



23 March 2009

**PATENTS ACT 1977**

APPLICANT                                  Sports Analysis Limited

ISSUE    Whether patent application number GB  
0407060.3 complies with sections 1(1)  
and 1(2)

HEARING OFFICER                          R C Kennell

---

**DECISION**

- 1      This application was filed on 29 March 2004 with no claim to any earlier priority. It was published under serial no. GB 2412878 on 12 October 2005.
- 2      Despite amendment of the claims during substantive examination, the applicant has been unable to persuade the examiner that the invention either involves an inventive step as required by section 1(1)(b) or is patentable within the meaning of section 1(2) of the Act. This matter therefore came before me at a hearing on 10 February 2009. On 9 February the applicant's patent attorneys (Forresters) filed a full submission in which they also stated that henceforth they were withdrawing their representation. In consequence, the applicant was represented at the hearing by one of its directors, Mr Simon Roper, who is also one of the inventors. The examiner (Mr Andrew Hole) assisted via videolink.
- 3      By and large Mr Roper was content for me to rely on Forresters' submission for matters of law. Very helpfully he concentrated on explaining the background to the conception of the invention.

**The invention**

- 4      The invention relates to mapping a golf course hole, usually as part of a guide to the course for golfers so that they can select the club which is most appropriate to their position on the hole. The specification explains that generally such guides are graduated to show distances from the tee to the green or to hazards, but do not show the distance to the pin because this is commonly relocated at frequent intervals, sometimes by up to 30 or 40 meters. Their accuracy is therefore limited, and the aim of the invention is to use the Global Positioning System (GPS) to provide a more accurate guide which can be produced on demand to show the

current distance between a fixed point on the hole and a pin.

- 5 Forrester's submission explains that conventional golf course guides showing a map of each hole are generally mass produced off site and re-ordered from the supplier when stocks run low. Once the map has been produced it is therefore not practical in most cases for it to be updated to reflect frequent changes to pin positions. At the hearing Mr Roper showed me examples of conventional guides and maps. These included hole diagrams showing distances either from the tee or to a location on the green; a chart used by a professional tournament which showed hole positions in terms of yards to be paced from the front and side of the green (this being produced before the hole was actually cut); and a chart used by a golf club dividing the green into segments around which the hole would be rotated.
- 6 Mr Roper explained that the invention arose from conversations with professional caddies who explained that they would not simply rely on the distances given in such charts but would always pace the hole themselves to obtain the pin location. In the light of his previous involvement with planning and mapping golf courses by GPS, Mr Roper had therefore seen an opportunity to use this technology in order to produce a card on site as and when required. Thus GPS measurements of the new pin position could be fed back to a host system which would allow the golf club to overprint the updated location on to a card already printed with a map of the hole.
- 7 With a view to bringing this out more clearly and to distinguishing the prior art cited by the examiner, much of which relates to the mapping of golf courses by GPS, the applicant has proposed amendments to the claims originally filed. The claims before me now comprise a main request and first and second auxiliary requests. The independent claims 1 and 4 of the main request read:

“1. A process for generating a map of a hole of a golf course, the map including at least one graduation showing the distance between a pin and a fixed point on the hole, the process including the steps of:  
taking a GPS reading of the location of the pin; and  
generating the map based on the reading,  
wherein the map is generated by printing graduations on a card which includes a graphic representation of the hole.”

“4. A system for generating a map of a hole of a golf course, the map including at least one graduation showing the distance between a pin and a fixed point on the hole, the system including:  
means for taking a GPS reading of the location of the pin; and  
means for generating the map based on the reading,  
wherein the means for generating a map include a printer.”;

the underlined wording representing the restriction to the claims originally filed.

- 8 In the first auxiliary request these claims have been further restricted to include the following steps in claim 1 after taking the GPS reading, with corresponding means in claim 4:

“relaying the GPS reading of the location of the pin to a database or host system, which includes the original template of the map;  
updating the template to incorporate the current location of the pin”;

whilst the second auxiliary request is limited to the process and system substantially as described.

