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D E C I S I O N
of 22 June 2001

Case Number: T 0446/97 - 3.2.4

Application Number: 92911409.8

Publication Number: 0586487

IPC: A63B 69/36

Language of the proceedings: EN

Title of invention:
Personalized instructional aid

Applicant:
Baker, Richard, John

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 111(1)

Keyword:
"Novelty (yes)"
"Remittal to first instance for further prosecution"

Decisions cited:
-

Catchword:



Case Number: T 0446/97 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 22 June 2001

Appellant: Baker, Richard, John
10 Dundee Court
Robina Woods, QLD 4226 (AU)

Representative: De Hoop, Eric
Octrooibureau Vriesendorp & Gaade
P.O. Box 266
NL-2501 AW Den Haag (NL)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 4 October 1996
refusing European patent application
No. 92 911 409.8 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: M. G. Hatherly
R. E. Teschemacher

Summary of Facts and Submissions

I. On 4 December 1996 the appellant (applicant) lodged an appeal against the examining division's decision of 4 October 1996 refusing the European patent application No. 92 911 409.8 (publication No. WO 92/21412) for lack of inventive step. The appeal fee was paid simultaneously and the statement of grounds of appeal was received on 4 February 1997.

II. After detailed written discussion of the case, oral proceedings were held on 22 June 2001 during which the appellant filed amended claims for the main request including the following independent claims:

- "1. A method for providing audio-visual instructional aid for assisting a person to emulate or consider advice on a physical movement or technique, the method comprising the steps of:
- a. capturing visual images and bio-mechanical data of the person while performing the movement or technique at a first location and storing the visual images and bio-mechanical data;
 - b. providing, at a second location, a computer provided with a data base comprising prerecorded visual images, prestored bio-mechanical data and prestored instructional words or phrases of a number of experts performing a plurality of movements or techniques;
 - c. selecting, by the person, one selected expert from the number of experts from the data base on the computer at the second location, to be matched against;
 - d. transmitting the selected expert, signals representing captured visual images and bio-

mechanical data of the person to the computer at the second location;

- e. comparing, by the computer at the second location, the captured visual images and bio-mechanical data of the person with the visual images and bio-mechanical data of the selected expert;
- f. generating in the computer at the second location secondary visual images of the movement or technique based on the comparison under e.;
- g. generating in the computer an instructional dialogue, using the prestored instructional words or phrases of the selected expert, based on the comparison under e.;
- h. transmitting signals representing the generated secondary visual images and the instructional dialogue from the computer at the second location for playback;
- i. displaying the secondary visual images and playing the instructional dialogue;
- j. storing the instructional dialogue and the secondary visual images on a storage means."

"7. A system (10) for providing an instructional aid for assisting a person to emulate or to consider advice on a physical movement or technique, the system (10) comprising:

- a. means (11, 12, 13) for capturing and storing visual images (21) of the person while performing the movement or technique at a first location;
- b. means (11, 12, 13, 22) for capturing and storing bio-mechanical data of the person while performing the movement or technique at the first location;
- c. storage means (17) provided on a computer (16) at a second location, the storage means (17) being provided with a data base comprising prerecorded

visual images, prerecorded bio-mechanical data and prerecorded instructional words or phrases of a number of experts performing the movement or technique;

- d. means (14) for selecting, by the person, one selected expert from the number of experts;
- e. means (14, 15, 16) for transmitting the selected expert, signals representing captured and stored visual images (21) and bio-mechanical data of the person to the computer (16) at the second location;
- f. means (16, 17), provided in the computer at the second location, for comparing the captured and stored visual images and bio-mechanical data of the person with the prerecorded and stored visual images and bio-mechanical data of the selected expert;
- g. means (16, 17), provided in the computer at the second location, for generating secondary visual images from the comparison by the means under f.;
- h. means (16, 17), provided in the computer at the second location, for generating an instructional dialogue from the stored instructional words or phrases of the selected expert based on the comparison under f.;
- i. means (14, 15) for transmitting the instructional dialogue and signals representing the secondary visual images from the computer (16) at the second location for playback;
- j. means (13, 18) for displaying the secondary visual images;
- k. means for playing the instructional dialogue to the person;
- l. means (13, 18) for storing the secondary visual images and instructional dialogue."

III. The following prior art documents played a role in the appeal proceedings.

D1: US-A-4 891 748

D2: Patent Abstracts of Japan, VOL: 15; NO: 145;
(C - 0823); JP-3026281.

