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(54) SCORING SYSTEM FOR A BALL ACTIVITY AREA

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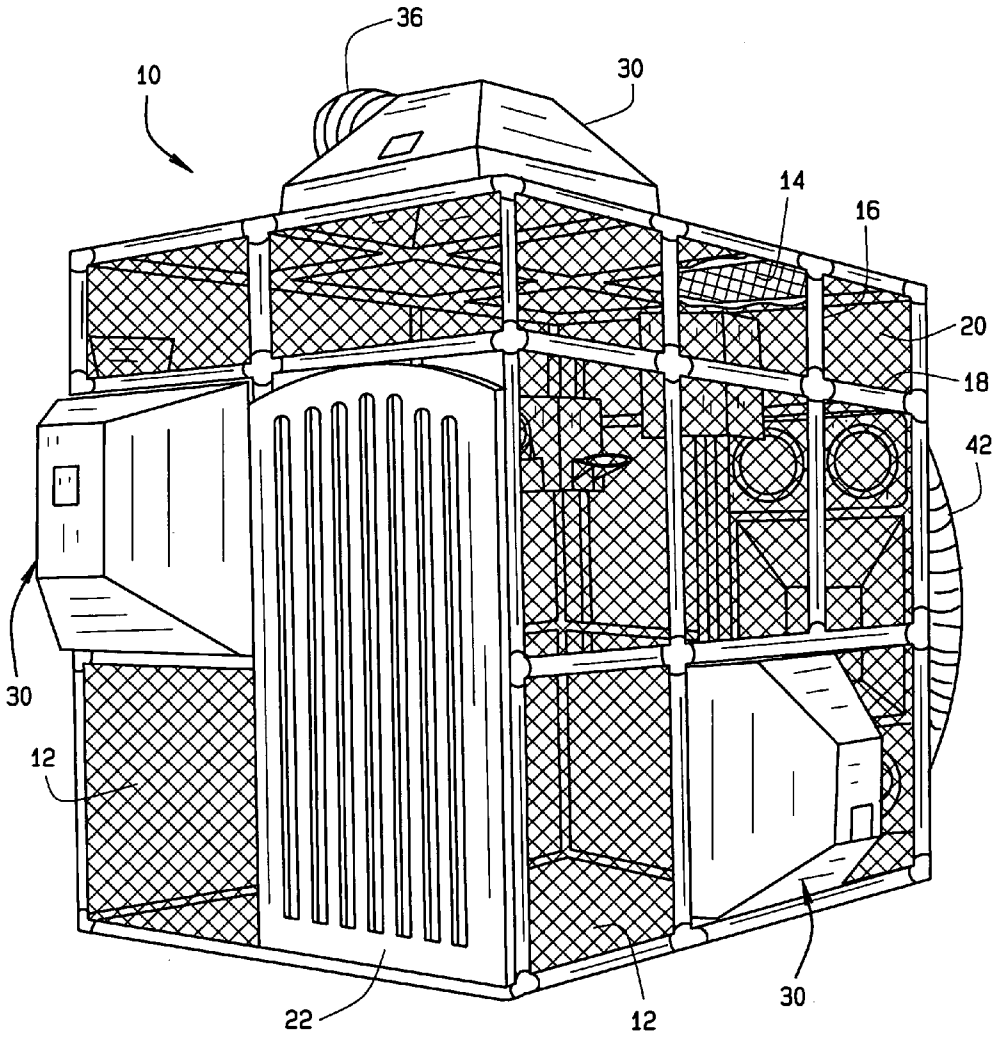
(57) **ABSTRACT**

A scoring system for a ball activity area is provided. The ball activity area includes a plurality of activity stations, each of which has one or more hoops or tubes through which balls can be thrown. The hoops and tubes are provided with sensors which determine when a ball passes through the hoop or tube, or contacts the hoop. The sensors are in communication with a controller which receives the signals from the sensors. When the controller receives a signal from a sensor, it adds a predetermined number points to a counter, and displays the point total on a score board. The points awarded for different activity stations can be varied depending on the difficulty of passing a ball through the hoop or tube in an activity station.