### **The law**

- 9 Section 1(1)(b) requires an invention to involve an inventive step before a patent can be granted. According to section 3 this requirement is satisfied if the invention “is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue of section 2(2) above and disregarding section 2(3) above”. I do not need to quote sections 2(2) and (3) in full, but they have the effect that the prior art to be considered comprises all matter made available to the public, whether in the UK or elsewhere, by written or oral description, by use or in any other way, before the priority date of the invention (in this case the filing date of 29 March 2004).

- 10 The relevant part of section 1(2) reads:

“It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

.....

(d) the presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing as such.”

### **The cited prior art**

- 11 Before I address the arguments that were before me it will be helpful to outline the prior art cited by the examiner (which includes relevant documents cited on the corresponding international application WO 2005/094955 A1). In the light of the amendments to the claims, the examiner is now relying on the following documents to show lack of inventive step (publication dates are given):

- US 5319548 (Germain, 7 June 1994) which relates to an interactive system in which a recording card is generated for each hole and is marked by the golfer for subsequent computer analysis of performance. Typically (see col 2 line 54 - col 3 line 27 and Figure 4 as described at col 7 line 55 - col 8 line 14) the card has printed thereon “a layout of the fairway and green with distance indicating marks which indicate distance from a pin to various points on the course and distance from each of the tees to various

hazards on the course, cup location, ..." and in the card illustrated at Figure 4 "the tee-to-pin distance for each of the tee markers 73". Although it is stated that the information can be "updated daily and even just before the cards are printed" there is no information about how this is done.

- US 61711199 B1 (Cohodas et al, 9 January 2001) which uses GPS to plot the topography of the course and provides a time-sensitive formula for moving tee and pin locations, so that a golfer will know in advance the exact tee and pin locations on a given day. Figure 3A shows a hole plot with concentric arcs based on and indicating distance to the pin. As stated at col 6 the golfer can retrieve and display this "as a picture, graphic or other visual indicia such as on a computer monitor, television screen, or via an output means such as a printer" (lines 15-20) and can print out the information and take it on to the course (lines 64-67).

12 He has also cited the following documents, which I will take into account as appropriate:

- WO 96/21161 A1 (Huston et al, 11 July 1996)
- US 5685786 (Dudley, 11 November 1997)
- US 6144921 (Bianco et al, 7 November 2000)
- US 2002/0010544 A1 (Rudow et al, 24 January 2002)
- US 2002/0027524 A1 (Pippin, 7 March 2002);

these all describe electronic systems in which GPS is used to provide positional and distance information to a golfer on the course by means of a hand-held device or a cart-mounted video. Bianco specifically states that it overcomes the drawbacks of the course maps which are usually provided as part of a scorecard. It says that these maps usually show little more than the general shape of the fairway and the distance from tee to flag, and do not show the locations of or distances to hazards; also they are often not up to date because of periodical relocation of the tees and flags.

13 It seems to me that the electronic systems in the above citations have the following features:

- they give the golfer information by electronic means as he or she proceeds round the course, rather than provide a guide or map beforehand,
- they display detailed visual representations of the holes, including the pin, the tee and the various hazards,

- they provide accurate measurements of the distances or “yardage” between specific features, such as the distance between the tee and pin, or between the ball and the pin or any other feature of the hole system database (Huston specifically recognises the importance of knowing as accurately as possible the distance between the ball and the cup or a hazard, so that the proper club can be selected.)
- when the pin or tee is moved, the system database can be updated by the greenkeeper or course manager so that golfers have accurate information about their current positions.