IV. The appellant requests that the decision of the examining division be set aside and that a patent be granted on the basis of the main request as submitted during the oral proceedings, namely

- claims 1 to 10 submitted during the oral proceedings,
- description pages 1, 1A, 1B, 1C and 1D submitted during the oral proceedings,
- description pages 2 to 17 filed with the letter of 22 May 2001,
- drawings sheet 1/2 filed with the statement of grounds of appeal, and
- drawings sheet 2/2 filed with the letter of 22 May 2001.

Alternatively the grant should be based on one of the five alternative requests submitted by letter dated 22 May 2001.

Reasons for the decision

1. The appeal is admissible.
2. *Amendments - main request*
 - 2.1 While the claims of the main request differ considerably from those originally filed, the board will not comment on the amendments unless it is not immediately apparent where there is a basis in the original application as published in WO-A-92/21412.
 - 2.2 Claim 1 of the main request contains all the steps of claim 1 of the originally filed application.

The "consider advice" aspect in line 2 of claim 1 of the main request is based on page 14, lines 4 and 9 of the originally filed description and the "technique" is based on the originally filed claim 17.

In section a, the "bio-mechanical data" is found in page 7, line 37 to page 8, line 30 of the originally filed description.

In section b, the "prestored bio-mechanical data" is based on page 11, lines 24 to 36 and the "prestored instructional words or phrases of a number of experts" on page 14, lines 11 to 15, both of the originally filed description.

In section c, the selection of an expert can be found on page 10, lines 31 and 32 of the originally filed description.

Sections e and f are based on page 11, line 24 to page 12, line 21 of the originally filed description while section g is based on page 12, lines 22 to 26 of

the originally filed description.

Regarding section h, it appears from e.g. the originally filed Fig. 1 and the originally filed claims 7 and 19 that the generated secondary visual images and the instructional dialogue are transmitted from the second location back to the first location. However, lines 19 and 20 of page 4 of the originally filed description mention access from different locations, lines 8 to 10 of page 8 of the originally filed description do not specify to where the regenerated signals are sent, and lines 3 to 17 of page 15 of the originally filed description specify playback at home, so that the board considers that transmission specifically back to the first location would be an unjustified restriction.

2.3 The dependent claim 2 of the main request is based on page 15, lines 3 to 22; claim 3 on page 14, lines 20 to 31; claim 4 on page 13, line 32 to page 14, line 6; and claim 5 on page 1, line 9, all of the originally filed description. Claim 6 of the main request is based on page 10, lines 11 to 26 of the originally filed description and the originally filed Fig. 1.

2.4 The independent claim 7 of the main request contains all the features of claim 17 of the originally filed application.

Apart from their category, claims 7 to 10 have similar content to claims 1 to 4 so that the comments made in sections 2.2 and 2.3 suffice.

2.5 The description of the main request consists of the originally filed description, adapted to the present

claim 1 and to acknowledge the most relevant prior art. The board sees no objection under Article 123 EPC to the present version although it will need amendment for other reasons, see section 7 below.

2.6 The drawings sheet 1/2 of the main request differs from that originally filed only by added or amended reference numerals while on drawings sheet 2/2 the alternative of "mechanism" has been deleted.

2.7 The board therefore makes no objection under Article 123(2) EPC to the version of the application for the main request.

3. *Articles 52(2) and (3) EPC*

3.1 The invention concerns capturing, processing and producing information but there is a technical result and the invention is not merely a presentation of information (Article 52(2)(d) EPC) as such (Article 52(3) EPC). The claims specify the technical means needed to arrive at the final presentation to the person wishing to emulate or consider advice on the physical movement or technique. Although computer programs are used at least on the computer at the second location, the invention involves more than just a computer program (Article 52(2)(c) EPC) as such.

3.2 Nor is the claimed method merely what is normally performed in the mind of a teacher who is trying to improve the golf swing of a pupil. The comparison of the pupil's swing not merely with an ideal swing but with the swing of an expert selected from a number of experts held in the teacher's memory would be very difficult for the teacher and in any case the teacher

would not be able to provide the playback of secondary visual images and instructional words or phrases of the selected expert. Therefore the invention is not merely a method for performing a mental act (Article 52(2)(c) EPC).

3.3 The board is thus satisfied that the claims of the main request set out an invention that has a technical character and is within the meaning of Article 52(1) EPC.