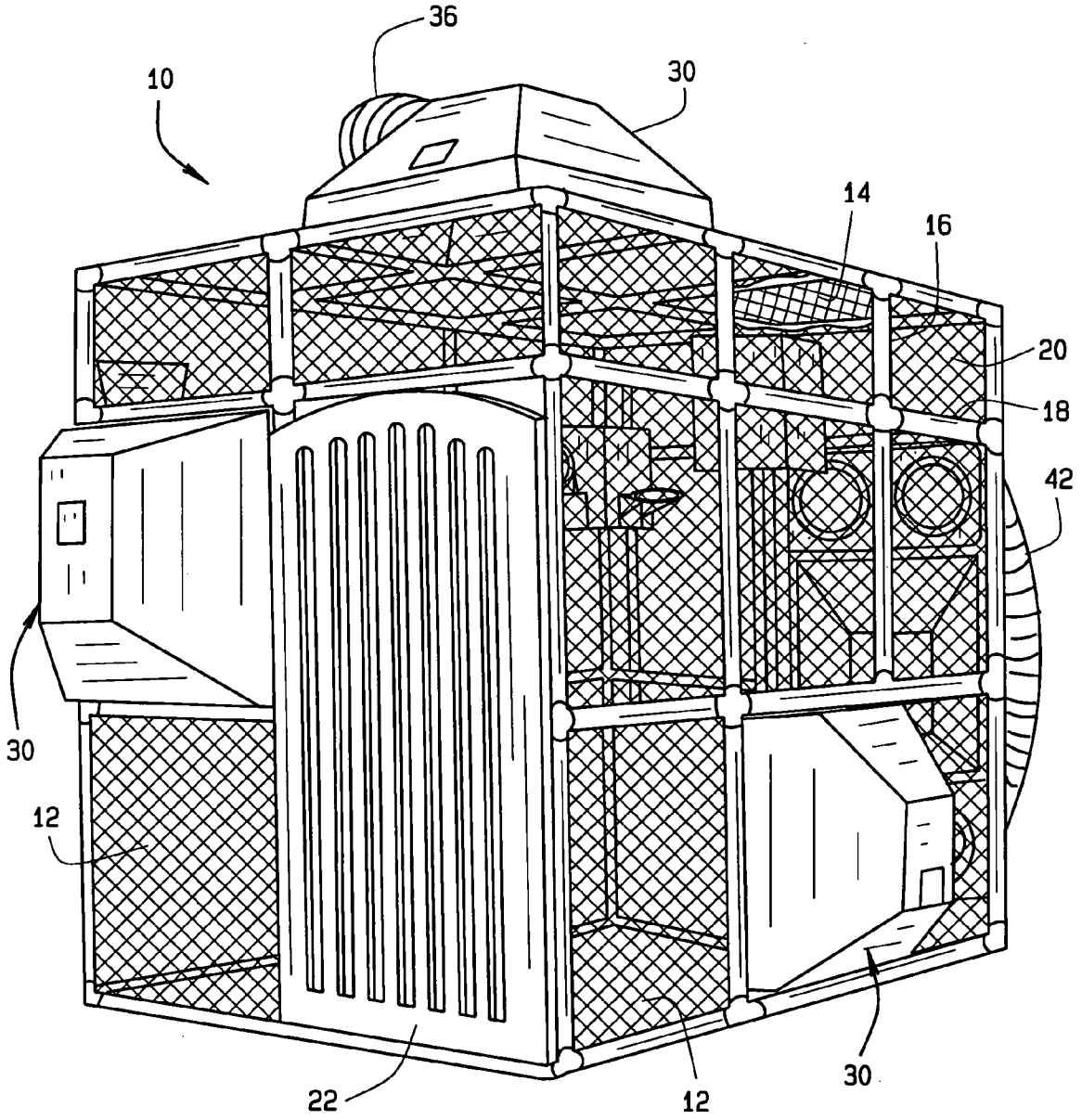


FIG. 1

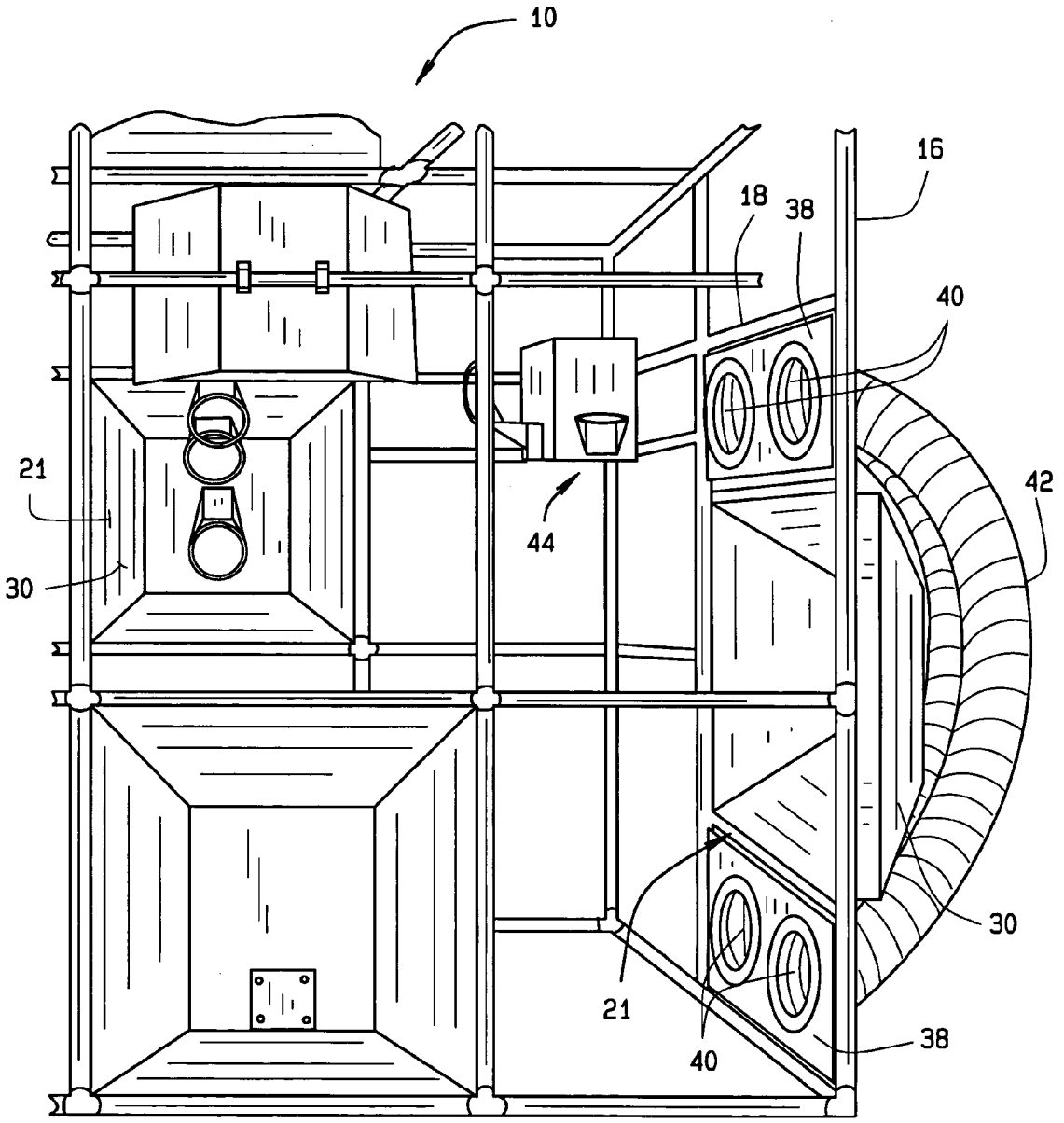


FIG. 2

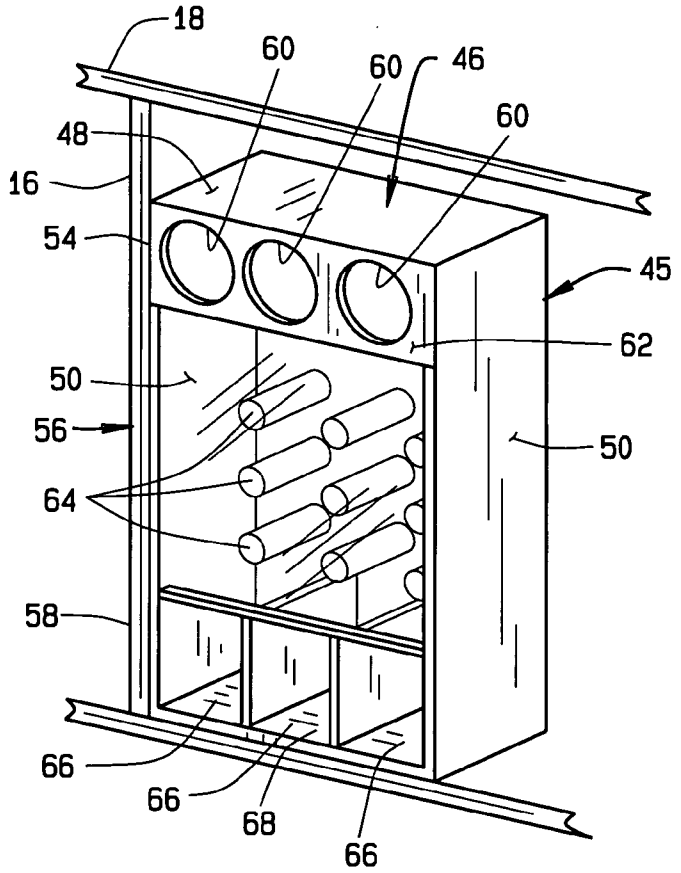

18
60
60
46
60
48
16
54
45
62
50
56
50
64
58
66
66
68
66

FIG. 3

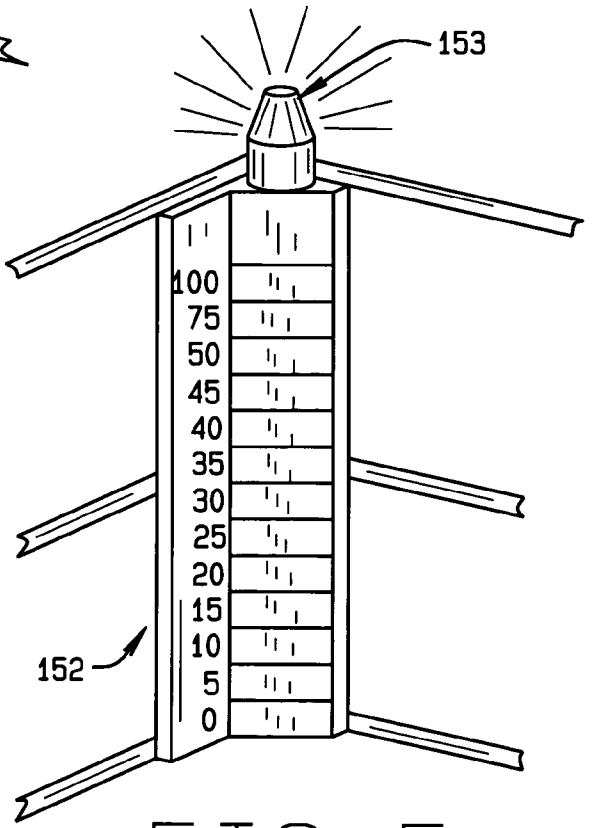

153
100
75
50
45
40
35
30
25
20
15
10
5
0
152

FIG. 5

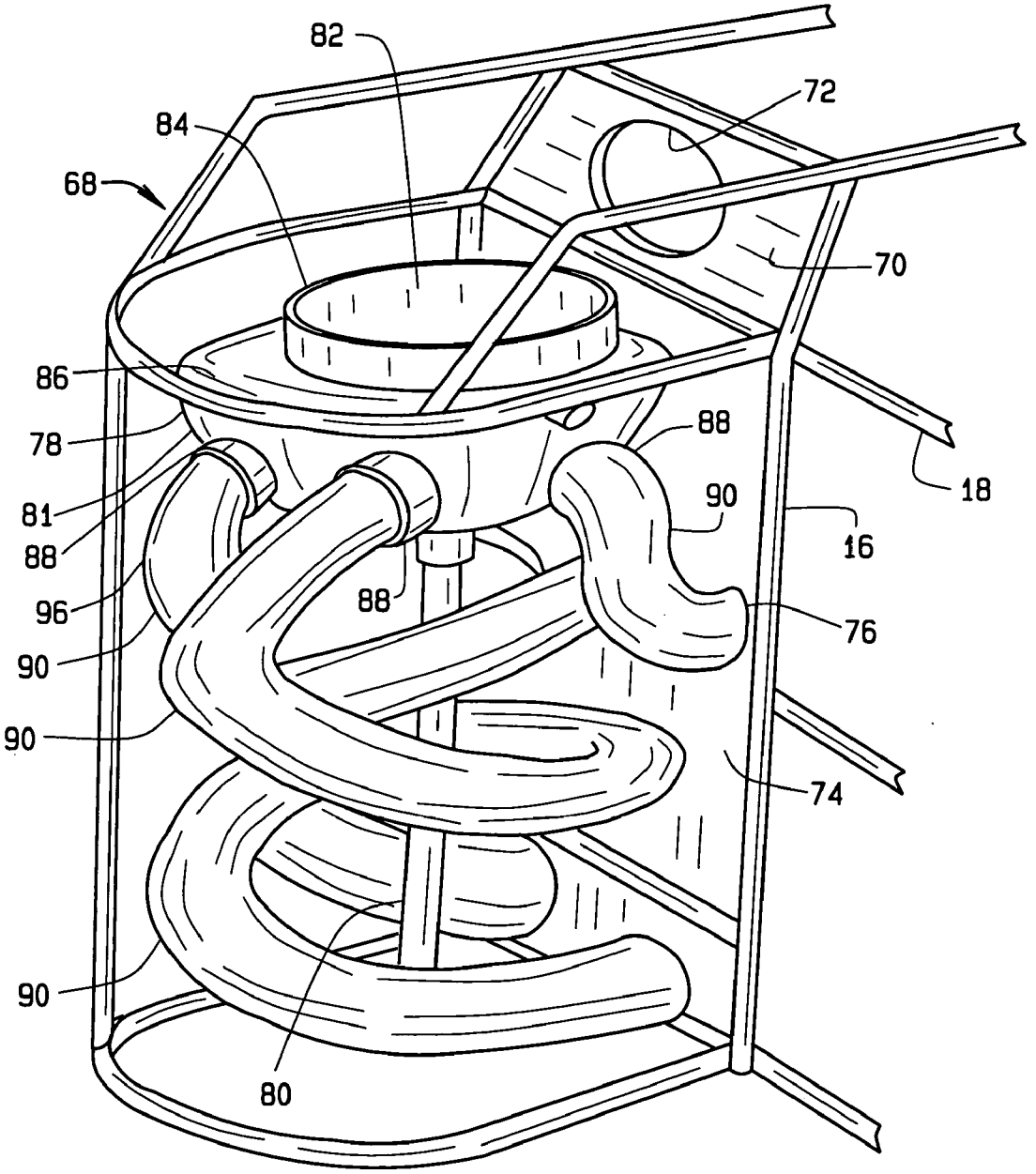


FIG. 4

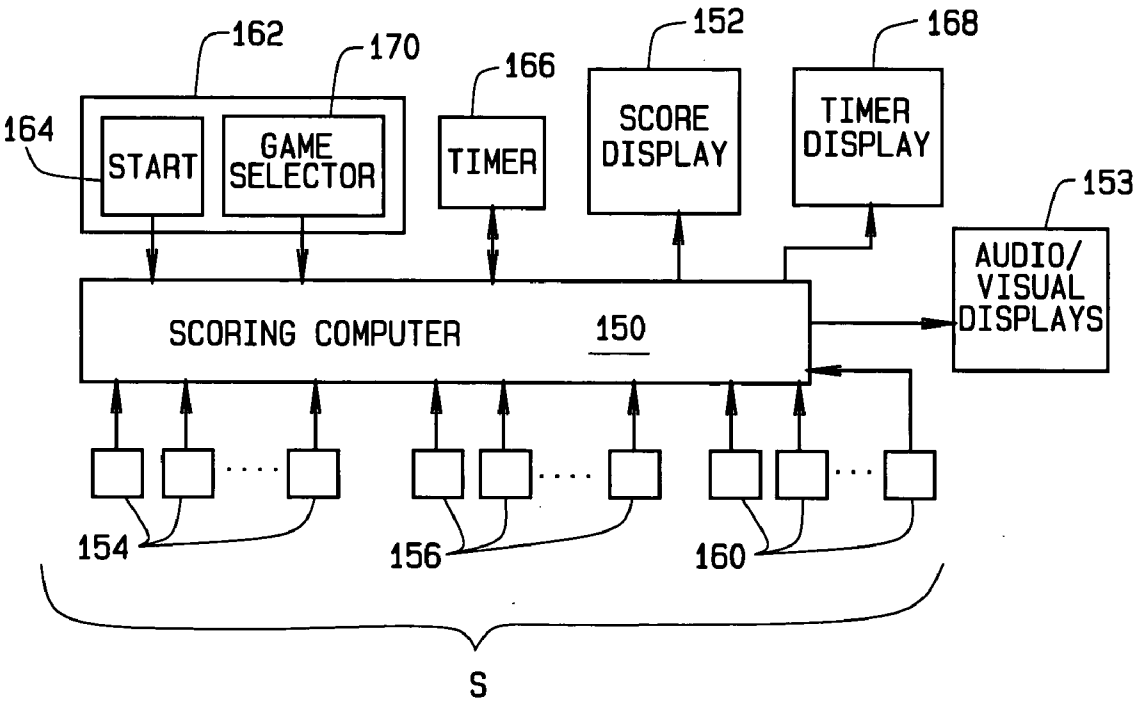

162
170
166
152
168
164
START
GAME SELECTOR
TIMER
SCORE DISPLAY
TIMER DISPLAY
153
AUDIO/ VISUAL DISPLAYS
SCORING COMPUTER
150
154
156
160
S

FIG. 6

SCORING SYSTEM FOR A BALL ACTIVITY AREA

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable.

BACKGROUND OF THE INVENTION

[0003] This invention relates generally to enclosed or stand-alone play areas in which children or other players can engage in various ball throwing activities, and, in particular, an electronic scoring system to allow the players to "earn" points while they play in the activity area.

[0004] Enclosed play areas have become vary popular. Such play areas have been added to fast food restaurants, malls, amusement parks, airports, community centers, family entertainment centers and many other types of businesses and places where it is desirable to such play areas. Such play areas however, are generally limited to climbing equipment, slides, ball pits, etc. Additionally, because of the size of the elements or components of such play areas, they are typically used by small children (i.e., younger than about 4-8 years old).

[0005] In our co-pending application Ser. No. 10/155,673 filed May 24, 2002, entitled "Ball Activity Area And Activity Centers Therefore", and which is incorporated herein by reference, we disclosed a ball activity area which can be constructed from a plurality of modules. While the ball activity area disclosed therein provides extensive activities and fun for players, the play can be enhanced by providing for scoring.

BRIEF SUMMARY OF THE INVENTION

[0006] Briefly stated, a scoring system for a ball activity area is provided. The play area comprise a plurality of activity stations each of which includes at least one opening through which a ball can pass. The opening can be defined by a hoop, a tube, or an opening in a panel. If the opening is a hoop, the hoop can be mounted to a wall and include a backboard. The hoop can also be mounted within a tub, such as described in our above noted application, which includes side, top, and bottom surfaces and a back surface. In this instance, the surfaces of the tub would act as backboard surfaces. If the opening is a tube, the opening will be defined by the entrance or exit to the tube. The tube can extend between different tubs, or can extend between two different panels, such as upper and lower panels. The activity station can also be a pachinko-style game, in which the openings are defined by one or more entrance openings to the game through which the ball can be thrown. The activity station additionally comprise a raised bowl into which the ball is thrown and which comprises tubes extending from the bottom of the bowl to exits in a panel. In this instance, the activity station openings can be defined by an opening in a panel through which the ball passes prior to entering the bowl, the mouth of the bowl, and/or the entrances to the tubes from the bowl.

[0007] A sensor is provided with at least one opening of at least one (and preferably all) of the activity stations. The sensor can, for example, be an optical sensor which includes a transmitter and a receiver. The sensor transmitter emits an energy beam which is received by receiver. When the ball passes through the opening, the ball will interrupt the energy beam, thereby activating the sensor to send its signal to an electronic or computerized controller. This will indicate to the controller that the ball has passed through a determined plane of the activity station. For hoop related activity stations, contact sensors can be provided on the hoop rim and/or backboard to determine when the ball hits the hoop rim or backboard, as well as when the ball goes through the hoop. For tube-related activity stations, sensors can be provided at the entrance to and/or exit from the tube. In the pachinko-style game, which has a plurality of posts off of which the ball bounces as it passes from the entrance to the exit of the activity station, sensors can be provided at the entrance(s), exit(s) and on the posts of the activity station. In the bowl and tube style game, sensors can be provided at the mouth of the bowl, at the entrance to the tubes, and at the entrance opening in a panel through which the ball first passes to enter the bowl.

[0008] The sensors are in communication with the controller, which receives the signal from the sensors. The controller includes a point counter, and the point counter is incremented by a determined amount upon receipt of the sensor signal from the different sensors.

[0009] The play area also includes a score display in communication with the controller. The score display provides a visual indication of the value of the of the point counter. The score display is preferably in the form of a scoring meter. The meter comprises a plurality of lights which are independently activated by the controller based upon the value of the point counter.

[0010] The play area can also be provided with visual and/or audio effects. The visual and/or audio effects are controlled by the controller and are activated by the controller upon receipt of a signal from one of the sensors. Thus, when a sensor is hit, an audio effect can be played, which can be, for example, applause, cheering, booing, etc. The visual effects include lights at the different activity stations. Hoops can be provided with lights around the rims, backboards, tubs, etc. Tubes can have lights on the periphery of the tube and/or at the entrance and/or exit to the tubes. The pachinko-style game can have lights on each of its posts as well as at the entrance openings and exit openings.

[0011] Preferably, the computer is programmed to play a plurality of different games, The play area is thus provided with a game selector whereby a player can select one of the plurality of games stored in the computer. The game is initiated by means of an activator to initiate a play session in said play area. When the activator is activated, said computer activates said activity station sensors and zero's said point counter. The electronic system for the play area also includes a timer. The timer is initiated when a game is begun, and when a predetermined amount of time has elapsed, the timer generates a signal which is received by said computer, at which point the computer ends the game by deactivating the sensors. The play area can also be provided with a timer display, so that players know how much time remains in a play session.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0012] **FIG. 1** is a perspective view of a play area in which the scoring system of the present invention is embodied;

[0013] **FIG. 2** is an elevational view of the play area showing activity stations in the play area;

[0014] **FIG. 3** is a perspective view of a pachinko-type activity station which can be provided as part of the play area;

[0015] **FIG. 4** is a perspective view of a additional spiral tube activity station which can be provided as part of the play area;

[0016] **FIG. 5** is a perspective view of a scoring meter for use with the scoring system of the present invention; and

[0017] **FIG. 6** is a block diagram of the electronics for the scoring system.

[0018] Corresponding reference numerals will be used throughout the several figures of the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0019] The following detailed description illustrates the invention by way of example and not by way of limitation. This description will clearly enable one skilled in the art to make and use the invention, and describes several embodiments, adaptations, variations, alternatives and uses of the invention, including what I presently believe is the best mode of carrying out the invention. Additionally, it is to be understood that the invention is not limited in its application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or being carried out in various ways. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting.

[0020] An illustrative enclosed play area **10** of the present invention is shown generally in **FIGS. 1-2**. The play area **10** includes front, back, and side walls **12** and a cover **14**. The walls include vertical and horizontal frame elements **16** and **18**, respectively, which cross each other, preferably at right angles, to define polygonal shaped areas **20** (which are preferably square or rectangular). Modular activity stations **21** are mounted in several of the areas **20**. The remaining areas are closed by a transparent or see-through material, such as a mesh, fencing, or other transparent material which can withstand the impact of balls being thrown at it. Preferably, the material cannot be easily climbed. The use of a transparent or see-through material for the walls **12** also allows people (such as parents) outside the play area **10** to view the activity inside the play area. A door **22** is hingedly mounted in one of the front, back, or side walls, to allow for entry into, and exit from, the play area **10**.

[0021] There can be several types of activity stations. In one form, the activity stations are centered around a common tub **30**. The tub **30** is generally in the shape of a truncated, four-sided pyramid. The tub **30** has four short side walls which are perpendicular to each other to define a rim which extends perpendicularly to the wall (or cover) of the play area when the tub is mounted to the play area frame. The tub walls are preferably all the same length and define a generally square mouth or opened end of the tub **30**. Sloped side surfaces extend inwardly from the side walls, so that the back of the wall is smaller in circumference than the front, or opened end, of the tub. A generally square back surface extends between the ends of the sloped side surfaces, and is generally centered relative to the mouth. The tub **30** is mounted to the frame elements **16** and **18** by brackets such that the walls of the tub do not protrude substantially into the play area. Preferably, the tub mouth is generally flush with the rear (or outside) of the frame elements **16** and **18**. By mounting the tub such that the mouth walls do not extend substantially into to play area (and preferably do not extend into the play area at all), hanging on the rims by children should be minimized. Rather, children, to the extent that they hang onto elements of the play area, will hang on the frame elements which form the enclosure. If they do hang on the bottom walls of the tubs, then the child's weight will be supported by the horizontal frame element below the bottom wall of the tub mouth.

[0022] The tubs **30**, for example, which are described in more detail in our above-noted co-pending patent application Ser. No. 10/155,673 which is incorporated herein by reference, include one or more hoops **34** or tubes **36**. The tubes can extend between two spaced apart tubs.

[0023] In another form, the activity station can include panels **38** (or pairs of panels) having openings **40**. Tubes **42** extend between the panel openings. These panels are generally vertically oriented, such that there are upper and lower openings, the upper openings defining entrances to the tubes **42** and the lower openings defining exits from the tubes **42**.

[0024] In a further form, the activity station can simply be stand-alone hoops **44**, which are not mounted within a tub. These hoops **44** are typically mounted to the walls of the enclosure.

[0025] Yet a further activity station **45** is shown in **FIG. 3**. The activity station shown therein is a pachinko-style or type activity. The activity station **45** comprises an activity housing **46** having a top **48**, sides **50**, and a back **52**. The front of the housing **46** is essentially flush with the wall of the enclosure, and extends rearwardly from the enclosure. The housing **46** can be divided into three sections, vertically—a top section **54**, a central section **56**, and a bottom section **58**. The top section **54** includes at least one entrance opening **60** formed in a front panel **62**. Three openings **60** are illustratively shown. The central section **56** includes a plurality of pegs **64** arranged in a desired pattern. Each peg is spaced apart from all adjacent pegs a distance sufficient to allow a ball to pass between the pegs. Lastly, the bottom section **58** is an exit section. The bottom is divided into three chambers **66**, each of which has a sloped floor **68**. When used, a player throws a ball so it passes through one of the openings **60** in the upper section **54**. The ball then falls through into the central section **56**, where it bounces off of, and past the various pegs **64**. Ultimately, the ball will fall into one of the three exit chambers **66**, and then roll out the bottom of the activity station. Part of the fun of the pachinko-style activity is watching the ball as it passes through the pegs. Hence, the central section **56** includes a front wall which is clear. This covering will not only allow the path of the ball to be observed—it will retain the ball within the central section and will serve as a support for one end of the pegs **64**.

[0026] Another tube-type activity **68** station is shown in **FIG. 4**. This activity station includes an upper panel **70** in the enclosure wall with an opening **72** formed therein. A lower panel **74**, which forms a portion of the enclosure wall below the upper panel **70**, has exit openings **76** formed therein. Behind the panels **70** and **74**, and outside of the enclosure, the activity station includes a bowl **78** which is mounted on a post **80** to be in an elevated position. The bowl **78** has a generally curved side wall **81** and a generally vertical rim **84** defining a mouth **82**. Preferably, the diameter of the rim **84** is smaller than the diameter of the bowl. Hence, the bowl includes an annular upper surface **86**. Lastly, the bowl includes several exit ports **88** positioned around the bowl wall **81**, near the bottom thereof. A tube **90** extends from each of the bowl exit ports **88** to an exit port **76** in the panel **74**. In **FIG. 4**, the station is shown to include four exit ports from the bowl and four tubes. Hence, there are four exit openings **76** in the panel **74**. The bowl **78** is positioned relative to the panels **70** and **74** such that the bowl's mouth **82** is below the upper panel opening **72**. In use, a player throws a ball through the entrance opening **72**. The ball passes through the bowl mouth **82** to be received within the bowl. Internally, the bowl is formed to ensure that the ball will enter one of the exit ports **88**. Thus, the ball will pass through one of the tubes **90** and exit the activity station through one of the exit ports **76** in the panel **74**. The tubes **90**, as seen, can spiral about the bowl supporting post **80**. If desired, the panels **72** and **74**, as well as the tubes **90**, could be made from clear material to allow the players to observe the ball as it passes through the tubes. The tubes **90** can also be wire tubes or chutes which guide the ball along the tube path.

[0027] The play enclosure is provided with a electronic scoring system, which is shown diagrammatically in **FIG. 6**. The scoring system includes an electronic or computerized controller **150** and a plurality of sensors S which are in communication with the controller. There is at least one sensors S associated with each of the activity stations. The sensors are provided to determine when a ball passes through the hoops, tubes, openings, etc. of the various activity stations. The sensors S can communicate with the controller **150** over cables or over a wireless system. When a ball passes through the hoop, tube, opening, etc. of an activity station, the sensor generates a signal which is transmitted to the controller to indicate that a ball passed through a particular opening in a particular activity station. When the sensor's signal is received by the controller, the controller will increment a score counter by a predetermined value and displays the score on a score display **152**. The score display **152** can be a typical score board, which displays the score number. Preferably, however, the score display **152** is a meter, such as seen in **FIG. 5**. The scoring meter of **FIG. 5** is a bar type meter. It includes rows of lights or lit panels which are illuminated as a players score increases. The different rows of lights or panels can be of different colors, if desired. Additionally, a light or sound effect **153** can be provided at the top of the bar meter to be activated when a predetermined score is reached. Although a bar style meter is shown, a dial type meter can also be used. Additionally, the activity stations each include their own light displays **153** which are activated when a sensor in the activity station is activated.

[0028] The hoops **34** and **44** are each provided with a hoop sensor **154**. The hoop sensor can, for example, be an optical sensor which includes an emitter and a receiver. The emitter sends a light beam which is received by the receiver. The emitter and receiver will be positioned opposite each other on the hoop rim, such that, when a ball passes through the plane of the hoop, the light beam will be broken. When the light beam is broken, the hoop sensor will then emit a signal indicative of the fact that the light beam was broken. The hoops can also be provided with contact sensors **156** which can be positioned at the hoop bracket which mounts a hoop **34** in a tub **30**, on the backboard of a free standing hoop **44**, or on the rim of a hoop. The sensors **156** will detect, and be activated, when the ball hits the hoop rim or backboard. For the tub hoops **34**, which do not have a typical backboard, sensors **156** can be placed on the tub walls.

[0029] The hoop sensors **154** and contact sensors **156** produce a signal when activated which is transmitted to the controller **150**. Based on the input received from the sensors associated with a particular hoop, the controller can determine if the ball passed straight through the hoop without touching the rim or back board (i.e., a swoosh shot), whether the ball passed through the hoop after first hitting one or both of the back board and hoop rim, or whether the ball hit the hoop rim and/or backboard, but did not pass through the hoop. For example, if the contact sensor **156** for the hoop rim or backboard is activated and then shortly thereafter, the hoop sensor is activated, the controller will determine that the ball first hit the rim or backboard and passed through the hoop. If both the rim and backboard contact sensors are activated and then the hoop sensor is activated, the controller will determine that the ball first hit both the rim and backboard, and then passed through the hoop. If the hoop sensor is activated but neither the rim contact sensor nor the backboard contact sensor is activated, then the controller can determine that the ball passed through the hoop without contacting the rim or the backboard. Lastly, if either the rim contact sensor or backboard contact sensor is activated, but the hoop sensor is not activated within a predetermined period of time (i.e., 2-5 seconds), the controller will determine that that ball hit the rim or backboard, but did not pass through the hoop. For the hoops **34** in the tubs **30**, the controller can determine which of the tub walls are hit by the ball, and the order in which they are hit and the number of times they are hit. Additionally, for tubs with multiple hoops, the controller can, based on the input from the sensors **154** and **156** determine through which hoops the ball passed (and did not pass) and the order in which the ball passed through the hoops.

[0030] Preferably, a point value is associated with each sensor. Thus, a player will earn points merely by having the ball hit one component of the hoop based activity stations. Additionally, a component score can be provided for each hoop, based on the number of sensors activated by a ball and the order in which they are activated. For example, a point value of 1 can be assigned when the ball hits only the rim or backboard, but does not pass through the hoop; a point value of 2 can be awarded if the ball hits the rim or backboard and the ball then passes through the hoop; and, a point value of 3 can be awarded if the ball passes through the hoop without contacting the rim or backboard. Additionally, in a tub having more than one hoop, the controller can determine which, and how many of the hoops the ball passed through. In this situation, the points awarded can be determined based which of the hoops the ball went through and how many of the hoops the ball passed through. The score for a multi-

hoop tub can also take into consideration if the ball passed through the hoops with or without contacting the rims of the hoops or the walls of the tub.

[0031] The hoop-based activity stations preferably include an audible or visual effects which is activated by the controller **150** when the controller receives a signal from a sensor **154** or **156** associated with the particular hoop. The light displays for the hoop-based activity stations can take on several forms. For example, the mouth of the tub can be provided with lights, as can each hoop in the tub. In a multi-hoop tub, when the ball activates one of the sensors, the light(s) for the particular hoop with which the particular sensor is associated will be illuminated, as will the lights for the tub in which the hoop is mounted. For the stand-alone hoops **44**, the backboards can be provided with lights. The sound effect can be of any desired type. For example the audio component can be the sound of a siren, cheering, clapping, hissing (for missed shots), etc. Any other type of light or sound effect can be activated when the sensors of particular hoops are activated. Further the various activity stations can be provided with both light and sound effects, only light effects, or only sound effects.

