



AU9219259

(12) PATENT ABRIDGMENT (11) Document No. AU-B-19259/92
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 656781

- (54) Title
PERSONALIZED INSTRUCTIONAL AID
- International Patent Classification(s)
(51)⁵ A63B 069/36 G06F 015/62
- (21) Application No. : 19259/92 (22) Application Date : 01.06.92
- (87) PCT Publication Number : WO92/21412
- (30) Priority Data
- (31) Number (32) Date (33) Country
PK6405 30.05.91 AU AUSTRALIA
- (43) Publication Date : 08.01.93
- (44) Publication Date of Accepted Application : 16.02.95
- (71) Applicant(s)
RICHARD JOHN BAKER
- (72) Inventor(s)
RICHARD JOHN BAKER
- (74) Attorney or Agent
JOHN R. G. GARDNER, PO Box 443, MUDGEERABA QLD 4213
- (56) Prior Art Documents
US 4942391
US 4852184
US 4137566
- (57)

An instructional aid (10) for enabling and assisting a person to emulate a predetermined movement such as a golf swing including an image/data capturing device (11) for scanning capturing and storing the image/data signals of the person's golf swing or movement, and a transceiver (14) for transmitting the image/data signals over a communications network (15) to a remote computer (17). The computer (16) contains a database (17) which stores in digital form image signals and bio-mechanical data of a number of preselected swings or movements. The computer (16) analyses the person's image/data signals against image/data of a preselected swing and generates in digital form further visual images/data signals which can be transformed so as to assist or enable a person to be able to emulate the preferred swing. The instructional aid may also be used for analysing or reporting on particular geographical regions or objects and provides a specialized presentation for development of that region or object from information stored in the computer database.



AU9219259

TY (PCT)

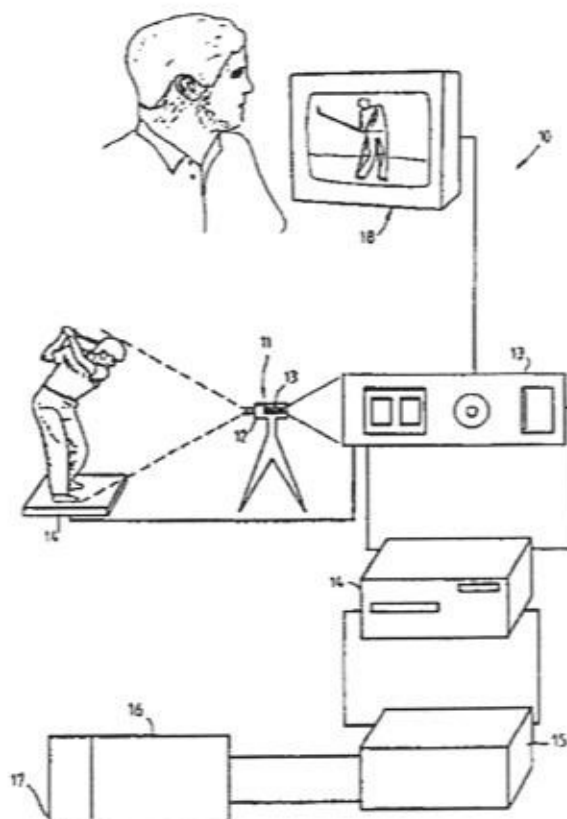
(51) International Patent Classification ⁵ : A63B 69/36, G06F 15/62		A1	(11) International Publication Number: WO 92/21412
			(43) International Publication Date: 10 December 1992 (10.12.92)
(21) International Application Number: PCT/AU92/00253		(European patent), JP, KP, KR, LK, LU, LU (European patent), MC (European patent), MG, ML (OAPI patent), MN, MR (OAPI patent), MW, NL, NL (European patent), NO, PL, RO, RU, SD, SE, SE (European patent), SN (OAPI patent), TD (OAPI patent), TG (OAPI patent), US. Published With international search report.	
(22) International Filing Date: 1 June 1992 (01.06.92)			
(30) Priority data: PK 6405 30 May 1991 (30.05.91) AU			
(71)(72) Applicant and Inventor: BAKER, Richard, John [AU/AU]; 10 Dundee Court, Robina Woods, QLD 4226 (AU).			
(74) Agent: GARDNER, John, R., G.; P.O. Box 443, Mudgeeraba, QLD 4213 (AU).			
(81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CI (OAPI patent), CM (OAPI patent), CS, DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), GN (OAPI patent), GR (European patent), HU, IT			