4. *Comparison of claim 1 of the main request with D1*

4.1 Referring to the first 3 lines of claim 1 of the main request, it can be seen from claim 1 of D1 that also the prior art method provides an instructional aid for assisting a person to emulate or consider advice on a physical movement or technique. The method of D1 yields a "hard copy video record" (see e.g. column 35, lines 3 and 4) but while the last two lines of column 3 of D1 say that "the invention permits verbal instructions to be given by a teacher", it is not explicitly disclosed that the video record includes these verbal instructions. Thus while D1 certainly discloses a visual aid, it is doubtful whether this is an **audio-**visual aid.

4.1.a Moving to section a of claim 1 of the main request, column 13, lines 45 and 46 of D1 refer to "video recording of the student performing the activity", i.e. capturing and storing his visual images. It seems from D1, column 2, lines 3 to 30 and column 10, lines 52 to 60 that also some bio-mechanical data of the student is captured and stored. The appellant argues that bio-mechanical data in the invention means not just

body dimensions but includes weight and not just static weight but weight transfer during performance. While bio-mechanical data is discussed from page 7, line 37 to page 8, line 30 of the description of the application, a distinction between the type of bio-mechanical data captured in the invention and that captured in D1 is not made in the claim. However there is no disclosure in D1 of capturing the bio-mechanical data **while the student is performing the movement**.

Page 8, lines 25 to 30 of the present description implies that bio-mechanical signals are obtained after the movement has been performed but presumably this is additional to the data capture during the performance of the movement.

- 4.1.b According to column 16, lines 28 to 53 of D1, fifty golf professionals are used for generating the elite model and the displacement position information is digitized off a video or film (also see column 11, lines 11 to 13 and column 15, lines 43 and 44). The process of capturing what is apparently bio-mechanical data for the student is also performed for the elite performers (see column 10, lines 46 to 60).

D1 does not explicitly disclose that the visual images and bio-mechanical data of the golf professionals are stored. However they certainly have been captured for use in generating the elite model and the improved elite model (see column 6, lines 14 to 16), and it seems logical that this data is kept so that a new elite model can be generated at some time in the future, e.g. to incorporate data from a new elite performer.

D1 is not specific as to whether the student (person)

is at the same location as the processing computer whereas claim 1 of the main request specifies in section a that the person is "at a first location" and in section b that the computer is "at a second location".

D1 does not mention that the experts give instructional words or phrases, instead verbal instructions are given by a teacher (see the last two lines of column 3).

- 4.1.c Column 3, lines 59 to 63 and column 5, line 59 to column 6, line 47 of D1 explain that a standardized performance model or elite model is determined from a large number of golf professionals (e.g. fifty). This elite model is then improved with trends that tend to produce superior performance, resulting in a superior performance model which then is adapted to the exact specifications of the student to produce an individual performance model by comparing the movement patterns of the elite performers to each other as well as those of less competent performers.

Thus D1 does not disclose selecting one expert. The board assumes that lines 59 to 63 of column 14 mean that Jack Niklaus is compared with the adjusted average of e.g. fifty golf professionals not that the student is compared with Jack Niklaus.

- 4.1.d In D1, while captured visual images and bio-mechanical data of the student are transferred to the computer (see column 32, line 56 to column 33, line 11), no expert is selected and so cannot be transmitted to the computer.

- 4.1.e In D1, the transferred data is then compared with the

individualized superior performance model (instead of with the selected expert in the present invention).

4.1.f In D1 (see e.g. column 3, lines 15 to 19), based on the above comparison, secondary visual images are generated. The appellant maintains that there is a difference between the display generated in the present invention and that generated in D1. However the examples of the invention given on page 13, lines 12 to 24 of the present description seem similar to those given in e.g. column 4, lines 29 to 33 and Figures 19A to 19J of D1. If there is a difference between the invention and the prior art in this respect then it is not brought out in the claim.

4.1.g D1 does not disclose generating an instructional dialogue using the prestored instructional words or phrases of the selected expert. The dialogue in the present application is not a dialogue in the sense that there is a real conversation with questions and answers between the student and the expert but a dialogue in that, before the instructions using the prestored instructional words or phrases of the expert are sent from the computer, information flows from the student to the computer. Thus there is a difference over merely playing a training video cassette whose content is the same for everyone.