## **Argument and analysis**

### Inventive step

- 14 As the examiner has explained, the well-known “Windsurfing” approach to the determination of inventive step<sup>1</sup> has been restated and elaborated by the Court of Appeal in *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588 in the following terms:
1. Identify (a) the notional “person skilled in the art” and (b) the relevant common general knowledge of that person;
  2. Identify the inventive concept of the claim in question or, if that cannot readily be done, construe it;
  3. Identify what, if any, differences exist between the matter cited as forming part of the state of the art and the inventive concept of the claim or the claim as construed;
  4. Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

### *The skilled person and the relevant common general knowledge*

- 15 The examiner considered that the skilled person would be a golf course cartographer and would have as part of his or her common general knowledge an understanding of surveying methods, including GPS, and the type of information that would be useful to golfers, including the distance from the pin to hole features such as bunkers, trees and water hazards. This much at least appears to be common ground, and I agree with it - although there is dispute about how exactly the skilled person might read the prior art, which I shall come to later.

---

<sup>1</sup> *Windsurfing Intl. v Tabur Marine (Great Britain) Ltd.* [1985] RPC 59

16 During prosecution of the application, reference has been made to how the invention had been perceived by greenkeepers and golfers. Indeed, in view of the commercial success of the invention (which I consider below), the applicant has on several occasions urged the examiner to ask golfing colleagues what they thought of it. However, although such people are undoubtedly part of the market for the invention, they are not in my view the skilled persons at whom the specification is directed. I do not think that a golfer, however expert, could say anything more about the invention than that it was something new on the market and was proving to be of great benefit. However, that is unlikely to be conclusive of inventive step, as I explain below.

17 In the light of the prior art, I consider that the skilled person's common general knowledge would include a recognition that GPS could be used to map the position of any feature on a hole, including those such the pin position which were not fixed (even if in practice this has more usually been done as part of an electronic method for providing on-course information to the golfer).

*The inventive concept and the construction of the claims*

18 I will first deal briefly with two points of construction which were disputed between the examiner and the applicant. The examiner took the view (i) that the invention did not relate to showing the correct position of the pin on the map and (ii) that the invention was directed to producing a printed map rather than any specific type of map. The applicant however thought that (i) completely overlooked the aim of the invention and that "with a mind desirous of understanding"<sup>2</sup> one could not fairly conclude that the generated map would not show the correct position of the pin. On (ii) the applicant thought that on a proper construction "for generating a map of a hole of a golf course" had to be construed as functional limitation of the process claim to the generation of a golf course map and that "for" did not mean "suitable for" in the context of a method claim<sup>3</sup>.

19 In my view the examiner is correct on (i) as regards the strict construction of the claim, although I agree with the applicant that it would be perverse to assume that the map resulting from the process would set out to show anything other than the "correct" pin position. Undoubtedly the map is intended to show the up-to-date position of the pin; how correct the representation is will be determined by the accuracy of the GPS readings. However, I do not think that any point of construction turns on this.

---

<sup>2</sup> EPO Board Decision T 0190/99

<sup>3</sup> EPO Guidelines for Examination (Dec 2007), Part C, Chapter III, para. 4.13

- 20 On (ii) I accept the applicant's argument as regards the process claims, although in my view "for" in the system claims (about which the applicant is silent) has still to be interpreted as "suitable for" in accordance with the usual canons of claim construction. However I do not think this is necessarily the point that the examiner was intending to make. As I read the correspondence he was noting that much of the applicant's argument had been directed to producing up-to-date course guides which were a specific type of map; I did not understand him to be suggesting that the map would be of anything other than a golf hole.
- 21 In the main and first auxiliary requests I note that claim 4 contains no limitation corresponding to the requirement of claim 1 for the graduations to be printed on a card containing a graphic representation of the hole (which, for the avoidance of doubt, I take to mean that the graduations are overprinted on to a card already containing the representation). I therefore construe claim 4 in each case as merely requiring the map to be generated by means of a printer.
- 22 No point was taken on it prior to the hearing, but I also note that the description at page 6 lines 18-20 goes beyond the ambit of the claims in stating that any location on a hole, not just the pin, can be updated. Mr Roper was unable to shed any light on this, and I propose to ignore this passage.
- 23 In summary therefore:
- the claims in their widest form are for generating a map of a golf course hole, not a golf course guide;
  - whether the pin position is correct or up-to-date is not a feature of the invention as claimed;
  - "for generating a map of a hole of a golf course" is to be interpreted as "suitable for ..." in the system claims, but the process claims are limited to the production of an actual map of a golf course hole;
  - claims 1 and 4 of the main and first auxiliary requests are not co-terminous.
- 24 Considering first the claims of the main request, I therefore consider the inventive concept of claim 1 to be "the production of a map of a golf course hole by taking a GPS reading of the location of the pin and generating the map by printing at least one graduation showing the distance between the pin and a fixed point on to a card which shows a graphic representation of the hole".
- 25 Although claim 4 is to a system, it purports to be limited by the features of the map which is produced. It is not clear how these translate into system features, but I consider the inventive concept to be "a system suitable for producing a map of a golf course hole including at least one graduation showing the distance between the pin and a fixed point, the system including means to take a GPS reading of the pin location and a printer to generate the map".

