tapping the housing 110. In another embodiment, the electronic game device can include a capacitive sensing chip that functions by sensing a change in a small field or area around a touch pad on the housing 110. The housing 110 of the electronic game device 100 can include several designated touch pads, each of which has a capacitive sensing chip located nearby.

[0056] Alternatively, a ball motion switch can be used to determine motion and/or orientation of the housing. In another embodiment, one or more directional pads can be provided at locations on the housing. Each of these items can be actuated by the user to register an answer or make a selection.

[0057] As illustrated in FIG. 4, this embodiment of the housing 110 includes several visual output devices. While three visual output devices 140, 142, and 144 are illustrated, any number of such devices can be included with the housing.

[0058] Visual output devices 140, 142, and 144 are used to generate a visual output that can be seen by the user. An exemplary visual output device is a light emitting device, such as an LED. The visual output devices can be activated as part of a game or alternatively, in response to the determination of whether an answer was correct.

[0059] The visual output devices 140, 142, and 144 and the speaker 136 can be activated to provide visual and/or audible output in an ambient mode of operation of the device.

[0060] An embodiment of an electronic game device is illustrated in FIGS. 5-7. In this embodiment, the electronic game device 200 includes a housing 210. The housing 210 can be formed of two portions 224, 226 that are coupled together via conventional means, such as fasteners. The housing 210 is formed of a translucent material, such as plastic, which permits light to pass through a side of the housing 210. In alternative embodiments, the housing can be made of semi-translucent, semi-transparent, or transparent material.

[0061] The housing 210 includes several side walls or surfaces 212, 214, 216, 218, 220, and 222. In this implementation, the housing 210 is in the shape of a cube. In other implementations, the housing 210 may have any number of sides or surfaces. For example, the housing 210 can be in the shape or configuration of a video game controller, such as a hand-held video game controller. Additionally, the housing 210 can have any shape or configuration and can resemble any type of object.

[0062] As illustrated, side 212 includes an opening 228 formed therein. A visual display mechanism or display screen 230 is disposed proximate to the opening 228. A user can view a statement or question displayed on the screen 230 during operation of the device 200. Referring to FIG. 7, side 220 includes an opening 236 formed therein. A speaker 238 is disposed in the opening 236 and can generate audible outputs. In different embodiments, the locations of the screen 230 and the speaker 238 on the housing 210 can vary.

[0063] In one embodiment, the screen 230 is a black and white LCD with several multicolor LEDs mounted along one side of the LCD. The LEDs are aligned with a different line of text that appears on the screen 230. Referring to FIG. 5, several LEDs 231a, 231b, 231c, and 231d are illustrated as being aligned with different lines 233 of text on the screen 230. As discussed in greater detail below, in some games, the
players select a particular answer based on a color associated with that answer. The LEDs 231a, 231b, 231c, and 231d can be illuminated in different colors so that a player can select one of the colors based on the desired answer to a question. In another embodiment, the screen 230 provides color output and different lines of text are associated with a color on the screen.

[0064] As illustrated in FIGS. 5-8, the electronic game device 200 includes several visual output devices 240, 242, and 244, which are illustrated in phantom. The visual output devices 240, 242, and 244 are disposed in different locations around the housing 210. In particular, the visual output devices 240, 242, and 244 are disposed proximate to sides 214, 216, and 220, respectively. As the material of the housing 210 is translucent, the output, such as light, from each of the devices 240, 242, and 244 is visible through the side wall adjacent to the particular device.

[0065] In one embodiment, the visual output devices are light emitting devices, such as LEDs, and each of the light emitting devices generates a different color light. The visual output devices or LEDs are spaced apart around the housing 210. In this embodiment, there is an LED that corresponds to each of the sides of housing 210.

[0066] In one embodiment, visual output device 240 generates red light, visual output device 242 generates green light and visual output device 244 generates blue light. Accordingly, the red light illuminates side wall 214 so that it appears red, the green light illuminates side wall 216 so that it appears green, and the blue light illuminates side 220 so that it appears blue. In other embodiments, the quantity of visual output devices and the colors of the light emitted from the various output devices can vary. In another embodiment, each of the visual output devices is a multi-colored LED. In another embodiment, pulse width modulation can be used to control colors and output of the LEDs.

[0067] Referring to FIG. 8, an exploded perspective view of the electronic game device 200 is illustrated. As shown, the portions 224 and 226 of the housing 210 are separate and allowing the illustration of some of the internal components. The block 234 is a generic representation of the electronic components of the electronic game device 200. Several visual output devices 240, 241, 242, 243, 244, and 246 are illustrated. The relative positioning of the devices 240, 241, 242, 243, 244, and 246 around the housing 210 is shown.

[0068] In one embodiment, the entire housing 210 of the electronic game device 200 is illuminated a particular color at one time. In this embodiment, the visual output devices of the electronic game device 200 are illuminated at the same time to output the same color. The electronic game device 200 includes a position or orientation sensor, such as an accelerometer, that determines which side of the housing 210 is oriented in a particular direction. For example, the sensor can determine which side of the housing 210 is oriented in an upward direction. Depending on the particular orientation of the housing 210, the visual output devices of the electronic game device 200 can generate different outputs, such as colors. In other words, each of the sides of the housing 210 is associated with a particular output, such as a color. Therefore, when a side of the housing 210 is oriented upwardly, a color output is generated by the visual output devices and the entire housing 210 is illuminated in that particular color. In this implementation, the entire housing and not a particular side of the housing 210 lights up a particular color.