4.1.h According to Fig. 1 of D1, the generated image is transmitted from image processor 34 to teaching monitor 25. However no instructional dialogue is transmitted.

4.1.i In D1 (see the teaching monitor 25 on Fig. 1), the secondary visual images are displayed but there is no disclosure of instructional dialogue being played.

4.1.j The final paragraph of column 34 of D1 discloses storing the secondary visual images (but not the the instructional dialogue) on a storage means.

4.2 It can be seen from the above analysis that there are various differences between what is claimed in claim 1 of the main request and what is disclosed in D1. Accordingly the subject-matter of claim 1 of the main request is novel compared with this citation.

4.3 Three differences particularly interest the board.

4.3.1 The first difference is that, as explained in section 4.1.c above, D1 utilises a standardized performance model or elite model determined from a large number of golf professionals (e.g. fifty), improved with trends to result in a superior performance model and then adapted to produce an individual performance model.

D1 thus teaches away from what is done in the present invention of merely selecting one expert from a number of experts and using the data of that expert alone.

4.3.2 The second difference is that, unlike the present invention, D1 does not disclose generating an instructional dialogue using prestored instructional words or phrases, and still less those of the selected expert since the student is compared with a single performance model not a selected expert. In D1 verbal instructions are given by a teacher.

4.3.3 The third difference is that D1 does not disclose capturing the bio-mechanical data **while the student is performing the movement.**

4.4 The board considers that therefore the subject-matter of claim 1 of the main request is not obvious when using D1 **on its own**.

5. *Claim 7 of the main request*

Apart from their categories, claims 1 and 7 have similar content so that the board's comments on claim 1 also apply in general terms to claim 7.

6. *D2*

6.1 The claims in front of the examining division (see pages 2 to 4 of the decision under appeal) did not specify selecting (or means for selecting) an expert from a number of experts but merely vaguely to "preferred visual image and data signals representative of a selected preferred movement". D1 with its trend-enhanced average of a number of experts fitted this definition.

In claims 1 and 3 filed with the letter of 9 February 2000 the appellant moved to "choosing ... one particular preferred person from the number of preferred persons" (i.e. a difference over D1) but added the alternative of choosing a "model swing" (which removed the difference over D1). At the start of the oral proceedings on 22 June 2001 the appellant was still insisting on the alternative of "simulation machines" (see claims 1 and 7 of the main request of 22 May 2001).

6.2 The claims in front of the examining division referred to audio signals in rather vague terms and so the board considers that the examining division rightly cited the

abstract D2.

The claims filed with the statement of grounds of appeal were really no better concerning the audio aspect. Even when the appellant arrived at something more precise in claims 1 and 3 filed with the letter of 9 February 2000, the board had to point out in section 4.6 of the communication of 22 March 2001 that if the model swing were chosen then there would be no one to provide the instructional words or phrases and no chosen particular preferred person to provide the instructional dialogue. At this stage the board considered that the more precisely defined audio aspect might in effect be merely an optional feature.

6.3 Only after discussion during the oral proceedings did the appellant agree to the deletion of the alternative of the simulation machines (which had replaced the model swing). Thus it was not until partway through the oral proceedings on 22 June 2001 that the board was satisfied that the subject-matter of claim 1 of the main request was not obvious from D1 taken on its own. Only then did it become necessary to move on to the abstract D2.

6.4 The abstract D2 obviously deals with something similar to the present invention but has merely two Figures (with some Japanese script) and 23 lines of description in English. The audio aspect is mentioned only in the last three lines, namely that "a sound output or picture display output can be executed. Then, an output means 27 outputs this result by a sound or picture display, etc."

Thus the abstract D2 does not disclose the steps in

claim 1 of the present main request of providing prestored instructional words or phrases of a number of experts, generating an instructional dialogue using the prestored instructional words or phrases of the selected expert, transmitting signals representing the instructional dialogue from the computer at the second location for playback, and playing the instructional dialogue.

However D2 is merely an abstract and, while it was sufficient for the examining division's decision on the claims then in front of it, in order to properly examine the claims of the present main request more information is needed from the document JP-A-3026281 which is the subject of the abstract. The document JP-A-3026281 was however not available to the board in a language that it could read.