*The differences between the cited prior art and the inventive concept*

26 The examiner's case on inventive step was based on Germain and Cohodas. Leaving aside for the moment the requirement of claim 1 for the map to be produced on a card which already shows a graphic representation of the hole, I agree with the examiner that the inventive concept differs from Germain in the use of GPS to map the pin position, and from Cohodas in that there is no explicit indication of a pin-to-fixed point distance (the plot in Figure 3A merely having arcs at different distances from the pin).

*Are these differences obvious to the skilled person or do they require invention?*

- 27 The applicant argued that neither Germain nor Cohodas would have pushed the skilled person towards the present invention. In its view:
- Germain is directed to a different invention because its premise is to monitor how golfers improve over time in relation to the constant and non-moving parts of the course, which would not include the pin position, and it is not essential for the cards to have the pin location on them: accordingly there is no clear and unambiguous disclosure of a golf course guide with up-to-date pin locations.
  - Cohodas is a complex system for mapping the entirety of the hole and requires a large number of readings to be taken by means of a grid system. It therefore requires a skilled technician to operate it, unlike the present invention which can be implemented on a day-to-day basis by a greenkeeper. Further Cohodas provides distance information as a series of concentric arcs based on the pin location, rather than pin-to-fixed point distances; this would be disadvantageous to the golfer because the arcs would change on a day-to-day basis as the pin location changed.
- 28 Like the examiner, I consider this reasoning to be flawed. I accept that the skilled person cannot be expected to exercise inventive ingenuity when considering the prior art, but neither is he or she incapable of making routine workshop improvements to it or considering its practical application. Both Germain and (notwithstanding its supposed complexity) Cohodas disclose the production of hole maps in a form which can be taken around the course by a golfer, and which can provide up-to-date information, and in my view they are documents which the skilled person would consider when seeking solutions to the problem of providing up-to-date information about the pin position on a hole map for the golfer. Having regard to the passages in Germain identified above, I do not consider that it leads the skilled person away from that problem and I see no reason why the cards that it produces cannot be regarded as "golf course guides" (although as I have stated above that is not featured in the claims and does not form part of the inventive concept).