656781

(54) Title: PERSONALIZED INSTRUCTIONAL AID

(57) Abstract

An instructional aid (10) for enabling and assisting a person to emulate a predetermined movement such as a golf swing including an image/data capturing device (11) for scanning capturing and storing the image/data signals of the person's golf swing or movement, and a transceiver (14) for transmitting the image/data signals over a communications network (15) to a remote computer (17). The computer (16) contains a database (17) which stores in digital form image signals and bio-mechanical data of a number of preselected swings or movements. The computer (16) analyses the person's image/data signals against image/data of a preselected swing and generates in digital form further visual images/data signals which can be transformed so as to assist or enable a person to be able to emulate the preferred swing. The instructional aid may also be used for analysing or reporting on particular geographical regions or objects and provides a specialized presentation for development of that region or object from information stored in the computer database.



presented with audio visual presentations (b) an addition of their current movements, procedures or images etc, taken before regeneration and (c) the final regenerated personalized audio visual changes, that are required, or affect, the desired changes needed by the viewer.

A typical presentation with a preferred format and structure in the final video tape or other viewable means could be as follows :

Pupil: Mr Rick Baker

10 Selected coach : Mr Bobby Jones

Applications for: Golf

Dialogue in: English

1. Preferred audio visual start/introduction:

"Hi, Rick, I am Bobby Jones, it is my pleasure to have studied your golf swing and these are the points I feel you should be concentrating on : "

2. Preferred audio visual presentation in progress:

During the presentation whilst the pupil, Mr Baker is viewing the subject matter, the viewing monitor is showing segments of the previously recorded swing, taken at the recording facility, with superimposed preferred movements of Mr Jones against Mr. Baker's current movements and pointing out with the addition of dialogue, those areas that he should be concentrating on, so as to improve his current technique.

25 Bio mechanical data in the form of graphs or charts etc. are also added during the presentation, so as that he and his local coach may also quite clearly see scientific data pertaining to those performed movements. Dialogue may also be added regarding suitability of equipment being used at this stage.

3. Towards the conclusion of this audio visual presentation, the coach could conclude by saying:

"Thank you Rick for allowing me to help you improve your game, but please continue to work on these points with the help of your local professional, who is also there to assist you in overcoming these problems. Good golfing, Bobby Jones."

CLAIMS

1. A method for providing an instructional aid for assisting a person to emulate a preferred movement including the steps of capturing and storing visual image signals
5 representative of a particular movement, comparing said captured image signals with stored image signals representative of a selected preferred movement, and regenerating further visual image signals based on said image signals of said particular movement adjusted to
10 emulate said stored image signals of said selected movement.
2. A method according to Claim 1 wherein said image signals of said particular movement are captured and stored using a video camera.
15
3. A method according to Claim 1 wherein said visual image signals of said preferred movements are stored in a database of a computer and wherein a selected preferred movement is accessed from said data base for comparison with
20 said particular movement.
4. A method according to Claim 3 wherein said image signals are captured and stored at a first location and wherein said computer is located at a second location remote
25 from said first location and wherein means are provided for transmitting said captured images from said first location to said computer at said second location.
5. A method according to Claim 4 wherein said
30 transmitting means comprise independent signal transmitting means or a personal computer.
6. A method according to Claim 4 wherein said transmitting means transmits said image signals over a
35 communication network to said computer.
7. A method according to Claim 4 wherein said regenerated signals are transmitted from said remote second



location to said first location.

8. A method according to Claim 7 wherein said regenerated image signals are stored in image presentation means which permits viewing thereof by said person.

9. A method according to Claim 8 and wherein dialogue relating to said regenerated image signals is added for presentation with said regenerated image signals.

10

10. A method according to claim 9 wherein said dialogue is selected from words or phrases stored in a database.

11. A method according to claim 7 wherein bio mechanical data relating to said regenerated images is displayed within image presentation means.

12. A method of providing an instructional aid relating to a development proposal comprising the steps of capturing and storing visual image and location data signals of a proposed development location, analyzing said captured signals against the signals of a selected or preferred known development or means for forming a new design development and regenerating further visual image/data signals based on said signals of said proposed development adjusted in accordance with said preferred development or said new design development so as to provide a recommendation for said preferred development.

30

13. A method according to Claim 12 wherein said visual image/data signals of said proposed location are captured and stored using a video camera and remote sensing devices.

35

14. A method according to Claim 12 wherein said signals of said selected or preferred known development or new design development are stored in a database of a computer.



15. A method according to Claim 14 wherein said computer is arranged at a location remote from said proposed location and wherein said captured image signals are transmitted to said remote location for said analysis by
5 said computer.

16. A method according to Claim 15 and wherein said regenerated image/data signals are transmitted from said computer to said proposed location and are provided in a
10 format to enable when transferred or added to home viewing means for viewing thereof.

17. A method according to Claim 16 and including means for adding dialogue to said format so as to provide an audio
15 visual presentation.

18. A method according to Claim 17 wherein said dialogue is selected from words or phrases previously stored in a database.
20

19. Apparatus for providing an instructional aid for assisting a person personally to emulate a preferred movement or technique, said apparatus including means for capturing visual image signals of a particular movement or
25 technique, means for storing said captured visual image signals, means for storing visual image signals of a plurality of preferred movements or techniques, means for comparing said captured visual image signals with the stored image signals of a selected said preferred movement or
30 technique, and means for regenerating further visual image signals of said particular movement or technique adjusted in accordance with said selected preferred movement or technique to assist a person to emulate said selected preferred movement or technique.
35

20. Apparatus according to Claim 19 wherein said means for storing visual image signals of a plurality of preferred movements or techniques comprises a computer database and



wherein said comparing and regenerating means comprises a computer associated with said computer database.

21. Apparatus according to Claim 20 and including
5 transceiver means for transmitting to said computer said visual image signals of said particular movement or technique and for receiving from said computer said regenerated visual images signals.

10 22. Apparatus according to Claim 20 and including means for converting said regenerated image signals into a format which allows viewing thereof.

23. Apparatus according to Claim 22 and including
15 means for adding to said format dialogue relating to said regenerated images.

24. Apparatus according to Claim 23 and including means for scanning and selected stored words or phrases for
20 addition to said format as said dialogue.

25. Apparatus according to Claim 22 and including means for adding to said format bio-mechanical data relating to said regenerated images.

25

26. Apparatus for providing an instructional aid based on a visual image of a particular movement or location, said apparatus including means for visually scanning said movement or location and for producing visual image signals
30 representative of said movement or location, means for storing said visual image signals, means for transmitting said visual image signals to a remote location, means for comparing said transmitted visual image signals with corresponding signals of a selected prestored image or
35 images, means for regenerating further image signals comprising said image signals of said particular movement or location adjusted in accordance with said prestored signals of said image or images, and means for retransmitting said

regenerated image signals and converting said image signals into a format which enables viewing thereof.

27. Apparatus for providing a personalised
5 instructional aid in a development presentation based upon a visual image signal of a particular location, said apparatus including means for visually scanning said location and for producing image and informational data signals representative of said location, means for storing
10 said visual/data signals, means for transmitting said visual/data signals to a remote location, means for comparing said visual/data signals with the visual/data signals of a selected prestored location and the procedure relating to the development thereof, means for regenerating
15 further visual data/signals based on said signals of said particular location adjusted in accordance with said prestored procedure signals to assist in said development, means for adding dialogue and information data to said regenerated signals and means for transmitting said
20 regenerated image/data signals and converting said signals into a format which enables viewing thereof.

28. Apparatus for providing a personalised audio
visual aid based upon optical photometric characteristics of
25 a selected object, said apparatus including means for visually scanning, sensing and capturing visual/data signals representative of said object, means for storing said visual/data signals, means for transmitting said visual/data signals to a remote location, means for comparing said
30 visual/ data signals with corresponding prestored signals of a selected object, means for regenerating further visual data/signals comprising said signals of said particular object adjusted in accordance with said prestored preferred object signals, means for transmitting said regenerated
35 image/data signals and converting said image signals into a format which enables viewing thereof.

29. Apparatus according to Claim 28 and including



means for adding dialogue or informational data to said regenerated format.