- 6.5 There are some hints in the abstract D2 that document JP-A-3026281 is indeed relevant.
- 6.5.1 The abstract describes "extracting required various data from the photographed move of an operational point for a person to be diagnosed and comparing the extracted data with the data of a comparison reference." The abstract adds that "A comparison reference holding means 24 holds the data of the plural comparison references" and "A post-processing means 26 selects a diagnosed result for each selected comparison". Thus a person's data can be compared with a selected comparison reference. This seems to be confirmed by the statement in the second paragraph of page 4 of the appellant's letter of 9 February 2000 that "a group of reference bio-mechanical data of preferred elite performers is obtained in advance."

All this seems similar to the present invention where one expert is selected from a number of experts.

- 6.5.2 The abstract D2 states merely that there is "a sound output or picture display output" but the appellant stated in the second paragraph of page 4 of the letter of 9 February 2000 concerning JP-A-3026281 that "The student has a choice of ... hearing through a speaker an elite performer's voice comment on the golf swing action."

Again this seems similar to the present invention where the selected expert's prestored instructional words or phrases are used.

- 6.5.3 The upper Figure in the abstract D2 shows a golfer on a surface numbered 107 which is connected to a block 103. It may be that the purpose of the surface 107 is to collect bio-mechanical data during the golf swing.

- 6.6 Thus it appears that some of the differences of claim 1 of the main request over D1 set out in section 4.3 above might be disclosed by JP-A-3026281.

The board considers that it is necessary that document JP-A-3026281 be examined, instead of just its abstract D2. This is in the public interest and also in the appellant's interest to avoid him having his patent revoked after he has paid translation costs and the fees for grant and printing, if JP-A-3026281 really is relevant.

In order to preserve the applicant's right to argue before two instances the board is remitting the case to the first instance for further prosecution

(Article 111(1) EPC).

Assuming that the applicant does not have a translation of JP-A-3026281 (and certainly none was available at the oral proceedings), the board gives the examining division the opportunity to arrange for one to be made, at the EPO's expense (cf. Guidelines for Examination in the EPO, C-VI, 8.3). The board appreciates that this is costly but considers it necessary to look at the complete document instead of relying on its abstract D2 and on comments made about it by the appellant.

6.7 The board does not wish to bind the examining division's hands in the further prosecution and so will merely point out that

- The closest prior art or starting point for the assessment of inventive step might turn out to be JP-A-3026281 and not D1.
- The appellant argues that with D2 the student must choose between an audio and a video presentation and cannot receive both. While it would only be necessary to combine the teaching of D1 (video presentation) with the alternative of the audio presentation of D2 to arrive at an audio-visual presentation, it must be carefully considered whether it actually is obvious to combine the teachings.
- The board considers that D1, by using a trend-enhanced average of a number of experts, teaches away from the present invention's selection of one expert from a number of experts and using the data of that expert alone. It needs to be seen however

what is done in JP-A-3026281.

7. *The description*

If the application proceeds to grant then the description will need to be brought in line with the claims. The board notes that

- the term "introduction" used in the last two lines of page 1 is vague since the claims referred to are in the one-part form (the one-part form is appropriate);
- after examination of JP-A-3 026 281, its acknowledgement of on pages 1B and 1C may need revision;
- on page 3, line 1 the alternative "visual" is inconsistent with "audio-visual" in claim 1 and with claim 7;
- page 3, lines 19 to 28 describe a preferred aspect but is wider in scope than claim 1, moreover it is questioned what it adds to claim 1; similar objections apply to page 3, line 29 to page 4, line 5 and page 5, line 33 to page 6, line 10;
- it is ambiguous what the word "preferably" on page 4, lines 9, 17 and 21 refers to since some of the features that follow are in the independent claims; similar comments apply regarding "may" on page 8, lines 1 and 5; and page 12, line 22, regarding "when required" on page 13, line 33 and regarding "can" on page 14, line 2;

- the term "generated" is now used in the claims but the unclear term "regenerated" is still used throughout the description e.g. on page 6, line 5; and
- the passages "or applications ... application" on page 12, lines 11 to 13 and "movements of objects or mechanisms of which emulation is required" on page 17, lines 5 and 6 apparently lie outside the scope of the claims.

8. *The auxiliary requests*

The application is being remitted to the examining division for further prosecution on the basis of the main request. The board considers it unnecessary to comment on the auxiliary requests.

9. *Request for oral proceedings*

The request for oral proceedings made with the statement of grounds of appeal was a request in the appeal proceedings and will have no effect in the further proceedings before the examining division.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries