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(54) **TENNIS TEACHING AID**

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(57) **ABSTRACT**

Implementations herein provide for systems and methods related to teaching a beginner player how to play a sport with a net. In one implementation, a tennis training aid consists of two support posts and a cord. The cord is attached to each support post at substantially the same height and the cord is substantially parallel to a ground surface. The cord assists the player by acting as a dividing line between different sections of space.

FIG. 1

FIG. 2

FIG. 3

400

402 — Set up the focus net.

404 — Serve the ball towards the focus net.

406 — Did the ball pass over the focus net?

Y → 408 Move to the back of the court.

N

412 — Move to the front of the court.

410 Return the ball.
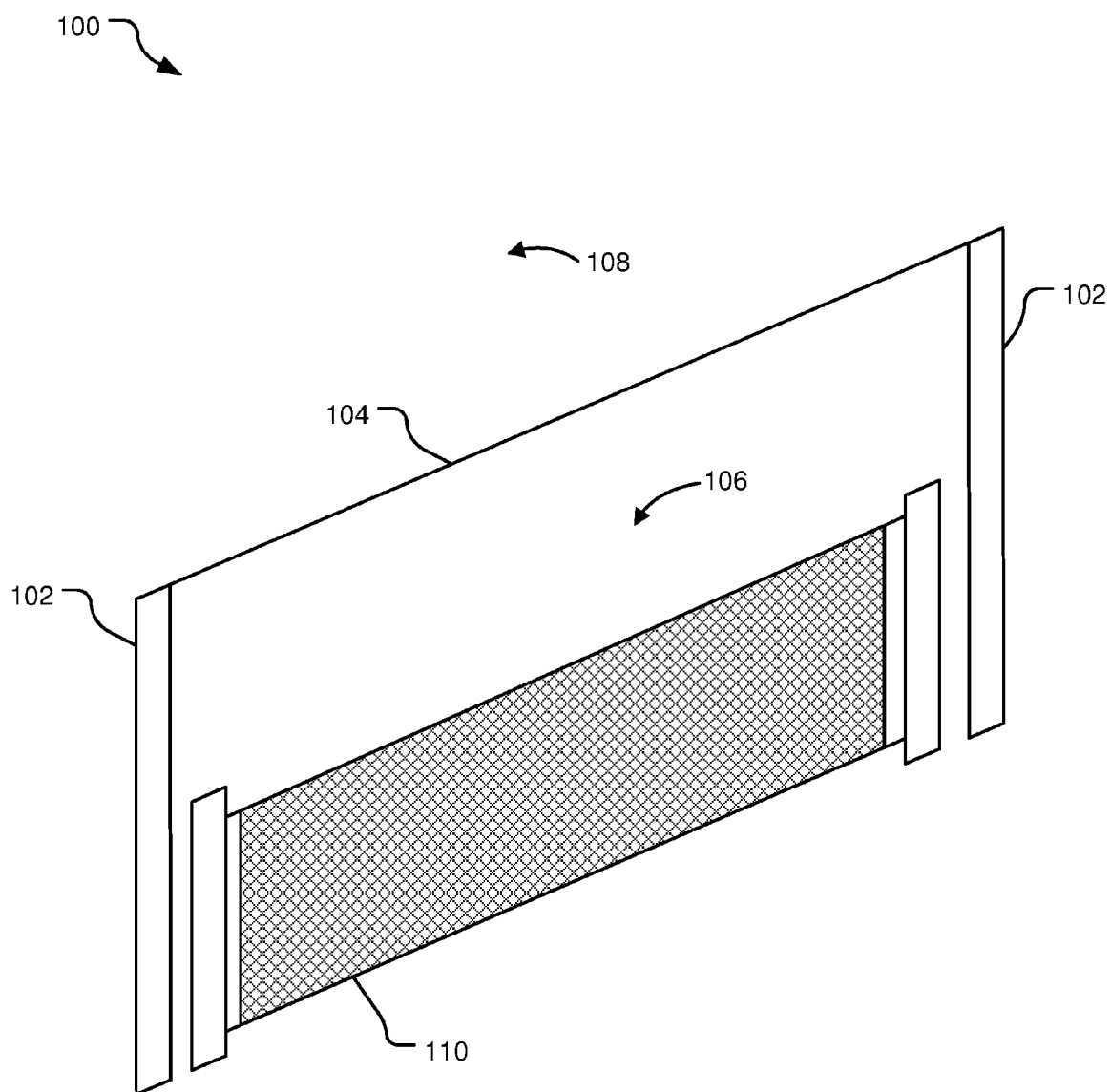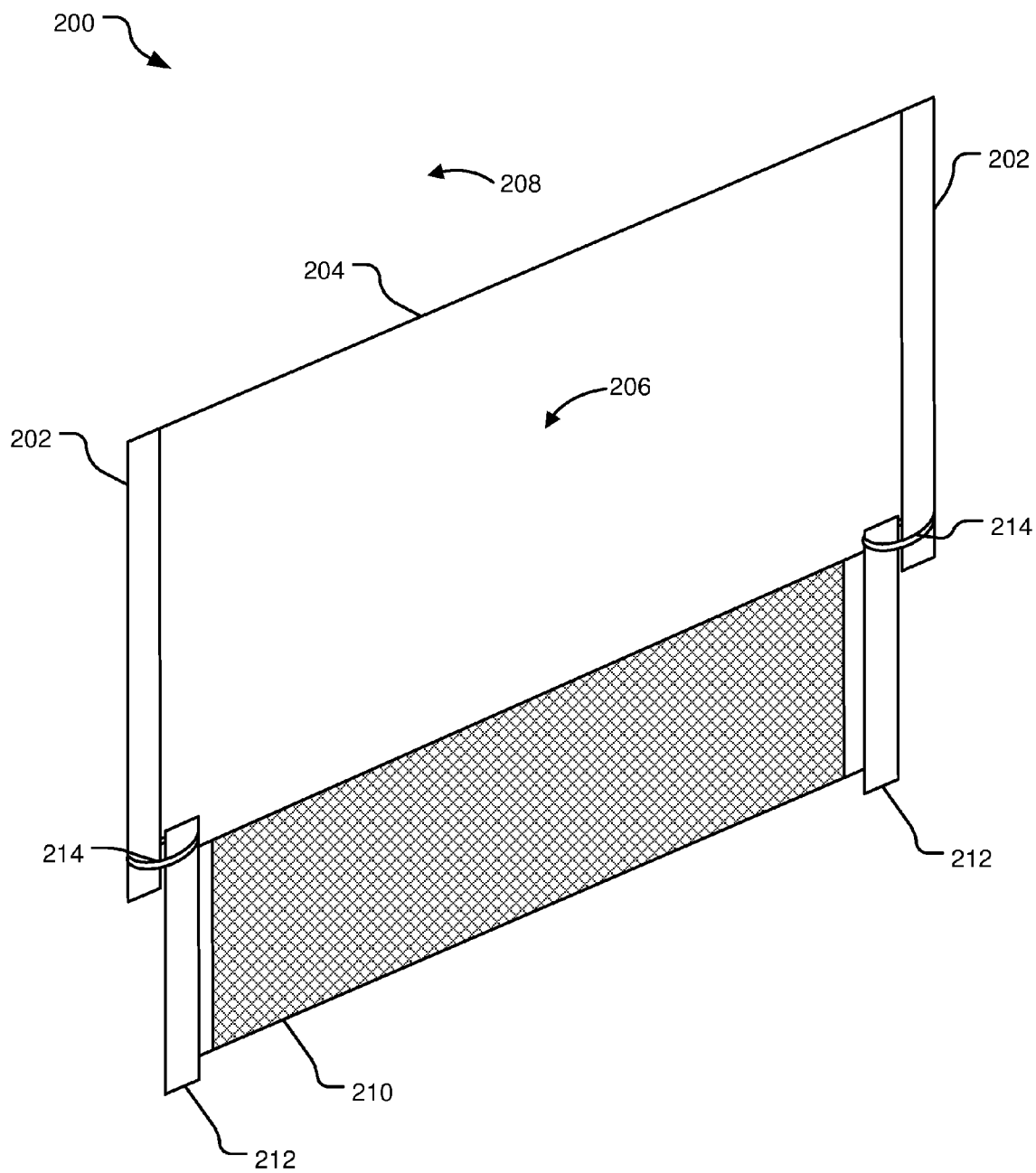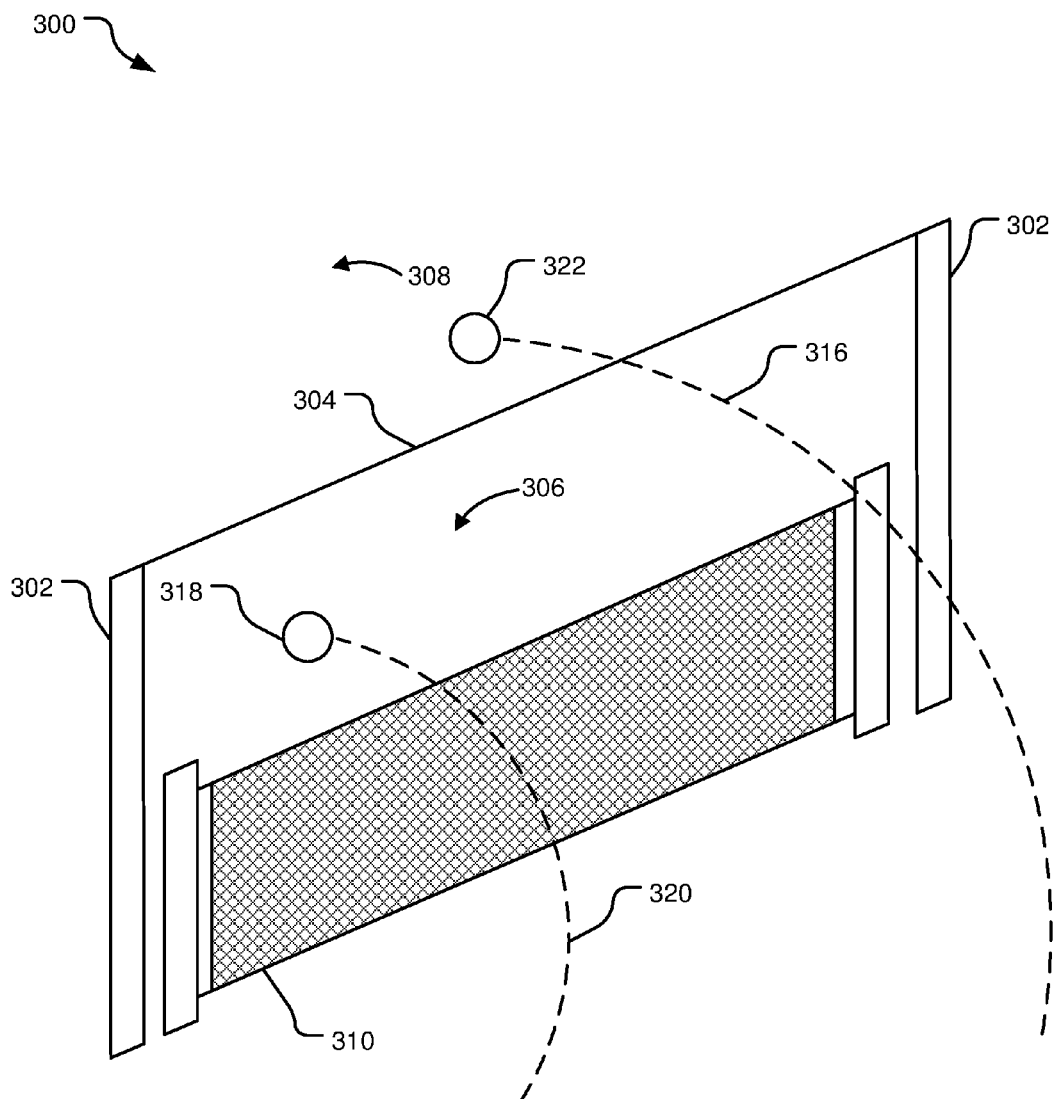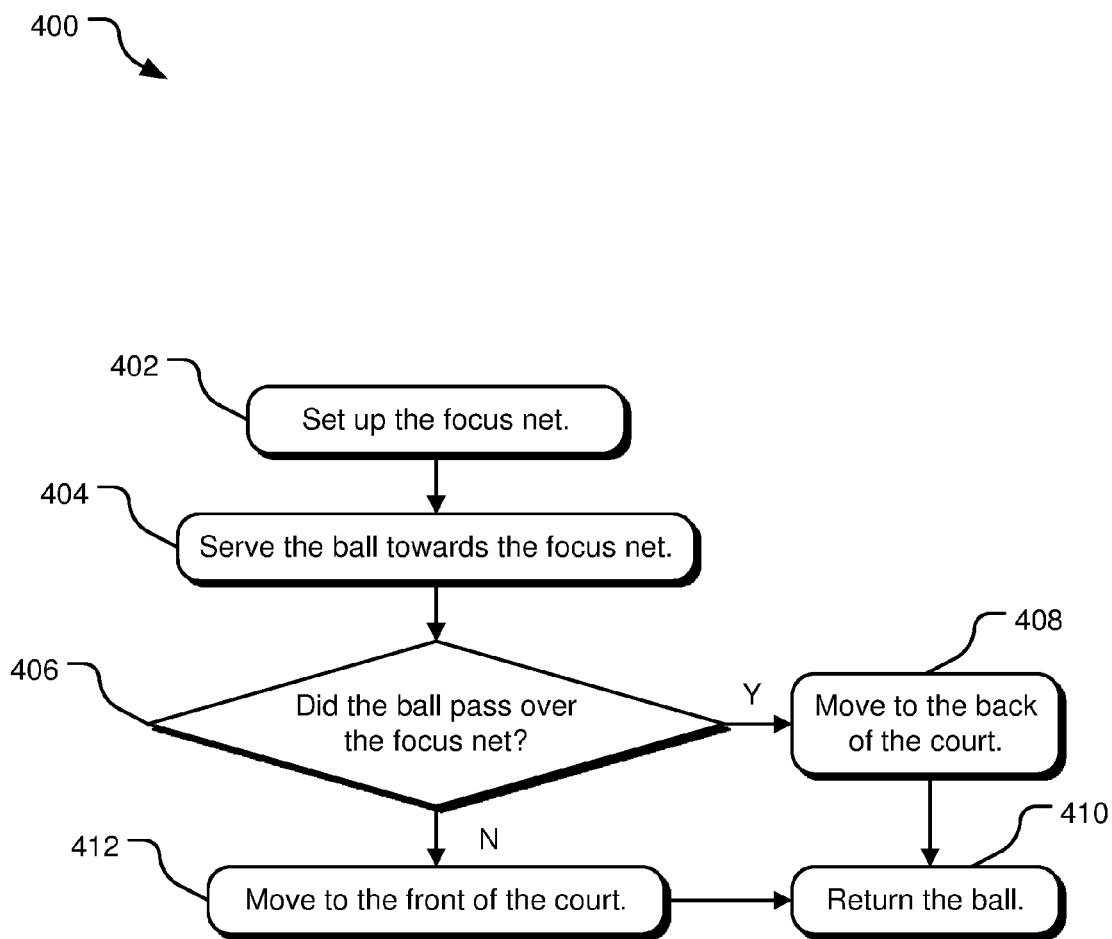
FIG. 4

TENNIS TEACHING AID

PRIORITY CLAIM

[0001] The present application claims benefit of priority to U.S. Patent Application Ser. No. 62/319,726 filed Apr. 07, 2016, and titled "Tennis Teaching Aid", which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] Beginning tennis players can benefit from an understanding of the correlation between the height of a ball passing over a net and a location of where on the court the ball will eventually hit the ground. An understanding of this relationship can influence the player's position on the court to return the ball.

SUMMARY

[0003] Implementations discussed herein address the forgoing by providing a tennis teaching aid. The tennis teaching aid consists of two support posts and a cord. The cord is attached to each support post at the same height so that the cord is substantially parallel to the ground. The cord assists the player by acting as a dividing line between different sections of space. By noting whether the ball passes over or under the cord, the player can predict where the ball will land on the court, and, ultimately, where the player needs to be standing to successfully return the ball.

[0004] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. Other implementations are also described and recited herein. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter. These and various other features and advantages will be apparent from a reading of the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The described technology is best understood from the following Detailed Description describing various implementations read in connection with the accompanying drawings.

[0006] FIG. 1 illustrates a perspective view of an example freestanding focus net.

[0007] FIG. 2 illustrates a perspective view of an example attached focus net.

[0008] FIG. 3 illustrates a perspective view an example freestanding focus net.

[0009] FIG. 4 is a flowchart of example operations for playing tennis using a focus net.

[0010] A further understanding of the nature and advantages of the present technology may be realized by reference to the figures, which are described in the remaining portion of the specification.

DETAILED DESCRIPTION

[0011] In the following description, for the purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one skilled in the art that the present invention may be practiced without some of these specific details. For example, while various features are ascribed to particular implementations, it should be appreciated that the features described with respect to one implementation may be incorporated with other implementations as well. Similarly, however, no single feature or features of any described implementation should be considered essential to the invention, as other implementations of the invention may omit such features.

[0012] Visual aids may be helpful in teaching beginning tennis players how to play the sport of tennis. The disclosed systems and methods aid in tennis instruction by dividing the space located above the net into sections to gain an understanding of the correlation between the height of a ball passing over a net and a location of where on the court the ball will eventually hit the ground. For example, the space above the net can be divided into a first section below a cord, and a second section above the cord. When the ball passes through a certain section a player learns approximately where on the court to stand to return the ball. For example, the player may learn that he or she should move closer to or farther from the net when the ball passes closer to the top of the net below the cord in the first section below the cord.

[0013] FIG. 1 illustrates a perspective view of an example freestanding focus net 100. The focus net 100 is made of two support posts (e.g., a support post 102) and a cord (e.g., a cord 104). The two support posts 102 are substantially the same height and the cord 104 is attached to each support post 102 at substantially the same height so that cord 104 is substantially parallel to the ground when the focus net 100 is set up. The support posts 102 may be made from a variety of materials, including, without limitation, dowels, PVC piping, or conduit. In some implementations, the support posts 102 are manufactured using a 3-D printing process. The support posts 102 can have a variety of cross sectional shapes.

[0014] In some implementations, the support posts 102 may be adjustable to facilitate use with players in different age groups. For example, the support posts 102 may be made from several telescoping pipes that can be set at different heights. The telescoping pipes may be secured at the desired height using a variety of different mechanisms, including, but not limited to, pins, clamps, or internal push buttons.

[0015] In some implementations, the freestanding focus net 100 may include a motion detecting sensor and/or audio means to communicate when a ball crosses the net 110. The motion detecting sensor and/or audio means may be located on the support posts 102 or on another component of the freestanding focus net 100.

[0016] The cord 104 may be made from a variety of materials, including, without limitation, nylon, plastic, or wire. The cord 104 may be attached to the support posts 102 in several ways. In one implementation, the cord 104 is threaded through hooks at the top of each support post 102. In another implementation, the cord 104 is secured directly to each support post 102 through a small hole in the top of each support post 102. In another implementation, the cord 104 can be retracted into the support posts 102. Other methods for attaching the cord to the supports posts are contemplated.

[0017] The cord 104 may act as a dividing line for a beginning tennis player. When the ball passes under the cord 104, in a first section of space 106 between the cord 104 and the net 110, the player knows to move near the front of the court to return the ball. Likewise, when the ball passes over the cord 104, for example, in a second section of space 108,

the player knows to move further towards the back of the court to be in position to return the ball.

[0018] Additionally, a beginning player can use the cord 104 to know where to aim the ball when returning it. If the player wants the ball to land near the back of the court, the player may learn from the freestanding focus net 100 to aim the tennis ball over the cord 104. If the player wants the ball to land near the front of the court, the player learns to aim the ball under the cord 104. The visual provided by the freestanding focus net 100 helps beginning players to understand how the ball's trajectory over and/or under the net relates to where the ball should land on the court, improving the player's tennis skills and ability to return the ball consistently. In some implementations, multiple cords 104 may be used to further divide the area of space over the net for more advanced players.

[0019] FIG. 2 illustrates a perspective view of an example attached focus net 200. The focus net 200 is made of two support posts 202 and a cord 204. The two support posts 202 are substantially the same height and cord 204 is attached to each support post 202 at substantially the same height so that cord 204 is substantially parallel to the ground when the attached focus net 200 is set up.

[0020] The support posts 202 may be made from a variety of materials, including, without limitation, dowels, PVC piping, or conduit. In one implementation, the support posts 202 are manufactured using 3-D printing. In some implementations, the support posts 202 may be adjustable to facilitate use with players in different age groups. For example, the support posts 202 may be made from several telescoping pipes that can be set at different heights. The telescoping pipes may be secured at the desired height using a variety of different mechanisms, including, but not limited to, pins, clamps, or internal push buttons.

[0021] The cord 204 may be made from a variety of materials, including, without limitation, nylon, plastic, or wire. In one implementation, the cord 204 is threaded through hooks at the top of each support post 202. In another implementation, the cord 204 is secured directly to each support post 202 through a small hole in the top of each support post 202. Additionally, for more advanced players, multiple cords 204 could be attached to support posts 202 to further differentiate between different areas of the tennis court.

[0022] The support posts 202 attach to existing tennis net supports (e.g., tennis net poles 212). The attachment mechanism 214 may be made from a variety of different materials. In one implementation, the attachment mechanism 214 are Velcro strips that can be tightened around each of the tennis net poles 212. In another implementation, the attachment mechanism 214 are elastic loops that slide over each of the tennis net poles 212. In yet another implementation, the attachment mechanism 214 are clamps. The support posts 202 may attach on either side of the tennis net poles 212. In some implementations, the support posts 202 are not permanently attached to the tennis net 210 to allow the attached focus net 200 to be removed so that the tennis net 210 can be used without the aid of the attached focus net 200.

[0023] FIG. 3 illustrates a perspective view of an example freestanding focus net 300. A trajectory 316 of a ball 322 is shown that passes over a cord 304 of the freestanding focus net 300. Likewise, a trajectory 320 of a ball 318 is shown that passes under the cord 304 of the freestanding focus net 300.

[0024] By using the freestanding focus net 300, a beginning tennis player can learn where to stand on a tennis court to return balls that pass over the net 310 at a certain height within a first section of space 306 and a second section of space 308.

[0025] To further assist beginning players, in one implementation, a sensor may be placed on cord 304 or on a support post 302 so that different sounds play when the ball passes either under or over the cord 304. The sounds may further assist the player by signaling what trajectory the ball will follow. Depending on the sound played, the player may learn whether to move to the front or back of the court to return a ball.

[0026] In another implementation, the sensor can be used to make a different colored light come on depending on whether the ball passes over or under the cord 304. In one implementation, the sensor may be integrated with equipment worn by the player. For example, the sensor may be integrated in the player's eyewear. The player's eyewear may be equipped with different colored lights that illuminate depending on whether the ball passes over or under the cord 304. In another example, the sensor may be integrated into an ear piece worn by the player. In some implementations, the sensor may record, save, and/or transmit data. For example, the sensor may record data, and transmit the data to a wearable or a computer.

[0027] In some implementations, the freestanding focus net 300 may be used for training for any sport requiring use of a net. For example, the focus net 300 may be used to teach the sports of volleyball and badminton.

[0028] FIG. 4 is a flowchart of example operations 400 for playing tennis using a focus net.

[0029] A user (e.g., a first player) sets up the focus net so that the cord is parallel to a fixed net in a set-up operation 402. In some implementations, the net is at least one of a tennis net, a volleyball net, or a badminton net, although other uses are contemplated. In some implementations, the net is freestanding. In other implementations, the net is attached to the fixed net.

[0030] The first player serves the ball towards the focus net in a serving operation 404. The first player may be located on an opposite side of a court from a second player may serve the ball towards the focus net.

[0031] The second player determines whether the ball passes over the focus net in a determining operation 406. By determining whether the ball passes over the focus net, the second player can determine where to position his or her body on the court for a return operation and adjust their location relative to the net. If the ball passes over the cord, the second player moves near the back of the court in a moving operation 408. The back of the court area may be defined as a "back court area." In some implementations, the back court area may include an area behind the service line, away from the net and proximate to a baseline area. The second player returns the ball to the first player in a returning operation 410.

[0032] If the ball passes under the cord, the second player moves near the front of the court to return the ball to the first player in a moving operation 412. The front of the court area may be defined as a "front court area." In some implementations, the front court area may include an area between the service line and the net. The second player returns the ball to the first player in a returning operation 410. In some implementations, after the second player returns the ball to

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the first player in the returning operation **410**, operations **404** through **410** can occur repetitively.

[0033] It is to be understood that even though numerous characteristics and advantages of various implementations of the present invention have been set forth in the foregoing description, together with the details of the structure and function of various implementations of the invention, this disclosure is by way of example only, not by limitation. The concepts herein are not limited to use or application with any specific system or method that employs the components as specifically arranged in the illustrative implementations of the disclosure. That is, although the instrumentalities described herein are for the convenience of explanation, shown and described with respect to exemplary implementations, it will be appreciated that the principles herein may be applied equally in other types of systems and methods. The implementations described above and other implementations are within the scope of the following claims.

What is claimed is:

1. A system comprising:

a net;

two freestanding support posts; and

a cord attached to the two freestanding support posts at substantially the same height of each freestanding support post and positioned substantially parallel to the net.

2. The system of claim **1**, wherein the net is a tennis net.

3. The system of claim **1**, wherein each of the two support posts are height adjustable telescoping posts.

4. The system of claim **3**, wherein each of the two support posts are secured at a desired height using a pin inserted in holes in the height adjustable telescoping posts.

5. The system of claim **1**, wherein each of the two support posts are secured at a desired height using an internal push button mechanism.

6. The system of claim **1**, wherein the cord retracts into at least one of the two support posts when not in use.

7. The system of claim **1**, wherein at least one additional cord is added between the two support posts.

8. The system of claim **1**, wherein at least one of the two support posts includes at least one motion detecting sensor.

9. A tennis aid system comprising:

a tennis net;

two support posts configured to attach to the tennis net; and

a cord attached to each support post at substantially the same height and substantially parallel to the tennis net.

10. The system of claim **9**, wherein each of the two support posts are height adjustable telescoping posts.

11. The system of claim **10**, wherein each of the two support posts is secured at a desired height using a pin inserted in holes located in the height adjustable telescoping posts.

12. The system of claim **9**, wherein each of the two support posts is secured at a desired height using an internal push button mechanism.

13. The system of claim **9**, wherein the cord retracts into at least one of the two support posts when not in use.

14. The system of claim **9**, wherein at least one additional cord is added between the two support posts.

15. The system of claim **9**, wherein at least one of the two support posts includes at least one motion detecting sensor.

16. The system of claim **9**, wherein the two support posts are configured to attach to the net via an elastic loop.

17. The system of claim **9**, wherein the two support posts are configured to attach to the net via a clamp.

18. A method comprising:

serving a ball towards a focus net located adjacent to a fixed net on a court;

determining if the ball passes over the focus net; and

adjusting a user location relative to the net based on determining if the ball passes over the focus net.

19. The method of claim **18**, further comprising:

locating to a position proximate to a front court area responsive to determining the ball passes under the focus net.

20. The method of claim **18**, further comprising:

locating to a position proximate to a back court area responsive to determining the ball passes over the focus net.

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