[0032] The tube based stations (such as the panel stations **40**, the pachinko style station **45**, and the spiral tube station **68**) are provided with sensors **160** which will determine when a balls enter. Sensors can also be provided to determine when balls exit the various activity stations. The sensor can be an optical sensor, such as the hoop sensors **154**, which are activated when a ball passes through either the entrance or exit of the tube. The sensor can also be a switch type sensor positioned along the tube, in which the ball passes over the switch to activate the sensor. Other types of sensors can also be used. The tubes can be provided with entry and/or exit sensors. If sensors are provided at both the entrance and exit, the controller **150** can also determine how long the ball took to pass through the tube. Thus, points can be awarded based on ball velocity in addition to merely entering the tube.

[0033] The light displays **153** for the tube-based activity stations can, for example, comprise lights which surround the opening and/or exits of the tubes. The lights for the particular tube through which the ball passes will then be activated when the sensor for the particular tube is activated.

[0034] In the pachinko-type activity station (**FIG. 3**), the entrance openings **60** are each provided with a sensor, such as the optical sensor **160**; the posts **64** are each provided with a pressure sensor (or some other sensor) to determine which posts **64** are hit by the ball; and the entrances to the chambers **66** (or the chamber floors **68**) are each provided with a sensor. Hence, based on the sensors activated, the controller **150** can determine which opening **60** the ball passes through, which posts **64** the ball contacts, and which chamber **64** the ball exits through. Points can be awarded based on the opening **60** through which the ball enters the activity and the chamber **66** through which the ball exits the chamber. Additionally, points can be awarded for each post contacted by the ball as the ball makes its way from the top to the bottom of the central section. The pachinko-type game is also provided with lights on each of the posts. Preferably, the lights for a particular post light up as the ball hits the post.

[0035] In the spiral tube activity station **68** of **FIG. 4**, there is a sensor at the opening **72** to determine when a ball passes through the opening. Additionally, there is at least one sensor associated with each of the tubes or chutes **90**. These sensors can be positioned at the beginning of the chute (or in the bowl exit port **88**), at the end of chute, or even along the shoot. Alternatively, sensors can be positioned at the beginning and end of the chute, thereby enabling the controller **150** to determine how long it takes for the ball to pass through the tube or chute. The light display associated with this activity station can include lights at the entrance opening **72**, lights at the exit openings **76**, and lights along the chutes **90**. Hence, when a ball passes through the opening **72**, the lights at the opening will be lit. Additionally, when the controller determines which chute the ball is passing through, the lights along the chute and the lights at the exit of the particular chute will be lit. In this activity station, points can be awarded for passing through the entrance opening **72**. Additionally, the points awarded can vary depending upon which of the chutes **90** the ball passes through. Further, if sensors are provided at the entrance and exit of the chutes, the points awarded can be varied based upon the amount of time it takes the ball to travel the length of the chute.

[0036] As noted above, the activity stations are preferably provided with light displays or effects. These light displays are provided to make the play a more dynamic experience as players try to light up the light displays of the various activity stations. In addition to the light displays, the activity stations can be provided with sound effects. The controller can cause different sound effects to be played based upon the sensors that are activated. Additionally, lights and/or sound effects can be activated when a predetermined score is exceeded.

[0037] Preferably, the controller is programmed to provide different games. Additionally, the difficulty level (or scoring level) for the different games can be adjusted for age level. In one game, the players can simply try to earn as many points as possible in a predetermined period of time. In another game, the controller could activate and deactivate the various activity stations in a predetermined or random pattern. In this instance, the light displays for the activity stations would include a light to be illuminated when the activity station is activated and turned off (or their color changed) when the station is deactivated. For example, the activated stations can be provided with green lights and the deactivated station can be provided with red lights or no lights. Further, an activity station can be provided with a yellow light to indicate that it will be deactivated shortly (i.e., within the next several seconds). Again, the point value can be altered based on the state of the activity station. The point value for a deactivated activity station will be zero. However, the point value for the station could be changed when the station indicator light turns yellow. For example the point value for the station can be increased when the station light turns yellow.

[0038] In yet another game, there could be no scoring, and only the audio/visual effects are activated. In such a game, the activity area could be themed (such as a circus theme), and the different activity stations would have a sound and or visual display associated with that theme. In this case, the players would play to produce the different sounds, rather than to achieve a higher score. Such a game may be more fun

for younger children who may be less interested in obtaining a high score, and more interested in having the sounds played.

[0039] To be sure that one group of players do not monopolize the play area, a play session will last only a predetermined amount of time. The system is thus provided with a timer **166**. The timer **166** is activated upon activation of a game. When a predetermined time has elapsed, the timer will produce a signal which is received by the controller **150** indicating that the predetermined time has elapsed. The controller will then deactivate the activity stations so that the sensors of the activity stations will not be activated when a ball passes pass the sensors. A timer display **168** can be provided to let the players know how much time remains in a session. The display can be a digital display which counts down, for example, seconds. Alternatively, A light column can be use which extends up the score meter. In this instance, each time a predetermined interval (i.e., 10 seconds) passes, a light in the column is illuminated. When the lights reach the top of the score meter, the predetermined time has elapsed. In another alternative, the light display could be a dial type display, with a sweep hand which moves toward zero, and thus indicates the remaining time in a session. When the hand reaches zero, the session time is ended.

[0040] To begin a game (and activate the scoring system), the play area is provided with, for example, an activation box **162** which includes a start button **164**, at the door or other entrance to the play area. The start button can, for example, be a button. Alternatively, the button can be activated by a coin box, whereby the coin box activates or initiates a play session when a predetermined amount of money has been inserted in the coin box. The player selects a desired game using a game selector **170**, which can be in the form of a button, switch, touch panel, etc. to enable the player to select the game to be played. To initiate a playing session, the player deposits the appropriate coinage in a coin box, presses a start button, or otherwise activates a start switch. The desired game can be selected either before or after the start switch **164** is activated. When the system is activated, the controller **150** resets the score counter to zero and initiates the session timer **166**. The player(s) then enter(s) the enclosure and begin(s) throwing balls within the enclosure to pass the balls through the various, hoops, tubes, chutes, entrances etc. Each time a ball passes through an activated hoop, tube, chute, opening, etc, the controller will increment the score counter by the point value then associated with the specific sensor. The incremented score will then be displayed on the display **152**.