[0069] In this embodiment, when side 214 is oriented to face upwardly, all of the visual output devices generate light of a first color. When the housing 210 is manipulated so that side 216 is oriented to face upwardly, all of the visual output devices generate light of a second color, which is different than the first color. When the housing 210 is subsequently manipulated so that sides 218, 220, 222, and 224 are oriented to face upwardly, the visual output devices generate light of colors different than the first color and the second color, depending on the particular side that is oriented upwardly. In this implementation, the housing 210 has six sides and the visual output devices can generate six different colors. The six different colors may be red, green, purple, dark blue, light blue, yellow. The palette of colors for the LEDs that can be used may include: red, green, blue, red/green, red/blue, and blue/green. This arrangement of LED colors allows the individual LEDs to be all illuminated at the same time or all not illuminated. In other embodiments, colors other than those colors or in addition to some of those colors can be used.

[0070] In an alternative embodiment, the electronic game device can have fewer visual output devices than the number of sides of the housing. For example, the housing may include six sides and five or fewer visual output devices or LEDs.

[0071] The electronic game device may include buttons on the housing that are associated with different functions or operations. One button may be pressed or actuated to pull up a menu. Another button may be actuated to scroll upward and to advance to a next item. Another button may be actuated to scroll downward and return to a previous item. In another embodiment, the electronic game device can generate different audible outputs, such as words or sounds, depending on the orientation of the housing. In this embodiment, when side 214 is oriented to face upwardly, the housing generates an audible output associated with a letter, sound or one or more words. For example, the housing can generate the letter “a.” When the housing 210 is manipulated so that side 216 is oriented to face upwardly, the housing generates a different audible output, such as the letter “b.” In a similar manner, the outputs generated can vary depending on the side that is oriented upwardly.

[0073] An alternative embodiment of an electronic game device is illustrated in FIG. 9. In this embodiment, components and features of the electronic game device 200 that are similar to those of the electronic game device 200 described above have the same reference numbers.

[0074] Electronic game device 280 includes a housing 282 with several switches or input mechanisms 290 and 292 disposed on the housing 282. The quantity and locations of the switches can vary. A user can actuate one of the switches 290, 292 to provide an input to the device 280. For example, if a question during a game requires a response from a user that includes a selection of one of the sides of the housing 282, the user can actuate the switch on the corresponding side of the housing 282.

[0075] Referring to FIG. 10, the electronic device 280 is illustrated in a different orientation, which shows switch 294 on side 220. In one embodiment, the housing can include a switch or input mechanism for each side of the housing. The switches can be inductive, capacitive, or mechanical switches that are closed when contacted by the user.

[0076] During operation of a game on the electronic game device 200, a question or statement can be presented to the user which requires the user to select an answer. In one implementation, the game may associate a visual indicator,
such as a color, with each of the answers proposed to the user on the screen. The visual indicators could be in the form of different colored fonts for each of the answers, different colored highlighting proximate to or surrounding each of the answers, or a different colored mark or object next to each of the answers. For example, each of the answers on the screen may be in a different colored font. Alternatively, each of the answers may have a highlighting around the answer, which each highlighting being a different color. Alternatively, each of the answers may have an object or shape next to it, with each shape being a different color.

[0077] The visual indicators or colors correspond to the different colors of the visual output devices in the housing 210. Accordingly, different sides of the housing 210 will be illuminated in different colors associated with the answers to the question. Once the user selects an answer, the user manipulates the housing 210 so that the particular colored side is in the orientation for the input of an answer, and the user registers the answer. The “answer” orientation can be in an upward orientation.

[0078] The registration of an answer by the user involves the closing of a switch by the user. The user may contact a switch on the desired side of the housing. Alternatively, the user may tap or contact the housing so that an internal switch is closed, indicating that the answer has been made. Finally, mere orientation can close an internal switch.

[0079] Referring to FIG. 11, the movement of the housing 210 is described. The housing 210 can be disposed in a first configuration or orientation. This configuration or orientation can be relative to a horizontal plane 260. As shown, side 214 is disposed away from the plane 260. The movement of the housing 210 described below relates to the particular directions in which a user can rotate, shake or adjust the housing 210 to provide a particular input to the electronic device 200.

[0080] The housing 210 can be moved about an axis 262 along the direction of arrow “A” or arrow “B.” This motion can be referred to as an “up-and-down” motion, such as the nodding of a person’s head, or a “yes” motion. The housing 210 can also be moved about an axis 264 along the direction of arrow “C” or arrow “D.” This motion can be referred to as a “side-to-side” motion, such as the shaking of a person’s head, or a “no” motion.

[0081] During the operation of a game on the electronic game device 200, a question or statement can be presented to the user which requires the user to move the housing 210 in a particular direction to answer. For example, a “yes/no” question can be presented to the user. Alternatively, a “true/false” question or statement can be presented to the user. Each of these types of questions require the user to move the housing 210 along the directions of arrows “A” and “B” or the directions of arrows “C” and “D,” depending on the particular answer. The motion detector 128 of the electronic game device 200 will determine the particular motion of the housing 210 and the controller will determine whether the motion is in the correct directions.

[0082] Alternatively, the presented question or questions may be math-related. In one implementation, the game may includes a series of math questions which must be answered by the user as quickly as possible under a timed environment. For example, six math question may be presented on the screen and the user must answer them in order by moving the housing the appropriate number of times for each answer. For example, one of the questions may be “4+5=.” To correctly answer the question, the user must rotate the housing 210 in the proper direction nine times and then register the answer. As previously disclosed, the registering of the answer includes tapping or contacting the housing 210 in one implementation or contacting a switch in another implementation.

[0083] In one embodiment, the housing 210 must be moved about a particular axis for the movement to be counted. In an alternative embodiment, the housing 210 does not need to be moved about a particular axis, but can be moved in any direction. The motion detector 128 in the housing 210 can sense each motion of the housing 210 and maintain a count thereof.

[0084] In one embodiment, each movement of the housing 210 may be worth “1” in the counting for the answer. In another embodiment, each movement of the housing 210 about a first axis may be worth “1” in the counting for the answer and each movement of the housing about a second axis different from the first axis may be worth a quantity other than “1,” such as “10.” In other words, if the answer to a proposed question is 49, then the user would move the housing 210 about the first axis nine times and about the second axis four times and then register the answer. In one implementation, in addition to the counting feature described above, different sound effects are output when the housing 210 is tipped, tilted or moved in different directions. In another implementation, different sound effects are output in response to movements in different directions.

[0085] Referring to FIGS. 12 and 13, alternative orientations of the housing 210 are illustrated. In FIG. 12, the housing 210 is in a first orientation 270 with side 214 upward with respect to a horizontal plane 260. In FIG. 13, the housing is in a second orientation 272 with side 222 upward with respect to the horizontal plane. While the “answer” orientation for the housing 210 is disclosed as the side desired to be selected in an upward position or orientation, in other embodiments, the “answer” orientation can be any other orientation, including a downward position or orientation.

[0086] The electronic game device may include several events relating to the operation or status of the device. Outputs, such as visual or audible outputs, can be generated when an event occurs or is occurring. The outputs may include a sequence of sounds and/or a sequence of illuminations of different color light. Some exemplary types of events include: system start up, when the device goes to “sleep,” when the device “wakes up,” when the device “shuts down,” in response to a correct answer, in response to an incorrect answer, while a timer is counting down, when a period of time expires, and when the housing being manipulated in different directions.

[0087] Some exemplary types of question and answer games are described below. In various embodiments, the types of question and answer games downloaded to and playable on the electronic game device can vary. Each of the games can be played by one or more players. Also, after an answer has been inputted or selected, a fact or factoid may be provided to the player or players to explain the answer.

[0088] In one type of question and answer game, a question and four color-coded answers, such as multiple choice answers, are presented on the display screen. The players must read the question and rotate the housing until the housing lights up in the color that corresponds to the desired multiple choice answer. When the housing is illuminated in the desired color, the player selects the desired answer by tapping the unit one or more times as an indication that this is the final answer selection. In this type of game, after answer-
In another type of question and answer game, the players may receive a fact or factoid to help explain the answer. In another embodiment of this game, the players must read the question and rotate the housing until they find the colored side that matches the answer they want, and tap or contact the cube to select the side and the corresponding answer.

In another type of question and answer game, players will be presented with a statement and they must determine whether it is true or false. If the statement is true, the player shakes the housing in an up-and-down direction (such as a conventional y-axis). If the statement is false, the player shakes the housing in a side-to-side or left-to-right direction (such as a conventional x-axis). In this implementation of this game, it is not necessary for the players to take the further step of tapping or contacting the housing to select an answer. In this game, after answering the question, the player may receive a fact to help explain the answer.

In another type of question and answer game, players will be presented with an “either-or” title, such as HOT or COLD. The “either-or” structure requires that a quick or snap decision be made. This game includes a directive about how to answer the questions. Each option will have a pair of arrows indicating which direction the player needs to shake or rotate the housing to choose that option. For example, “HOT” might have a pair of up and down arrows beside it, and “COLD” might have side-to-side arrows beside it. Following the title, the players will see a series of words, in one example, ten words. The words and/or phrase options will appear one at a time. The players must decide whether each word is either “HOT” or “COLD” and then shake the cube in the appropriate direction. In one implementation, the players receive one point for each correct answer. This game can be timed using a conventional timing element so the players must be cognizant of the time taken to respond. Other examples are “SHAKEN” or “STIRRED” and “RHYTHM” or “BLUES.” In one implementation of this game, it is not necessary for the players to tap or contact the housing to select an answer.

In another type of question and answer game, a series of simple math problems are presented to the players. These problems can be word based math problems. The questions have a numeric answer that players answer by shaking the housing up and down or side-to-side that number of times. In this type of game, the simple math problems are presented in a limited amount of time, gradually becoming harder. In this implementation, players shake the housing up and down (to count off by 1’s) or side to side (to count off by 10s) until they count off the appropriate numbers. After a particular set of shaking, the players slap or contact a side after each answer to input it and indicate that they are done counting. In a variation of this type of game, instead of math problems, a story with a numeric answer can be presented and the players shake the housing the required number of times.

In another type of question and answer game, one or more questions that have a color as an answer can be presented. The color that is the answer to the question is one of the colors in which the housing can be illuminated. For example, if the housing can be illuminated in red, green, blue, and purple, the proposed answers to a question will be those colors so that the players must select one. Once a player determines the answer color, the player rotates the housing until the housing is illuminated in the color that is the correct answer. The player then contacts or slaps the housing once or twice to input and select the player’s answer.

In another type of question and answer game, players are presented with a list of four words or clues. The players must determine what those four words have in common. The players must pick the appropriate answer from a series of color-coded multiple choice answers, rotate the housing until the housing is illuminated in the color matching the answer, then contact or slap the housing once or twice to input and register their answer.

Another type of question and answer game is the inverse of the previously described game. In this type of game, players will be presented with a list of four color-coded words or clues and the players must determine which of the four does not belong with the other three. The players must then rotate the housing until the housing is illuminated in the color that matches their choice and then contact or slap once or twice the housing to input and register their answer.

In yet another type of question and answer game, a quote or phrase of five words or less will appear jumbled up or scrambled on the screen. Each word will be color-coded. Players must reassemble or unscramble the quote or phrase and then input the answer by sequentially rotating the housing to the correct colors in the correct order. The player should contact or slap the housing after each color selection to lock the words into place. A final screen may appear flashing the correct answer.

Finally, another type of question and answer game may be a hot-potato kind of game. In this type of game, one at a time, the screen will flash a series of colors. Alternatively, a sequence or list of colors will be displayed. The first player on a team must rotate the housing until the housing is illuminated in that color, contact or slap the side of the housing once or twice to input their answer, then pass the housing to the next player on their team to find the next color. The players must race to find all the colors before the time for their turn runs out.

Each of these types of question and answer games can be formatted in a player-vs.-player and a team-vs.-team format using the electronic game device. For those games that involve a timer countdown, the electronic game device may include a countdown on the screen and/or “enforce” the countdown or end of the time by generating sounds or lights. For those games that involve multiple teams, scoring may be provided on the visual display of the device.

When an electronic game device is initially used, the electronic game device is registered with the game database and the game website. By registering the particular electronic game device, game play and user information can be maintained for the particular device in the game database and the game website. The electronic game device includes information that uniquely identifies the device. For example, an electronic game device can include a serial number that is unique to the device so device specific information can be maintained. In another example, an electronic game device can include an identification code that includes numbers, letters and/or other characters that is unique to the device.

Now, several exemplary processes of the invention will be described. Referring to FIG. 14, an exemplary initialization process 300 is described. In step 302, the user connects the electronic game device to a computer. Preferably, the computer is connected or connectable to the Internet so that information relating to the game can be exchanged between the electronic game device, the computer, and the website associated with the game. In one process, the user
plugs the removable USB flash drive or USB cable tethered or coupled to the housing into the computer.

In another embodiment, for initializing a new game, the electronic game will be provided with a disc or CD which when used with a personal computer will load an application relating to the game on the personal computer. Once the application is loaded on the personal computer, a user launches the application via an icon or other link on the personal computer. For example, a user can launch an application using an icon on the desktop of the personal computer.

In step 304, the software on the electronic game device and the computer determine whether this is the first time that the electronic game device has been connected to the computer. If it is the first time, the process continues to step 306. If it is not the first time, the process continues to step 308.

In step 306, the identification software on the device places the corresponding question and answer game application software on the computer. This question and answer game application software facilitates the communication between the electronic device and the website. At this point, the serial number or other identification information relating to the particular electronic game device can be registered with the game database and the game website.

In step 308, the question and answer game application software launches the website associated with the game program. In one implementation, the identification software on the flash drive, or electronic game device, automatically launches the game website and proceeds with the registration of the user and the electronic game device.

In step 310, the software determines whether this is the initial time that the website has been accessed by this electronic game device. If it is the first time, the process continues to step 314. If it is not the first time, the process proceeds to step 312, which represents the process for downloading a game.

In step 314, the system prompts the user for user information, such as gender, age range, and location. Other information may be sought and collected. A name for the particular electronic game device is also requested from the user. By setting up a user name and password, the owner of the electronic game device will unlock deeper portions of the game database associated with the question and answer game.

In step 316, the inputted information is stored for future use.

In step 312, the process for downloading a game is executed. An exemplary downloading process is illustrated in FIG. 15.

When the electronic game device is subsequently connected to the question and answer game website after the user plays a downloaded type of game, the system will automatically upload the player's scores to the game database. The player's scores can be compared to the scores of other players that are stored in the database.

An exemplary embodiment of a game download process is illustrated in FIG. 15. In this embodiment, the game download process 400 is merely exemplary and various game download processes may include some and not all of the illustrated steps.

In step 402, on the website, the user selects the option of “Play a New Game on Website.”

In step 404, the website presents multiple options of games to the user for selection. For example, the website may present the options of “Custom Game,” “Quick Pick Game” and “Tournament Game.”

In step 406, the user selected one of the game options.

In step 408, the website determines whether the user selected “Quick Pick Game” and if so, the process proceeds to step 412 in which the website database randomly selects a set of challenge questions to be downloaded to the electronic device. The process then continues to step 430 (see FIG. 16).

If the user did not pick “Quick Pick Game,” then the website determines whether the user selected “Tournament Game” (see step 410). If the user did select “Tournament Game,” the process continues to step 414 and a special game currently available is selected to be downloaded to the electronic game device. The process then continues to step 430 (see FIG. 16). A special game may be a set of questions or other game content that is periodically updated and maintained on the website for user selection for a limited period of time.

If the user did not pick “Tournament Game,” then the website determines whether the user selected “Custom Game.” If the user did not, then in step 418, the website prompts the user for input and the process returns to step 406.

If the user did pick “Custom Game,” then in step 420, multiple categories of questions from which the user can select are presented. Some exemplary categories include: movies, tv, music, sports, food and drink, history, science, boy/girl, art and literature, and “where are we.” These categories of questions can be expanded and additional game content added at any time.

In step 422, the user is prompted to select a particular quantity of categories, such as four categories.

In step 424, the website determines whether the user selected the appropriate quantity of categories of questions. If not, then in step 428, the website determines the deficiency in the quantity of categories selected (whether only two or three categories were selected for example), and then picks additional categories as needed. The goal of multiple categories is to build a large enough group of questions so multiple questions are not repeated.

In step 426, the database selects a certain number of questions from each of the categories.

In step 430, the questions and other game content are downloaded to the electronic game device.

In step 432, the electronic game device is disconnected from the computer and can be used to play any of the downloaded games.

An exemplary embodiment of a game play process using the now stand-alone electronic game device is illustrated in FIG. 17. In this embodiment, the game play process 500 begins with one of the players or users orienting the electronic device so that the other players can see the visual display or screen for purposes of participation (step 502).

In an alternative mode of operation, in which there is a single user or player for the electronic game, the user orients the device so that the user sees the visual display on the device.

In step 504, the user contacts the electronic game device to start the game. In alternative embodiments, the question and answer game may start when the electronic game device is turned on.

In step 506, a question or statement is presented on the display or LCD screen.

In step 508, the user reads the question or statement and any potential answers that are provided.
In step 510, the user manipulates the electronic game device to select the desired answer. The manipulation may be any type of handling of the device as previously described. The manipulation includes registering the answer.

In step 512, the controller determines whether the answer is correct. Depending on whether the answer is correct, the tally of correct answers is increased (step 514) or the tally of incorrect answers is increased (step 518). This allows the device to maintain a score for the game play.

In step 516, appropriate output, such as lights or sounds, can be generated in response to the accuracy of the answer.

An exemplary manipulation process of the electronic game device is illustrated in FIG. 18. In this embodiment, the manipulation process 600 involves the user reviewing the visual indicators associated with the answers (step 602). The visual indicators can be different colors or objects as previously described.

In step 604, assuming that colors are used as the visual indicators, the user moves the electronic game device to locate the side of the housing with the desired visual indicator or color.

In step 606, the user manipulates the housing to a position in which the desired visual indicator is in the “answer” orientation or configuration.

In step 608, the user contacts the housing to register the selection of an answer.

Another exemplary manipulation process is illustrated in FIG. 19. In this embodiment, the manipulation process 700 involves the user reviewing the answers and determining the appropriate answer (step 702). In this embodiment, the appropriate method of answering a question is to move the housing in a particular direction.

In step 704, the user determines the appropriate direction in which the housing should be moved, based on the desired answer. For example, the housing may be moved in an up-and-down (“yes”) direction or in a side-to-side (“no”) direction.

In step 706, the user moves the housing in the particular direction the proper number of times and then registers the answer.

The electronic game device may include or function in other modes of operation or processes. For example, after the electronic game device is powered up, a selection can be made between several modes of operation, including an ambient mode, a game mode, and a game demo mode.

In the ambient mode, a series of lights and/or sounds is generated. The generated output may be for a predetermined period of time (30 minutes, 1 hour, 2 hours, or 4 hours) or may be continuous until the device is turned off.

In the game mode, the player or players selects one of a quick-pick game, a tournament game or a custom game. After the game has been selected, the player indicates whether team play or solo play is desired. In solo play, the score for the particular game is saved at the end of the game. In team play, the first team plays by selecting an answer and providing the necessary input. If the answer is correct, then the electronic game device generates a positive sound and light output and the team is awarded one point. If the answer is incorrect, then the electronic game device generates a negative sound and light output and the team loses one point. The team score is recorded and both teams’ scores are shown. The first team then passes the device to the second team, who in turn repeats the above-described sequence. The final scores of the teams are determined and if the scores are tied, then a tie breaker game is played. After a team eventually wins, the scores of the teams are saved.

Referring to FIGS. 20 and 21, some alternative features for an embodiment of an electronic game device are illustrated. It is to be understood that the features illustrated for this embodiment can be used in combination with any of the other features described herein with respect to other embodiments of an electronic game device.

In this embodiment, the electronic game device 800 includes a housing 810. The housing 810 can be formed of two or more portions and can be formed of a translucent material similar to housing 210 described above. The housing 810 includes several side walls or surfaces (only 812, 814, and 816 are illustrated in FIG. 20). As illustrated, side 812 includes an opening 828 formed therein. A visual display mechanism or display screen 830 is disposed proximate to the opening 828. While the housing 810 is in the shape of a cube, it may have any number of sides or surfaces in alternative embodiments.

Referring to FIG. 20, the electronic game device 800 may include an on/off switch 820. As shown, side 816 includes an opening or slot 824 in which a button or actuator 822 is slidably mounted and movable between an “off” position and an “on” position. In different embodiments, the size and configuration, as well as the location, of the on/off switch 820 can vary.

In this embodiment, the electronic game device 800 may include a multi-directional switch 840, also referred to as a D-pad. An opening 842 having essentially the same shape of the D-pad 840 can be formed in a surface, such as surface 812, of the electronic game device 800 and the D-pad 840 can be disposed therein. The D-pad 840 can be used by a user to provide five different inputs. Four of the inputs relate to each of the different sections 850, 852, 854, and 856 of the D-pad 840 and a fifth input can be achieved by pressing inwardly on the D-pad 840.

Referring to FIG. 21, an alternative embodiment of an electronic game device is illustrated. It is to be understood that, while not shown, electronic game device 900 can include any combination of the features or components described herein with respect to other embodiments of electronic game devices. In this embodiment, game device 900 includes a housing 910 with several sides (only sides 912, 914, 916, and 918 are illustrated). A display 930 may be provided on the front side 912.

Each of the sides of the housing 910 can be retained in its position by a frame 970 that can be formed of one piece or multiple pieces coupled together. The frame 970 can include openings on each side, such as openings 972, 974, and 976, in which the sides can be disposed and retained. In one embodiment, the frame 970 can be formed of a resilient material, such as a plastic material, that can accommodate the insertion of a side. As shown in FIG. 21, side 918 is illustrated as being separated from the rest of the housing 910. One or more of the sides, including side 918, can be made of a plastic material that is translucent or semi-translucent so that light can pass therethrough and can be emitted therefrom. Such sides can be referred to as light panels and light can be emitted therefrom in a manner similar to the sides described relative to FIG. 10.

Referring to FIG. 21, side 918 is a light panel and has a light source 940 associated therewith. In this embodiment, the light source 940 can be a multi-color LED 942 that...
includes multiple colors, such as red, green and blue. The LED 942 has one or more wires 944 coupled thereto. The side 918 includes a body with an inner or back surface 950 and a light emitting surface 952 opposite the back surface 950. Several deformities or diffusive members 954 are formed in the back surface 950, thereby allowing light panel to be referred to as a textured panel. Various configurations and layouts of deformities that can be provided on a light panel are described below. As the LED 942 is inserted into a notch or opening 950 that is formed proximate to one corner of the side or panel 918, light is emitted from the LED 942 generally along the direction of arrow “E.” The LED 942 can be retained in its position relative to the light panel by the frame 970. The light 958, with the assistance of deformities 954, is then emitted from the light emitting surface 952 along the direction of arrow “F” and is visible to the user of the device 900. The LED 942 can be activated to illuminate the side or panel 918 with different colors.

[0147] Referring to FIGS. 22 and 23, an alternative embodiment of a side or light panel is illustrated. In this embodiment, the side or light panel 1000 includes a body 1010 with a light emitting side or surface 1012 (see FIG. 23) and a back or inner side or surface 1014. The body 1010 includes a light incidence face 1016 that receives light from a light source such as an LED (not shown). The light source can be oriented in the direction of distal end 1020 of the body 1010. While light incidence face 1016 is planar, in different embodiments, it can be curved or rounded. The body 1010 also includes side edges 1022, 1024, 1026, and 1028 that can reflect light internally that is traveling within the panel 1000. In one embodiment, the length of each side edge of the body 1010 can be approximately three inches in length. In other embodiments, the lengths of the side edges of the body can vary.

[0148] As shown in FIGS. 22 and 23, there are several deformities 1030 that are formed in the back surface 1014. In this embodiment, the deformities 1030 are substantially parallel grooves with surfaces 1032 and 1034. The light introduced at the light incidence face 1016 can reflect off any of the surfaces 1012, 1014, the side edges 1022, 1024, 1026, and 1028, and the deformities 1030 before it exits through the light emitting surface 1012 generally along the direction of arrow “G” in FIG. 23. The deformities 1030 of light panel 1000 and any of the deformities discussed below are formed in the particular light panel during the molding process of the panel. In this implementation, the deformities 1030 are on a covering rate that is constant along a reference line extending from the light incidence face 1016 to the distal corner 1020.

[0149] Referring to FIG. 24, an alternative embodiment of a light panel is illustrated. The light panel 1100 includes a body 1110 with a back or inner surface 1112 and an opposite, light emitting surface 1114. The light panel 1100 includes side edges 1122, 1124, 1126, and 1128. In this embodiment, the light panel 1100 is used with three light sources 1130, 1140, and 1150. In other embodiments, any quantity of light sources can be used with a light panel.

[0150] The body 1110 includes three light incidence faces 1116, 1118, and 1120 which are located proximate to corners 1134, 1144, and 1154, respectively, of the panel 1100. Light sources 1130, 1140, and 1150, shown with wires 1132, 1142, and 1152, respectively, can be disposed in notches or openings 1136, 1146, and 1156, respectively. In one embodiment, light source 1130 can emit red light, light source 1140 can emit blue light, and light source 1150 can emit green light. In other embodiments, the particular colored LEDs can vary in location along the panel 1100. In one embodiment, the electronic game device can utilize pulse width modulation to individually control the dimming of LEDs to achieve numerous blends of colors that can be produced.

[0151] Light panel 1100 includes a pattern or arrangement 1160 of deformities. In this embodiment, the panel 1100 can include deformities 1162, such as grooves, oriented in a first direction, and deformities 1164, such as grooves, oriented in a second direction. The multi-directional orientation of deformities has an impact on the quantity of light that is emitted from the light emitting surface 1114. The deformities 1162 and 1164 of light panel 1100 can be substantially uniformly spaced apart across the various dimensions of the light panel 1100.

[0152] Referring to FIG. 25, an alternative embodiment of a light panel is illustrated. In this embodiment, the light panel 1200 includes a body 1210 with a back or inner surface 1212 and an opposite, light emitting surface 1214. A notch or opening 1228 is formed proximate to corner 1218 of the body 1210. The body 1210 includes a light incidence face 1216 and an opposite distal corner 1230. The body 1210 includes side edges 1220, 1222, 1224, and 1226. The light panel 1200 includes a pattern or arrangement 1240 of deformities 1242, such as grooves, that are formed in the back or inner surface 1212. The deformities 1242 can be formed in lines perpendicular to a reference line 1250 from the light incidence face 1216 to the corner 1230. The arrangement 1240 can be referred to as a diffusion pattern.

[0153] In this embodiment, the arrangement 1240 varies from the light incidence face 1216 along the direction of arrow “H” to the distal end or corner 1230 of the body 1210. In this implementation, the covering rate of the deformities 1242 on the back surface 1212 along the reference line 1250 increases the farther from the light incidence face 1216. In other words, closer to the light source there is less deformation and farther away from the light source there is more deformation. The variation in covering rate of deformation helps spread illumination around the light panel 1200. As shown in FIG. 25, the deformities 1242 that are closer to the light incidence face 1216 (which can be referred to as a first area 1270) are farther apart and less dense than the deformities 1242 that are farther from the light incidence face 1216 (which can be referred to as a second area 1280 closer to the distal end or corner 1230) which are closer together and more dense. The light in the panel 1200 closer to the light incidence face 1216 is stronger than the light in the panel 1200 farther from the light incidence face 1216. By increasing the covering rate and density of the deformities 1242 as the distance from the light incidence face 1216 increases, a more uniform light output is achieved and the light output across the panel 1200 is balanced.

[0154] Referring to FIGS. 26 and 27, an alternative embodiment of a light panel is illustrated. In this embodiment, the light panel 1300 includes a body 1310 with a back or inner surface 1312 and an opposite, light emitting surface 1313 (see FIG. 27). The body 1310 includes side edges 1314, 1316, 1318, and 1320, a light incidence end or area 1330 and corners 1332, 1334, and 1336. The light incidence area 1330 is formed by removing some material from the corner. An opening or notch 1341 is formed or cut-out in area 1330 which includes ends 1342 and 1343. A light incidence face 1340 is curved and extends around a large portion of the opening or notch 1341. One or more light sources, such as
LEDs, can be disposed in the opening or notch 1341 in spaced positions relative to the light incidence face 1340. In one embodiment, the light sources can be supported by the frame. In another embodiment, the light sources can be mounted to the light panel 1300.

[0155] As illustrated, the back or inner surface 1312 includes a portion 1322 with deformities 1350 formed therein and a portion 1324 without any deformities formed. The portion 1324 without deformities ends along edge or line 1326. By not including any deformities in area 1324, there is no additional reflecting of light other than by the surfaces of the light panel 1300 until the light passes line 1326 and travels into the part of the panel 1300 with portion 1322 with deformities 1350.

[0156] In this embodiment, the deformities are dimples or dots, which can be semi-circular in shape. Referring to FIG. 27, some exemplary dots or deformities 1350, which are formed as recesses in the back surface 1312, are illustrated. The deformities 1350 include a surface 1352 that can reflect light toward the light emitting surface 1313. As a result, each dot or deformity 1350 can function as a light source.

[0157] As shown in FIG. 26, the covering rate of the deformities 1350 varies based on the distance from the light incidence face 1340. In particular, the covering rate of the deformities 1350 increases as the distance from the light incidence face 1340 increases. The change in covering rate can be achieved by varying the size of the deformities 1350. For example, as the deformities 1350 are located farther from the light incidence face 1340, the size of the deformities 1350, such as the diameter for a circular deformity, can increase. The change in covering rate can be achieved by varying the spacing between the deformities 1350. For example, for the deformities 1350 close to the light incidence face 1340, there is a large amount of space between them. As the rows of deformities 1350 are farther from the light incidence face 1340, the space between the deformities is decreased by forming more deformities 1350 in each row. As shown, the spacing between deformities decreases along a reference line 1360 extending from the light incidence face 1340 to a distal corner 1334. The varying of the spacing as well as the varying of the sizes can be used in combination to vary the covering rate of deformities on a light panel. Referring to FIG. 27, the depth of the deformities and the spacing between the deformities can vary along the length or width. The deformities 1350 in deformity area 1370 that is proximate to a light incidence face may have a depth as indicated by distance “d1.” Deformities 1350 in an area 1372 that is distal relative to the light incidence face may have a depth as indicated by distance “d2.” As shown, the depth of the deformities can vary as the distance from the light incidence face increases.

[0158] Referring to FIG. 28, an alternative embodiment of a light panel is illustrated. In this embodiment, the light panel 1400 includes many of the same elements or components as light panel 1300, but a different pattern or arrangement of deformities. The light panel 1400 includes a body 1410 with a back or inner surface 1412 and an opposite, light emitting surface (not shown). The body 1410 includes side edges 1414, 1416, 1418, and 1420, a light incidence end or area 1430 and corners 1432, 1434, and 1436. An opening or notch 1441 is formed in area 1450 which includes ends 1442 and 1443. A light incidence face 1440 is curved and extends around a large portion of the opening or notch 1441.

[0159] The inner surface 1412 includes a portion 1422 with deformities 1450 formed therein and a portion 1424 without any deformities formed as defined by edge or line 1426. The pattern of deformities 1450 is such that there is less space between the deformities 1450 in the arrangement illustrated in FIG. 28 as compared to the illustrated arrangement of deformities 1350 in FIG. 26. In addition, the sizes of deformities 1450 are larger than the sizes of the deformities 1350. Thus, the density or covering rate of the deformities in area 1470 is less than the density or covering rate of the deformities in area 1472.

[0160] Referring to FIGS. 29 and 30, a portion of an alternative embodiment of a light panel is illustrated. In this embodiment, the light panel 1500 includes a body 1510 with a back surface 1512 and an opposite, light emitting surface 1514. Only three deformities are illustrated as only a portion of the body 1510 is shown in FIGS. 29 and 30. As shown, deformity 1520 is formed as a recess in the body 1510 and includes surfaces 1522, 1524, 1526, and 1528, which collectively form a pyramid-like shape. Similarly, deformities 1530 and 1540 include surfaces 1532 and 1534, and 1542 and 1544, respectively. Light rays 1550, 1552, and 1554 are illustrated as engaging different deformities and exiting the light emitting surface or side 1514.

[0161] In alternative embodiments, the size, shape, and/or configuration of the deformities formed in a light panel can be uniform throughout the light panel or can vary relative to a point of reference, such as one or more light incidence faces. In some embodiments, the depth of the recesses or deformities can vary along the length or width or other dimension of the light panel.

[0162] In various embodiments, the housing of the electronic game device can include one or more light panels. The light panels can have any shape or configuration provided that the light panels can be retained on the housing. The light panels can be made of any material that permits light to be emitted therefrom. In alternative embodiments, deformities can be provided in a light panel in a random pattern.

[0163] In another embodiment, a gloss black label may be provided behind the light panel. The label can provide a contrast with respect to the different colors emitted by the light sources.

[0164] While the invention has been described in detail and with references to specific embodiments thereof, it will be apparent to one skilled in the art that various changes and modifications can be made therein without departing from the spirit and scope thereof. Thus, it is intended that the present invention covers the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

What is claimed is:
1. An electronic device for playing a game, comprising:
   a housing, the housing having a plurality of panels, one of the plurality of panels of the housing being configured to receive light from a light source, the light emitting panel including a light incidence face, a first surface and a second surface opposite the first surface, the first surface including a diffusion pattern, the housing being configured to generate a question and a plurality of answers, each of the answers being associated with a different input;
a light emitting device, the light emitting device being disposed proximate to the light incidence face of the light emitting panel and configured to supply light
thereto, a portion of the light engaging the diffusion pattern and exiting the light emitting panel through the second surface; and

an input mechanism, the input mechanism being configured to be activated by a user in response to the question to select one of the plurality of the answers, wherein the light emitted through the light emitting panel is associated with one of the plurality of the answers.

10. The electronic device of claim 1, wherein the deformities in the first area have more space between adjacent deformities than the deformities in the second area have between adjacent deformities in the second area.

11. The electronic device of claim 5, wherein the deformities in the second area are larger than the deformities in the first area.

12. The electronic device of claim 5, wherein the deformities in the second area are deeper than the deformities in the first area.

13. The electronic device of claim 1, wherein the first surface of the light emitting panel includes a first portion with deformities formed therein and a second portion without any deformities.

14. The electronic device of claim 13, wherein the second portion of the first surface is located proximate to the light incidence face.

15. The electronic device of claim 1, wherein the light emitting panel includes a notch formed therein, and the light emitting device is disposed within the notch.

16. The electronic device of claim 1, wherein the light emitting device is a first light emitting device, the first light emitting device being disposed proximate to a first corner of the light emitting panel, the first light emitting device being configured to output light of a first color, and the electronic device further comprises:

a second light emitting device, the second light emitting device being disposed proximate to a second corner of the light emitting panel, the second light emitting device being configured to output light of a second color, the second color being different than the first color, the second color being associated with one of the plurality of answers and the first color being associated with another one of the plurality of answers.

17. The electronic device of claim 1, wherein the housing includes a frame, the frame being configured to retain the light emitting panel.

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