- 29 In my view the differences between the invention and these pieces of prior art identified above at paragraph 26 are ones which would be obvious to the skilled person and not require inventive ingenuity. Mapping of the pin position by GPS is not mentioned in Germain (although it refers to the use of GPS in a different context at col 14 lines 42-58), but to my mind (see paragraph 17) it is a technology which is “lying in the road”<sup>4</sup> for the skilled worker to use even if it has not been used before in this way. As regards Cohodas, given that Figure 3A places emphasis on the distances from the pin, I do not think that it would require any inventive ingenuity to supplement the distance information provided with exact distance for any fixed point on the hole. I do not find the applicant’s argument about the disadvantages of the arc indicators at all convincing: pin-to-fixed point distance would be equally liable to change.
- 30 I had asked to be addressed on *Petra Fischer’s Application* [1997] RPC 899 in which held that there was no technical prejudice against combining a diesel engine and a cabriolet car and that it was irrelevant whether it would have been worthwhile or commercially desirable to do so: it appeared to me that the invention might have some analogy with *Petra Fischer* as regards the bringing together of GPS mapping of the pin position and the production of printed hole maps. Forrester’s submissions have covered this and I am persuaded that the more pertinent question to ask is whether the commercial success of the invention shows that it is not obvious.
- 31 Throughout the prosecution the applicant has pressed very strongly the point that nothing like this had been produced before and that the invention has had significant commercial success. At the hearing Mr Roper explained that it had been taken up by St Andrews and was being used in many major courses across Europe. The applicant therefore asked the question which frequently arises in such cases - if this is obvious, why has it not been done before?
- 32 Evidence showing that an invention fulfils a “long-felt want” and has been commercially successful may assist in showing that an invention is not obvious. However, at the hearing Mr Roper indicated (as I understood him) that the success of the invention owed a lot to St Andrews’ enthusiasm; indeed the example that he showed me was a hole location chart for the Old Course at St Andrews. I cannot therefore discount the possibility that the commercial success of the invention is due to astute marketing, involving “signing up” leading courses - a factor which is independent of whether or not the invention is obvious to the skilled person.
- 33 Claim 4 of the main request therefore lacks inventive step.

---

<sup>4</sup> See the Office’s “Manual of Patent Practice” <http://www.ipo.gov.uk/practice-sec-003.pdf> at paragraph 3.77

- 34 However, I as I have explained above claim 1 contains the further feature that the map is produced by printing graduations on a card which already shows a graphic representation of the hole. This is not disclosed in either Germain or Cohodas (in both of which the map appears to be printed out a single entity) and I do not consider it to be an obvious thing for the skilled person to do - although I accept that it is well known to print variable information on to a base or template containing graphics, as for example in the production of letters on headed notepaper and of business cards. In my view the idea of printing graduations on to a card already showing a representation of a hole is not obvious, even though the actual way of putting that idea into effect might not require invention (see *Petra Fischer* at page 902 lines 20-32 referring to *Hickton's Patent Syndicate v Patents and Machine Improvements* (1909) 26 RPC 339 and *Mutoh Industry Ltd's Application* [1984] RPC 35).
- 35 Claim 1 of the main request therefore involves an inventive step.
- 36 The limitations added in the first auxiliary request in my view constitute conventional features of GPS mapping of golf courses and cannot therefore be relied on to impart an inventive step to otherwise obvious claims.
- 37 On inventive step, I would therefore be prepared to remit the application for further consideration by the examiner on the basis of claim 1 of the main request and I do not therefore need to consider the "omnibus" claims of the second auxiliary request. However, before doing that I must be satisfied that any invention that there may be is not excluded under section 1(2)(d) as the presentation of information as such.

#### Patentability

- 38 The examiner and applicant argued this on the basis of the four-step *Aerotel*<sup>5</sup> test. The Court of Appeal has since given further consideration to the interpretation of section 1(2) in *Symbian Ltd's Application* [2008] EWHC Civ 1066; although it approached the question of excluded matter primarily on the basis of whether there was a technical contribution, it still considered its conclusion in the light of the *Aerotel* approach. I will therefore apply the test as it is explained at paragraphs 40-48 of *Aerotel*, namely:
- 1) Properly construe the claim
  - 2) Identify the actual contribution (although at the application stage this might have to be the alleged contribution); as explained at paragraph 43 this is "an exercise in judgment probably involving the problem said to be solved, how the invention works, what its advantages are"; it is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form.

---

<sup>5</sup> *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371, [2007] RPC 7

- 3) Ask whether it falls solely within the excluded matter, which (see paragraph 45) is merely an expression of the “as such” qualification of section 1(2).
- 4) If the third step has not covered it, check whether the actual or alleged contribution is actually technical;

but I bear in mind that the third and fourth steps might in practice be conflated as suggested at paragraph 11 of *Symbian*.

### *Construction of the claims*

39 I have dealt with this above at paragraphs 18-23.

### *The contribution of the invention*

40 The examiner argued that, since the prior art showed it was known to produce accurate maps of golf holes with up-to-date pin positions using GPS receivers to determine the location of the pin, then the contribution lay in the specific distance information that the method and system displayed on the map. He therefore regarded the contribution as a golf hole map showing the distance between a pin and a fixed point on the hole. On the other hand, the applicant, working through the definition of the contribution in paragraph 43 of *Aerotel*, contended that what the inventor had really added to human knowledge was “a method and system for producing an up-to-date golf course guide including a map of a golf hole, which shows the exact location of the pin relative to a fixed point on the hole on any given day”. In support of its argument, the applicant emphasised that the invention was directed to producing an up-to-date golf course guide, not merely distance information, and none of the cited prior art was concerned with that.

41 As paragraph 43 of *Aerotel* explains, the contribution has to be decided as a matter of substance rather than form; this clearly re-states the decision in *Fujitsu Ltd’s Application* [1997] RPC 608<sup>6</sup> that it is not sufficient to look at the words of the claimed monopoly, and that whether an invention was claimed as a method or an apparatus is irrelevant to the determination of patentability. The applicant asks why, if substance is to take precedence over form, it is necessary to construe the claim; however construing a claim to determine its scope is not to be confused with determining the contribution of the invention as a matter of substance.

---

<sup>6</sup> See headnote (2) and page 618 lines 1-26

42 Applying this principle to the present case, the use of GPS receivers to determine the pin location is known (although this mostly takes place, as I have explained above, in the context of on-course electronic assistance to the golfer rather than the production of a course guide). Indeed the applicant has not argued that there is any contribution in this aspect of the invention. Therefore, irrespective of the wording of the claims and bearing in mind that the invention in its widest form is not limited to the production of golf course guides as a matter of substance, I consider the alleged contribution of the invention to be a map of a golf hole, suitable for incorporation into a course guide which is intended to be up-to-date when issued, which is printed to show the location of the pin relative to a fixed point on the hole on any given day.

43 However, in the light of *Germain and Cohodas*, and reflecting my findings on inventive step, I believe that the actual contribution to be narrower, in that the information is printed on to an existing graphic representation of the hole.

*Does the contribution fall solely within excluded matter, and is it technical in nature?*

44 In my view the both the alleged and actual contributions that I have identified are essentially a matter of deciding what information would be useful to a golfer and how it should be presented. Accordingly, and supported in my view by the decisions to which the examiner has drawn attention:

- *Townsend's Application* [2004] EWHC 482 (Pat) - presentation of information encompasses the provision as well as the expression of information), and
- *Autonomy Corp. Ltd. v Comptroller-General* [2008] EWHC 146 (Pat), [2008] RPC 16 (see paragraph 45) - choosing where and how to display information is part of the decision as to how to present information,

I consider the contribution of the invention, in whatever form it is claimed (including the "omnibus" claims of the second auxiliary request), to lie solely in the presentation of information.

45 I do not consider this contribution to be technical in nature, even if technical means are used to put it into effect. Such means as are described - use of GPS to determine the pin location, relaying the reading to a host system for updating, and printing out the updated map - seem to me to be wholly conventional and can form no part of the contribution. Further, even if the contribution solves a problem regarding the information available to golfers, I do not consider it to be a technical problem.

## **Conclusion**

- 46 It follows that even if the invention involves an inventive step, it relates to the presentation of information as such and is therefore excluded from patentability under section 1(2)(d). Having read the specification, I do not consider that any amendment is possible to overcome this finding.
- 47 The compliance period for putting the application in order, extended as of right under rule 108(2) of the Patents Rules 2007, expired on 29 December 2008. Despite a warning by the examiner in his final letter of 22 December 2008, no request under rule 108(3) for a discretionary further extension has been made within the time limit prescribed by rule 108(7). (Reference to a subsequent telephone call about this is made in Forresters' submission; I have no reason to doubt that a call was made but no record of it appears on the application file).
- 48 The application is therefore treated as refused under section 20(1).

## **Appeal**

- 49 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

**R C KENNEL**

Deputy Director acting for the Comptroller