30. Apparatus according to Claim 28 wherein said
5 object scanning means comprise imaging or non-imaging sensor systems.

31. A method for providing a personalized audio visual
teaching aid for assisting a person to emulate, or consider
10 advice on a preferred activity or subject of interest, said
method including the steps of capturing and storing visual
image, audio and/or data signals representative of a
particular activity or subject of interest, comparing said
captured signals with stored image, and audio and/or data
15 signals representative of a selected preferred activity or
subject of interest, and generating audio visual image
signals based on said captured signals analysed against the
signals of said selected preferred activity or subject of
interest.

20

32. A method according to Claim 31 wherein said visual
image, audio and/or data signals relating to said particular
activity or subject of interest are captured and stored by
using a portable video camera and imaging or non-imaging
25 remote sensing devices.

33. A method according to Claim 31 wherein said visual
image, audio and/or data signals of said preferred activity
or subject of interest are captured and stored in a database
30 of a computer and wherein signals representative of said
selected preferred activity or subject of interest are
accessed from said data base for comparison with said
signals of said particular activity or subject of interest.

35 34. A method according to Claim 33 wherein said visual
image, and audio and/or data signals of said particular
activity or subject of interest are captured and stored at
a first location and wherein said computer is located at a

second location remote from said first location and wherein means are provided for transmitting said captured visual image, and audio and/or data signals from said first location to said computer at said second location.

5

35. A method according to Claim 34 wherein said transmitting means comprises independent signal transmitting means or a personal computer.

10 36. A method according to Claim 34 or 35 wherein said transmitting means transmits said visual image, and audio and/or data signals over communication network means to said computer.

15 37. A method according to any one of Claims 34 to 36 wherein said generated signals are transmitted from said remote second location to said first location by communication network means.

20 38. A method according to Claim 37 wherein said generated image and, audio and/or data signals are stored in image presentation means, or displayed on a monitor for permitting viewing thereof by said person.

25 39. A method according to any one of Claims 31 to 38 wherein dialogue is added for presentation with said generated audio visual image signals.

40. A method according to Claim 39 wherein said
30 dialogue is selected from words and phrases stored within a database.

41. Apparatus for providing an audio visual teaching
aid for assisting a person personally to emulate or consider
35 advice on a preferred activity or subject of interest, said apparatus including means for capturing visual image, and audio and/or data signals of a particular activity or subject of interest, means for storing said captured

signals, means for storing signals of a plurality of preferred activities or subjects of interest, means for comparing said captured signals with said stored signals of a selected preferred activity or subject of interest, and
5 computer means for regenerating further audio visual and data signals of said particular activity or subject of interest adjusted in accordance with said selected preferred activity or subject of interest whereby to assist a person to emulate or consider said selected preferred activity or
10 subject of interest.

42. Apparatus according to Claim 41 wherein said means for storing visual image, audio and/or data signals of said particular activity or subject of interest captures, stores
15 and compresses said signals at a first location and wherein said signals of said preferred activities or subjects of interest are stored within a database associated with said computer means at a second location remote from said first location, said computer means being adapted to compare and
20 regenerate said further audio visual signals for transmission to said first location.

43. Apparatus according to Claim 42 and including transceiver means for transmitting said visual image, audio
25 and/or data signals of said particular activity or subject of interest over communications networks means to said computer means and for receiving from said computer means said regenerated audio visual, and/or data signals adjusted in accordance with said selected preferred activity or
30 subject of interest.

44. Apparatus according to Claim 43 wherein said transceiver means comprises a portable transceiver means or a personal computer.
35

45. Apparatus according to any one of Claims 41 to 44 and including means for converting and presenting said regenerated visual image, and audio and/or data signals into

a format which allows viewing thereof through a monitor.

46. Apparatus according to any one of Claims 41 to 45 wherein said computer means adds to said regenerated signals
5 dialogue relating to said signals, said dialogue being selected from words or phrases stored in a database.

47. A method for providing an instructional aid substantially as hereinbefore described with reference to the
10 accompanying drawings.

48. A method for providing a personalized audio visual teaching aid substantially as hereinbefore described with reference to the accompanying drawings.

15 49. Apparatus for providing an instructional aid substantially as hereinbefore described with reference to the accompanying drawings.

20 50. Apparatus for providing an audio visual teaching aid substantially as hereinbefore described with reference to the accompanying drawings.

DATED this nineteenth day of October 1994

25

RICHARD JOHN BAKER
By My Patent Attorney


JOHN R. G. GARDNER