An adjustable basketball system is provided. The system includes a sleeve positioned in a substantially vertical orientation with respect to a surface upon which the system rests. The system further includes a post configured to be inserted partially within the sleeve to functionally engage the sleeve. The system further includes a basketball backboard coupled to a portion of the post not inserted within the sleeve, the basketball backboard further including the basketball rim. The system also includes an actuator that is functionally coupled to the sleeve and the post, wherein actuation of the actuator axially transitions the post with respect to the sleeve to reposition the backboard with respect to the surface.
ADJUSTABLE BASKETBALL SYSTEM AND
METHOD OF USE THEREOF

CROSS REFERENCE TO RELATED
APPLICATION

[0001] This application claims priority to U.S. Provisional patent application to Scott Lamasarus entitled “ADJUSTABLE BASKETBALL SYSTEM AND METHOD OF USE THEREOF,” Ser. No. 61/922,506, filed Dec. 31, 2013, now pending, the disclosure of which is hereby incorporated entirely herein by reference.

BACKGROUND

[0002] 1. Technical Field

[0003] This disclosure relates generally to sports equipment and in particular to an adjustable basketball system and method of using the same.

[0004] 2. State of the Art

[0005] Basketball systems are utilized to hold a basketball backboard and rim at a predetermined height to allow players to play the game of basketball. Some basketball systems may be set up on opposing sides of a basketball court to allow opposing teams or players to play full-court basketball. Some recreational, and even residential, basketball systems may be set up on any flat surface to allow basketball players to play a game of half-court basketball. Basketball systems may be fixed in the ground or may alternatively be portable.

[0006] Some basketball systems allow for the backboard and rim to be adjusted for height. A standard, regulation basketball backboard and rim system is set at 10 feet above the ground surface. However, some recreational and residential backboards may be adjustable in a step-wise manner so that the rim is positioned between 7 feet and 10 feet from the ground. These adjustable basketball backboards appeal to recreational players, players of relatively average size, players with limited vertical leap, or young basketball players, many of whom wish to execute shots and slam dunks on the lower rim like they see from professional basketball players on a regulation rim.

[0007] However, these adjustable basketball systems can pose problems. They can be cumbersome to operate, in that they may require a certain amount of strength to adjust the backboard and rim. These systems may also become inoperative if the specific tool needed to perform the desired adjustment is lost or broken. These systems can be impossible to operate for those that do not have the requisite strength or cannot reach the mechanism to adjust the system, such as children or disabled persons, such as wheelchair basketball players. These systems can bend and break over time due to exposure and use.

[0008] In addition, conventional adjustable basketball systems typically have height adjustments that range from 7- to 10-feet in predetermined increments of six inches. As a result, these predetermined height increments limit the basketball system to a certain number of preset height positions during play. These preset positions confine, or otherwise restrict, the playing height of the system and/or the resulting vertical jump of the player to these preset positions. This limits children and other athlete’s development from being able to set the basketball system exactly to their athletic physical abilities. In addition, it limits athletes recovering from injury experience related abilities to achieve complex physical acts related to knowing precisely to what speed and height they can push their athletic abilities in order to grade the activity/recovery of their athletic skills. This limits injured recreational athletes, professional athletes as a group and high-level amateur athlete’s recovery time by restricting physical-cognitive proficiency to the predetermined heights.

[0009] Furthermore, although video recording devices can be attached to adjustable basketball system backboards for video playback they are limited to the predetermined height positions. This limits athletes recovering from injury experience related abilities to process complex dynamic visual scenes in order to grade the activity of their athletic skills, such as, vertical jump. This limits injured recreational athletes, professional athletes as a group and high-level amateur athlete’s recovery time by restricting perceptual-cognitive expertise when reviewing recorded training sessions.

[0010] In view of the foregoing, there is thus a need in the industry for an improved adjustable basketball system that addresses the concerns and difficulties described above.

SUMMARY

[0011] The present disclosure relates to sports equipment and in particular to an adjustable basketball system and method of using the same.

[0012] An aspect of the present disclosure includes a basketball system comprising a sleeve, a post configured to be inserted partially within the sleeve to functionally engage the sleeve, a basketball backboard coupled to a portion of the post not inserted within the sleeve, and an actuator functionally coupled to the sleeve and the post, wherein actuation of the actuator axially transitions the post with respect to the sleeve to reposition the backboard.

[0013] Another aspect of the present disclosure includes the basketball system transitioning between an operational position and a stored position.

[0014] Another aspect of the present disclosure includes the basketball system being a portable system.

[0015] Another aspect of the present disclosure includes the basketball system being a fixed position system.

[0016] Another aspect of the present disclosure includes the basketball system being electrically operated via a control and a control unit.

[0017] Another aspect of the present disclosure includes a method of adjusting a basketball system, the method comprising providing a sleeve secured relative to a surface upon which the system rests, functionally engaging a portion of a post within the sleeve, coupling a basketball backboard to a portion of the post outside the sleeve, and axially transitioning the post with respect to the sleeve by a linear actuator coupled to each of the post and the sleeve to reposition the backboard.

[0018] The foregoing and other features, advantages, and construction of the present disclosure will be more readily apparent and fully appreciated from the following more detailed description of the particular embodiments, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] Some of the embodiments will be described in detail, with reference to the following figures, wherein like designations denote like members:

[0020] FIG. 1 is a perspective view of an embodiment of an adjustable basketball system.

[0021] FIG. 2 is a front view of an embodiment of an adjustable basketball system.
FIG. 3A is a rear view of an embodiment of an adjustable basketball system.

FIG. 3B is a zoomed in view of a sleeve of an embodiment of an adjustable basketball system taken along line B of FIG. 3A.

FIG. 4A is a section view taken along line A-A of FIG. 2 of an embodiment of an adjustable basketball system.

FIG. 4B is a zoomed in view of an end of an actuator rod of an embodiment of an adjustable basketball system taken along line C.

FIG. 4C is a zoomed in view of an end of an actuator rod of an embodiment of an adjustable basketball system taken along line D.

FIG. 5A is a section view taken along line A-A of FIG. 2 of an embodiment of an adjustable basketball system.

FIG. 5B is a zoomed in view of an end of an actuator rod of an embodiment of an adjustable basketball system taken along line E.

FIG. 5C is a zoomed in view of an end of an actuator rod of an embodiment of an adjustable basketball system taken along line F.

FIG. 6 is a front view of an embodiment of an adjustable basketball system with a portion of the backboard removed to depict components behind the backboard.

FIG. 7A is a side view of an embodiment of an adjustable basketball system.

FIG. 7B is a section view taken along line G-G of FIG. 7A of an embodiment of an adjustable basketball system.

FIG. 8 is a side view of an embodiment of an adjustable basketball system in a stored position.

FIG. 9A is a side view of an embodiment of an adjustable basketball system with a ground installation sleeve.

FIG. 9B is a zoomed in view of an embodiment of an adjustable basketball system with a ground installation sleeve taken along line H.

FIG. 10 is a schematic view of an embodiment of an adjustable basketball system.

FIG. 11A is a front view of a remote power box of an embodiment of an adjustable basketball system.

FIG. 11B is a front view of a remote power box of an embodiment of an adjustable basketball system with a cover plate removed.

FIG. 12A is a side view of an embodiment of an adjustable basketball system with a ground installation sleeve.

FIG. 12B is a zoomed in view of an embodiment of an adjustable basketball system with a ground installation sleeve taken along line K.

FIG. 12C is a zoomed in view of an embodiment of an adjustable basketball system with a ground installation sleeve taken along line L.

FIG. 12D is a zoomed in view of an embodiment of an adjustable basketball system with a ground installation sleeve taken along line M.

FIG. 13A is a top view of an adjustable basketball system.

FIG. 13B is a side view of an adjustable basketball system.

DETAILED DESCRIPTION OF EMBODIMENTS

A detailed description of the hereinafter described embodiments of the disclosed apparatus and method are presented herein by way of exemplification and not limitation with reference to the Figures listed above. Although certain embodiments are shown and described in detail, it should be understood that various changes and modifications may be made without departing from the scope of the appended claims. The scope of the present disclosure will in no way be limited to the number of constituting components, the materials thereof, the shapes thereof, the relative arrangement thereof, etc., and are disclosed simply as an example of embodiments of the present disclosure.

As a preface to the detailed description, it should be noted that, as used in this specification and the appended claims, the singular forms “a”, “an” and “the” include plural refers, unless the context clearly dictates otherwise.

Referring to the drawings, FIGS. 1-8 depict an embodiment of an adjustable basketball system 10. Embodiments of the system 10 may comprise various structural and functional components that complement one another to provide the unique functionality and performance of the system 10, the structure and function of which will be described in greater detail herein. Embodiments of the system 10 may comprise, among other components, a sleeve 20, a post 30, an actuator 40, and a backboard assembly 50.

Embodiments of the system 10 may comprise a sleeve 20. The sleeve 20 may comprise a first end 22 and a second end 24. The sleeve 20 may comprise a through bore 25 running from the first end 22 to the second end 24. The sleeve 20 may be cylindrical in its cross-sectional shape, so as to form a tube. The sleeve 20 may have any other cross-sectional shape, such as square, rectangle, oval, diamond, triangle, or other similar shape, that may be capable of having a through bore 25 therein. The through bore 25 may have an interior surface 26. The sleeve 20 may comprise a connection member 28 that may be fixedly coupled to the second end 24 of the sleeve 20. The connection member 28 may be releasably coupled to the second end 24 of the sleeve 20. The connection member 28 may be a plate member that may be formed in the shape of a disc under the condition the sleeve 20 is cylindrical in shape. The connection member 28 may be configured to close the second end 24 of the sleeve 20 when the connection member 28 is coupled to the sleeve 20 at the second end 24. The connection member 28 may be configured to have coupled thereto and rigidly support the actuator 40. The sleeve 20 and the connection member 28 may be comprised of one or more metals or alloys, such as zinc, magnesium, titanium, copper, iron, steel, carbon steel, alloy steel, tool steel, stainless steel, aluminum, any combination thereof, aluminum alloy, titanium alloy, magnesium alloy, copper alloy, any combination thereof, and/or other like materials.

Embodiments of the system 10 may comprise a post 30. The post 30 may comprise a first end 32 and a second end 34. The post 30 may be cylindrical in its cross-sectional shape, so as to form a cylindrical member. The post 30 may be a hollow tube member having a through bore therein. Alternatively, the post 30 may be a solid cylindrical member. The post 30 may have a cross-sectional shape that communicates with the cross-sectional shape of the through bore 25 of the sleeve 20. As such, the post 30 may have any other cross-sectional shapes, such as square, rectangle, oval, diamond, triangle, or other similar shape, that may be capable of functionally communicating with the through bore 25. The post 30 may be configured to be inserted within the through bore 25, such that at least a portion of the post 30 is encased by the sleeve 20. Indeed, the post 30 may have an exterior surface 36.
that may be configured to functionally communicate with the interior surface 26 of the through bore 25 of the sleeve 20. Also, the post 30 may comprise a connection member 38 that may be fixedly coupled to the second end 34 of the post 30. The connection member 38 may be releasably coupled to the second end 34 of the post 30. The connection member 38 may be a plate member that may be formed in the shape of a disc under the condition that post 30 is cylindrical in shape. The connection member 38 may be configured to close the second end 34 of the post 30 when the connection member 38 is coupled to the post 30 at the second end 34. The connection member 38 may be configured to be able to couple to the second end 34 of the post 30 and yet permit the second end 34 of the post 30 having the connection member 38 coupled thereto to be inserted through the bore 25 of the sleeve 20. The connection member 38 may be configured to have coupled thereto and rigidly support the actuator 40. The post 30 may further comprise a cap positioned on the first end 32. The post 30 and the connection member 38 may be comprised of one or more metals or alloys, such as zinc, magnesium, titanium, copper, iron, steel, carbon steel, alloy steel, tool steel, stainless steel, aluminum, any combination thereof, aluminum alloy, titanium alloy, magnesium alloy, copper alloy, any combination thereof, and/or other like materials.

Embodiments of the system 10 may comprise the actuator 40 being a linear actuator, powered by electric current, having a stroke length and speed suitable to transition the post 30 with respect to the sleeve 20 a predetermined distance within a predetermined time frame. The electric current may be provided by a battery, a rechargeable battery, solar panels, a generator, electrolytic cells, an utility AC power outlet, or any combination thereof. The actuator 40 may further comprise one or more actuators 40 working in tandem (see FIG. 5A-5C). The plurality of actuators may be connected in series one after the other so as to be able to operate at the same time and extend the post 30 with respect to the sleeve 20 at an increased rate or increased range.

Embodiments of the system 10 may comprise the actuator 40 having opposing ends, a first end 42 on actuator rod 41 and a second end 44 on actuator cylinder 43. The first end 42 may be releasably coupled to the connection member 38 of the post 30. The first end 42 may alternatively be fixedly coupled to the connection member 38 of the post 30. Further in the alternative, the first end 42 may be coupled to a bracket, brace, strut, support, or other coupling member that is positioned on and coupled to the connection member 38, such that the first end 42 may be coupled to the connection member 38 via the bracket, brace, strut, support, or other coupling member. The second end 44 may be releasably coupled to the connection member 28 of the sleeve 20. The second end 44 may alternatively be fixedly coupled to the connection member 28 of the sleeve 20. Further in the alternative, the second end 44 may be coupled to a bracket, brace, strut, support, or other coupling member that is positioned on and coupled to the connection member 28, such that the second end 44 may be coupled to the connection member 28 via the bracket, brace, strut, support, or other coupling member. With the first end 42 of the actuator 40 being coupled to the connection member 38 and the second end 44 of the actuator 40 being coupled to the connection member 28, upon activation of the actuator 40 the actuator 40 exerts force on each of the connection members 38 and 28. Due to the fact that the connection member 28 is coupled to the sleeve 20, which does not move, the force exerted by the actuator pushes on the connection member 38 to axially transition the post 30 with respect to the sleeve 20. In other words, upon activation of the actuator 40, the actuator 40 functions to push against the connection members 28 and 38 to distance the connection members 28 and 38 from one another. However, because the connection member 28 does not move due to its relative position with the sleeve 20, the operation of the actuator 40 functions to displace the connection member 38 within the through bore 25 of the sleeve 20. While displacement axially transitions the post 30 within the through bore 25 along the length of the axis of the sleeve 20. In this way, the actuator 40 may be configured to raise and lower the post 30 in and out of the sleeve 20. Additionally, the system 10 may comprise an end cap member 48 coupled to second end 34 of post 30 and an end cap member 49 coupled to first end 22 of sleeve 20. End cap 48 may comprise an outer diameter that engages and inner surface of sleeve 20. The end cap 49 may have an inner diameter that engages and outer surface of post 30. The end caps 48 and 49 cooperate with each other to assist in maintaining post 30 and sleeve 20 in a coaxial relationship as the post 30 is raised and lowered in and out of sleeve 20. This prevents binding of the components and damage to the actuator 40.

Embodiments of the system 10 may comprise the actuator 40 being configured to be housed within the sleeve 20 so as to be out of sight. The actuator 40 may be positioned...
within the through bore 25 of the sleeve 20 and at a position between the connection member 28 and the post 30. In particular, the actuator 40 may be configured within the through bore 25 of the sleeve 20 and at a position between the connection member 28 and the connection member 38 of the post 30.

As mentioned above, embodiments of the system 10 may further comprise the actuator 40 being one or more actuators 40. In embodiments where a plurality of actuators 40 are utilized, the post 30 may be comprised of one or more sections. For example, the post 30 may be comprised of an additional member 30a (as shown in FIGS. 5A and 7A) that is configured to reside within and engage the interior of the post 30, such that the additional member 30a may slidably engage the post 30, much like the post 30 engages the sleeve 20. In other words, the additional member 30a is nested within the post 30 and the post 30 is nested within the sleeve 20. Then, with a plurality of actuators 40, an additional connection member 39 may be coupled to the interior of the bottom of the additional post member 30a. In this way, the second actuator 140 may be positioned in between the connection member 38 and the connection member 39, effectively in mechanical series above the first actuator 40. In fact, the second actuator 140 may have one end coupled to the connection member 38 and its opposing end coupled to the connection member 39 such that the second actuator 140 may exert force on the connection members 38 and 39. However, with force already being exerted on the connection member 38 from the opposite direction from the first actuator 40, the force of the second actuator 140 will function to displace the connection member 39, which pushes the additional member 30a upward out of the post 30. It follows that both actuators 40 and 140 may function at the same time in mechanical series to push the post 30 out of the sleeve 20 and the additional post member 30a out of the post. As a result, with the backboard assembly 50 coupled to the additional post member 30a, the backboard assembly 50 may move up and down with respect to a ground surface at twice the rate. It will be understood that additional post member 30a and post 30 may include end caps 148 and 149 that operate and function in a similar manner as end caps 48 and 49 respectively. Therefore the description of end caps 48 and 49 apply in similar manner to end caps 148 and 149.

Embodiments of the system 10 may comprise the actuator 40 being configured to have a stroke length that is sufficient enough to transition the post 30 (and additional post member 30a) a desired displacement distance within the sleeve 20, but not sufficient enough to eject the post 30 completely out of the sleeve 20. The desired displacement distance may be a distance between 1 and 4 feet in certain embodiments. The desired displacement distance may be 2 to 3 feet in certain embodiments. The desired displacement distance may be 3 feet in certain embodiments. The actuator 40 (and actuator 41) may be configured to be operated and/or controlled via a control 46. The control 46 may be a rocker switch box with various operational controls thereon. For example, the control 46 may be configured to have an on/off switch, an up or down switch, and/or a handy mode. The control 46 may be configured to have preprogrammed height adjustments that correspond to a predetermined desired displacement distance. The control 46 may be configured to be programmable to set one or more of the predetermined desired displacement distances to a specific switch on the control 46. The control 46 may be configured to operate the actuator 40 to transition the actuator 40 in predetermined step-wise displacements. The control 46 may be configured to transition the actuator 40 to any displacement distance within the stroke length of the actuator 40. Once transitioned to the desired distance, the actuator 40 may be configured to hold or otherwise maintain the displacement distance until the control 46 is again operated. In this way, the operator of the system 10 may set the desired height of the backboard backboard system 10 by operation of the control 46 that directs the function of the actuator 40. The post 30 may be further configured with a height indicator 31 that visibly displays to the user the height of the rim 56 at any given displacement distance.

Embodiments of the system 10 may comprise a backboard assembly 50. The assembly 50 may further comprise a frame 52 having a backboard 54 and a rim 56. The frame 52 may be configured to be releasably coupled to a portion of the post 30 that is not functionally engaged by the sleeve 20. The frame 52 may be configured to have coupled thereto the backboard 54. The backboard 54 may have coupled thereto the rim 56.

Embodiments of the system 10 may comprise the backboard assembly 50 having a light 51 to illuminate the surrounding areas, such as the backboard 54, rim 56, and/or the surface around the system 10 upon which the system 10 rests. The backboard assembly 50 may further comprise a camera 53 for capturing the action taking place at the rim 56 or in surrounding areas. The backboard assembly 50 may further comprise a control unit 57. The control unit 57 may control the operation of the light 51 and camera 53. The control unit 57 may have a processor, ram, memory, and input ports for receiving USB input, HDMI input, power input, flash drives, and the like.

The control unit 57 may receive and store images from the camera 53 and place the stored images on storage devices temporarily connected to the control unit 57 or in internal memory, or send the images and/or video to a remote computer using wireless communication. In at least this way, the control unit 57 controls the operation of the camera. In some embodiments, the control unit may communicate with a mobile computing device to control the camera, such as focusing the camera, zoom, pan, tilt, f-stop adjustments, and the like, including activating the shutter or starting of recording.

The control unit 57 may comprises a power source, such as, but not limited to, an AC power supply, batteries and rechargeable batteries to power the actuator 40 and other components described herein. The control unit 57 may provide power to the control 46. The control unit 57 may be configured to wireless connect to the internet. The backboard assembly 50 may further comprise a smartphone mount that is configured to receive and retain a smartphone therein. In some embodiments, the power source may be a solar panel, such as, but not limited to solar panel 150. The solar panel 150 may supply power directly to the control unit 57 and/or the control 46. In other embodiments, the solar panel 150 may charge a solar battery 152 used to power the control unit 57 and/or the control 46.

In some embodiments, the control unit 57 may have a smartphone coupled thereto for receiving and storing images from the camera on the smartphone and placing the stored images on a storage device temporarily connected to the control unit 57. The control unit 57 may be capable of providing power to the smartphone. The control unit 57 may be configured to be accessible from a wirelessly enabled.
device connected to the same network the control unit 57 is connected to, such that the wireless enabled device may transfer data back and forth from the control unit 57 and the device. The control unit 57 may be configured to have speakers for playing music supplied via the wireless network or from the smartphone or other music source. In some embodiments, the speakers 76 may be located in the base 70 of the system 10. The speakers 70 may be Bluetooth speakers, or other wireless speakers, that communicate directly with a music source and bypass the control unit 57. In other embodiments, as shown in FIGS. 13A-13B, the speakers 76 may be coupled to the backboard assembly 50. For example, the speakers may be coupled to the frame 52 of the backboard assembly 50. The location of the speakers 76 on the frame 52, of the backboard assembly 50 allows for easy listening to the music or other sounds produced by the speakers 76, and further protects the speakers 76 by locating them behind the backboard 54, allowing a user to shoot a basketball at the rim 56 without the risk of hitting the speakers 76.

[0061] The backboard assembly 50 may further comprise wiring and other hardware necessary to power and operate the light 51, camera 53, control unit 57 and other devices described herein. Embodiments of the system 10 may further comprise the light 51, the camera 53 and other accessories being coupled directly to the post 30. All the hardware and wiring necessary to perform the functions described herein may be concealed Within the post 30, the backboard assembly 50, or other component parts of the system 10 so as to be out of sight and protected from the elements.

[0062] As depicted in FIGS. 1-8, embodiments of the system 10 may comprise the system 10 being portable. The portable system 10 may further comprise a base 70 having wheels 72 and a support member 74. The base 70 may be configured to be releasably coupled to the sleeve 20 and/or the connection member 28. Alternatively, the base 70 may be configured to be fixedly coupled to the sleeve 20 and/or the connection member 28. This may be accomplished by use of bolt 110 coupled through second end 24 of the sleeve. The base 70 may be configured to have placed therein a material and/or fluid that can weigh down the system 10 and prevent unwanted movement from forces exerted thereon through use. The support member 74 may be configured to be coupled between the base 70 and the sleeve 20. For example, the support member 74 may be configured to be coupled from a distal end of the base 70 to the sleeve 20 at a distance up the sleeve 20 from the base 70, such that the support member 74 provides stability, strength, and support to the sleeve 20 in the upright position. Embodiments of the system 10 may further comprise a handle 58 coupled to the post 30 or the backboard assembly 50. The handle 58 may be configured to be grabbed by a user to pull the system 10 up onto the wheels 72 of the base 70 to transport the system 10 from one location to another by rolling on the wheels 72. The handle 58 may be configured on the system 10 at a position proximate the first end 32 of the post 30 to provide leverage.

[0063] Embodiments of the system 10 may comprise the post 30 having a post junction 60. The post junction 60 may be a joint, seam, or pivot point in the post 30 that allows the portion of the post 30 having the backboard assembly 50 coupled thereto to rotate with respect to the remaining portion of the post 30 that is engaged by the sleeve 20. In this way, the post junction 60 may allow the backboard assembly 50 to pivot or otherwise rotate with respect to the sleeve 20. The post junction 60 may permit the backboard assembly 50 to pivot 180 degrees from an operational position to a stored position. In the operational position, the backboard assembly 50 may be positioned to place the rim 56 in a position facing away from the base 70 so as to be easily accessed during basketball play. Whereas, in the stored position, the backboard assembly 50 may be positioned to place the rim 56 above the base 70 for ease and convenience in storage. With the backboard assembly 50 positioned above the base 70, the footprint of the system 10 is greatly reduced.

[0064] As depicted in FIGS. 9A-9C and 12A-12C, embodiments of the system 10 may comprise the system 10 being fixed relative to the ground 2. Accordingly, embodiments of the system 10 may comprise a ground sleeve 80 that may be configured to be anchored in the ground 2 and/or anchored in concrete. Concrete may be poured around the exterior of the ground sleeve 80 to hold the ground sleeve 80 in place. Additionally, the ground sleeve 80 may be coupled to a bolt positioned and anchored in the concrete. Either way, the ground sleeve 80 should be secured to the ground 2 in which the system 10 is to be anchored. The ground sleeve 80 may be further configured to extend partially out of the ground 2 to receive the connection member 28 thereon to couple the sleeve 20 to the ground sleeve 80 by way of the connection member 28. In other words, the connection member 28 may be coupled directly to the ground sleeve 80 by coupling means, such as bolts or the like. In the alternative, the ground sleeve 80 may be configured to be hollow, so as to be able to receive the sleeve 20 therein. The ground sleeve 80 may further comprise an interior engagement member 82 within the hollow. The sleeve 20 may be configured with a slot 27 that may be configured to engage the engagement member 82 in the hollow, such that the engagement member 82 and the slot 27 prevent the sleeve 20 from rotating, spinning, or otherwise moving with respect to one another once the engagement member 82 has engaged the slot 27.

[0065] Embodiments of the system 10 may comprise the repositioning of the backboard assembly 50 continuously at any point along a range between the maximum and minimum height achievable by the system 10, per the configuration of the sleeve 20, the post, and the actuator(s) 40, as described above. Further, as shown in FIG. 12A, the actuator may be coupled within the sleeve 20 in an opposite direction as the actuator 40 coupled within the sleeve 20 depicted in FIG. 9A. Alternatively, the repositioning of the backboard assembly 50 may be accomplished in height increments of ½". The height increments may be measured using a decimal or fractional ruler measuring system affixed to the post interfacing with a 3 position electric rocker switch or remote control for up, down, and stop movement, but with the backboard assembly 50 being sustainable, or otherwise maintained, in each position. The switch or remote may be operated for the direction of movement desired and the linear actuator 40 may stop at the desired height, whether continuously or incrementally, within the range of the stroke of the linear actuator 40. This gives the player a visual aid to allow them to complete plays such as a Jump Shot or Slam-dunk at their absolute maximum vertical leap height within the range of the linear actuator 40. The aspect of having a ruler, or other measurement means, affixed to the system 10 and the precise hoop height adjustments acts as a vertical jump measuring device for standing or running vertical jumps. In addition, the ability of the system 10 to achieve and maintain precise height adjustments can help in the field of sports medicine. For example, vertical jump measurements can be used in athletic jump training such as Plyo-
metrics to measure the increase of muscular power and performance, and medical doctors can use the system to measure injury recovery progress during physical examinations. The flexibility of the basketball system allows a user to both train and test for power output in athletes. Sports, such as basketball, measure players' vertical jumping ability during physical examinations or training sessions, and periodically monitor jumping abilities to track any increases in vertical jump power output, and ground reaction force produced to assess muscular strength.

Embodiments of the system may include the portable video camera being affixed to a clear backboard on the backside of the backboard. The video camera may allow the player to grade his/her abilities, because the height increments can be customized to each player's specific physical abilities. This increases each player's efficiency rating and allows each player to customize his/her game when reviewing recorded training sessions.

Embodiments of the system can be adapted or configured to isolate and/or identify critical mental abilities of vertical jump testing by use of exact hoop height positions and exact hoop camera positions that aid in an athlete's sports-related competitive physical-cognitive and perceptual-cognitive expertise for optimal training. This adjustable basketball system directly assesses how basketball player's experience-related abilities correspond to fundamental and specific physical acts such as vertical jump by assessing things such as depth perception and physical responsiveness.

A method of operating the system may comprise coupling a sleeve adjacent a surface used as a basketball court, functionally engaging a portion of a post within the sleeve, coupling a basketball backboard to a portion of the post outside the sleeve, and axially transitioning the post with respect to the sleeve by a linear actuator coupled to each of the post and the sleeve to reposition the backboard.

The method may further comprise providing electric power to the system, activating the actuator via a control, operating a camera, operating speakers to play music, pivoting the basketball backboard between an operational position and a stored position, and transporting the system from one location to another.

Embodiments of the basketball system may include a mobile app for use with a tablet, smartphone or other mobile computing device. The mobile app includes executable code that operates to consider three variables to track success in shooting. The variables include a shooting zone variable, a time variable and a height variable. The shooting zone variable measures and records shots attempted and tracks shots made or missed in order to determine a shooting percentage from a particular zone. The time variable measures shots taken within a predetermined amount of time and tracks shots made or missed in order to determine a shooting percentage when the time is running down. The last variable is a height variable, wherein the height of the rim of the backboard assembly is set and the shots made or missed are tracked to determine the shooting percentage on a particular height. It will be understood that each of these variables may be measured and tracked simultaneously. The various percentages provide feedback on certain shots, pressure and height a user would need to look at improving.

In some embodiments, the shooting zones are established as semi-circular zones, wherein the shooter within each zone is approximately the same distance from the rim when shooting anywhere within that zone. The zones may be distinguished by differing colors or other marking system.

In some embodiments of the mobile app, the camera of the basketball system may be utilized to determine if a shot is made or missed. Further, other forms of determining whether shots are made may be employed. The mobile computing device automatically calculates the resultant output based on the input from the various shots made or missed. Additionally, the mobile device may communicate with the speakers, wherein the speakers can audibly provide updates of time, of makes, of misses and other information provided to the shooter during operation of the mobile app.

The components defining the above-described system may be formed of any of many different types of materials or combinations thereof that can readily be formed into shaped objects provided that the components selected are consistent with the intended operation of a basketball system of the type disclosed herein. For example, and not limited thereto, the components may be formed of: rubbers (synthetic and/or natural) and/or other like materials; glasses (such as fiberglass) carbon-fiber, aramid-fiber, any combination thereof, and/or other like materials; polymers such as thermoplastics (such as ABS, Fluoropolymers, Polyacetal, Polyamide; Polycarbonate, Polyethylene, Polysulfone, and/or the like), thermostet (such as Epoxy, Phenolic resin, Polymide, Polyurethane, Silicone, and/or the like), any combination thereof, and/or other like materials; composites and/or other like materials; metals, such as zinc, magnesium, titanium, copper, iron, steel, carbon steel, alloy steel, tool steel, stainless steel, aluminum, any combination thereof, and/or other like materials; alloys, such as aluminum alloy, titanium alloy, magnesium alloy, copper alloy, any combination thereof, and/or other like materials; any other suitable material; and/or any combination thereof.

Furthermore, the components defining the above-described system may be purchased pre-manufactured or manufactured separately and then assembled together. However, any or all of the components may be manufactured simultaneously and integrally joined with one another. Manufacture of these components separately or simultaneously may involve extrusion, pultrusion, vacuum forming, injection molding, blow molding, resin transfer molding, casting, forging, cold rolling, milling, drilling, reaming, turning, grinding, stamping, cutting, bending, welding, soldering, hardening, riveting, punching, plating, and/or the like. If any of the components are manufactured separately, they may then be coupled with one another in any manner, such as with adhesive, a weld, a fastener (e.g., a bolt, a nut, a screw, a nail, a rivet, a pin, and/or the like), wiring, any combination thereof, and/or the like for example, depending on, among other considerations, the particular material forming the components. Other possible steps might include sand blasting, polishing, powder coating, zinc plating, anodizing, hard anodizing, and/or painting the components for example.

While this disclosure has been described in conjunction with the specific embodiments outlined above, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, the preferred embodiments of the present disclosure as set forth above are intended to be illustrative, not limiting. Various changes may be made without departing from the spirit and scope of the present disclosure, as required by the following
claims. The claims provide the scope of the coverage of the present disclosure and should not be limited to the specific examples provided herein.

What is claimed is:

1. A basketball system comprising:
   a sleeve;
   a post configured to be inserted partially within the sleeve to functionally engage the sleeve;
   a basketball backboard assembly coupled to a portion of the post not inserted within the sleeve; and
   an actuator functionally coupled to the sleeve and the post, wherein actuation of the actuator axially transitions the post with respect to the sleeve to reposition the backboard assembly.

2. The system of claim 1, wherein the basketball system is a portable basketball system having a base.

3. The system of claim 2, wherein the base comprises support bars and wheels.

4. The system of claim 3, further comprising handles coupled to a first end of the post, wherein the handles operate with the wheels to move the portable basketball system.

5. The system of claim 1, further comprising a ground sleeve, wherein the sleeve of the basketball system is coupled within the ground sleeve.

6. The system of claim 1, comprising a control electrically coupled between the actuator and a power source, wherein the control comprises a switch, wherein the actuator operates in response to operation of the switch.

7. The system of claim 1, further comprising a camera.

8. The system of claim 7, wherein the camera is coupled behind the backboard, wherein the backboard is a clear backboard and wherein the camera lens faces the clear backboard for recording through the backboard.

9. The system of claim 7, further comprising a control unit for operating the camera, wherein the control unit comprises a processor, ram, memory, and an input/output port.

10. The system of claim 9, wherein the control unit comprises a removable memory coupled to the input/output port for storing photos and video captured by the camera.

11. The system of claim 9, wherein the control unit comprises a power source.

12. The system of claim 11, wherein the power source is one of AC power, a battery, a solar panel or combinations thereof.

13. The system of claim 1, wherein the sleeve comprises an orientation channel.

14. The system of claim 13, further comprising an orientation pin coupled to the post, wherein the orientation pin extends through and is slideable along the orientation channel.

15. The system of claim 14, wherein the orientation pin within the orientation channel restricts rotational movement while allowing linear axial movement.

16. The system of claim 1, wherein the backboard assembly comprises a backboard and a rim.

17. A method of adjusting a basketball system, the method comprising:
   coupling a sleeve adjacent a surface used as a basketball court;
   functionally engaging a portion of a post within the sleeve;
   coupling a basketball backboard assembly to a portion of the post outside the sleeve; and
   axially transitioning the post with respect to the sleeve by activating a linear actuator coupled to each of the post and the sleeve to reposition the backboard assembly.

18. The method of claim 17, further comprising providing electric power to the system.

19. The method of claim 18, further comprising activating the actuator via a control.

20. The method of claim 17, wherein repositioning the backboard assembly comprises positioning a rim at any height from a bottom of a portable base of the basketball system between a minimum rim height and a maximum rim height.

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