[0041] When the session is over, the controller will deactivate the activity stations, and can be set to enter an "attract mode". In this attract mode, the controller can activate the light displays in the play enclosure in predetermined or random manner to attract players.

[0042] As can be appreciated, the play area, when provided with the electronics of the present invention, allows for a play session in which players can cooperate with each other to increase the total score for the session. In addition, the light and sound displays are provided to enhance the playing experience.

[0043] As various changes could be made in the above constructions 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 interpreted as illustrative and not in a limiting sense. Although the scoring system is described for use in an enclosed play area, the scoring system can be incorporated into a play area which, for example, is formed only along one wall, and which is not necessarily enclosed. Additionally, any type of sensor which can detect the passage of a ball through a plane can be used at the hoops and the various entrance and exit holes. Further, other types of sensors can be used to determine when a ball passes through a hoop. Other types of sensors can be used to determine when a ball hits a rim, back board, etc. These examples are merely illustrative.

1. A play area comprising:

a plurality of activity stations each of which comprises at least one opening through which a ball can pass;

at least one sensor associated with said at least one opening of at least one of the activity stations; said sensor emitting a signal when a ball passes through said opening;

a controller including a point counter, said controller being in communication with said at least one sensor to receive the signal from said at least one sensor; said controller incrementing said point counter a determined amount upon receipt of said signal from said at least one sensor; and

a score display in communication with said controller to be activated controller, said score display being indicative of the value of said point counter.

2. The play area of claim 1 wherein said sensor includes a transmitter and a receiver, said transmitter emitting an energy beam which is received by said receiver; said transmitter and receiver being positioned such that said beam is interrupted when a ball passes through said opening; said sensor being activated to emit its signal upon said ball disrupting said energy beam.

3. The play area of claim 1 wherein said score display comprises a scoring meter, said meter comprising a plurality of lights which are independently activated by said controller based upon the value of said point counter.

4. The play area of claim 1 wherein said opening comprises a hoop, said hoops including a rim.

5. The play area of claim 4 wherein said hoops are mounted to a wall of said play area and include a backboard; said play area additionally including contact sensors on said hoop rim and/or said backboard; said contact sensors emitting a signal when a ball hits said hoop and/or backboard; said controller receiving said signal from said contact sensor to increment the value of said point counter a determined amount.

6. The play area of claim 4 wherein said hoop is mounted within a tub; said tub comprising side, top, and bottom surfaces and a back surface; said play area additionally including contact sensors on said hoop rim and/or one or more of said tub surfaces; said contact sensors emitting a signal when a ball hits said hoop and/or tub surface; said controller receiving said signal from said contact sensor to increment the value of said point counter a determined amount.

7. The play area of claim 1 wherein said activity station comprises at least one tube sized to accept a ball; said

activity station comprising an entrance to said tube and an exit from said tube; said sensor being positioned along said tube.

8. The play area of claim 7 wherein said sensor is positioned adjacent said tube entrance.

9. The play area of claim 8 wherein said play area includes a second sensor at said tube exit.

10. The play area of claim 7 wherein said tube entrance and exit are mounted in panels, and are vertically spaced apart.

11. The play are of claim 7 wherein said activity station comprises a bowl which is elevated with respect to a floor of said play area; said tube entrance being in a wall of said bowl; said activity station comprising an opening in a wall of said activity station through which a ball can pass to enter said bowl; said tube exit being mounted in said activity station wall below said activity station opening.

12. The play area of claim 11 wherein said sensor is positioned at said activity station opening.

13. The play area of claim 12 wherein said activity station includes at least one additional sensor; said at least one additional sensor being positioned in said bowl opening, said tube entrance, and/or said tube exit.

14. The play area of claim 1 wherein said activity station is a pachinko-style activity station; said activity station comprising at least one opening, a chamber below said opening and including a plurality of posts which extend across said chamber; and at least one exit opening below said chamber; whereby said ball enters said activity station through said upper opening, passes through said chamber, and exits said station at said exit opening.

15. The play area of claim 14 wherein said sensor is positioned at said opening.

16. The play area of claim 15 including at least one additional sensor; said additional sensor being positioned on at least one of said posts and/or at said exit.

17. The play area of claim 1 further comprising a light and/or audio effects; said effects being activated by said controller upon receipt of said sensor signal by said controller.

18. The play area of claim 17 wherein said light and/or are associated with each of said activity stations; the light and/or audio effects of a particular activity station being activated upon receipt by said controller of a signal from a sensor of said activity station.

19. The play area of claim 1 wherein said controller is programmed to play a plurality of different games; said play area comprising a game selector whereby a player can select one of the plurality of games stored in said controller.

20. The play area of claim 1 including an activator to initiate a play session in said play area, whereby, when said activator is activated, said controller activates said activity station sensors and zero's said point counter.

21. The play area of claim 20 including a timer, said timer being programmed for a predetermined amount of time, whereby, when said predetermined amount of time has lapsed, said timer generates a signal which is received by said controller.

22. The play area of claim 21 wherein said controller deactivates said activity station sensors in response to the signal from said timer.

23. A play area comprising:

a plurality of activity stations each of which comprises at least one opening through which a ball can pass;

at least one sensor associated with said at least one opening of at least one of the activity stations; said sensor emitting a signal when a ball passes through said opening;

a controller being in communication with said at least one sensor to receive the signal from said at least one sensor; and

an electronic effect in communication with said controller, said effect being activated by said controller upon receipt by said controller of said sensor signal.

24. The play area of claim 23 including a point counter; said point counter being incremented by said controller upon receipt by said controller of said sensor signal; said electronic effect being a visual display, said visual display being indicative of the value of said point counter.

25. The play area of claim 23 wherein said electronic effect is a visual effect associated with the activity station.

26. The play area of claim 25 wherein said electronic effect comprises lights positioned about said activity station.

27. The play area of claim 23 wherein said electronic effect is an audio effect.

28. An electronic control system for a play area; the play area comprising at least one activity area comprising an opening through which a ball can be thrown; the control system comprising:

a sensor at said activity area, said sensor being activated to transmit a signal when a ball enters said activity area;

a controller in communication with said sensor; said controller receiving said signal from said sensor; and

an audio and/or visual effect activated by said controller upon receipt by said controller of said signal from said sensor.

29. The play area control system of claim 28 including a point counter; said controller incrementing said point counter upon receipt of a signal from said sensor; said visual effect being a score display which provides a visual indication of the value of the point counter.

30. The play area control system of claim 28 wherein said visual effect comprises a one or more lights; said controller activating said lights upon receipt of said sensor signal by said controller.

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