



BL O/202/06

21 July 2006

PATENTS ACT 1977

APPLICANT Knowledge Support Systems Limited

ISSUE Whether patent application number
GB 0114557.2 relates to a patentable
invention

HEARING OFFICER P R Slater

DECISION

Introduction

- 1 Patent application GB 0114557.2 entitled "Modelling method" was filed on 14 June 2001 in the name of Knowledge Support Systems Limited. The application was published as GB2380000 on 26 March 2003.
- 2 The first examination report was issued on 28 July 2004. There followed an additional three rounds of correspondence throughout which the examiner reported that the invention was excluded from patentability under section 1(2) as being a method of doing business, a mathematical method and/or a computer program as such.
- 3 Having been unable to resolve the issue through either amendment or argument, the matter came before me to decide at a hearing on 31 January 2006 at which the applicant was represented by Mr Mark Kenrick of Marks & Clerk.
- 4 Following the hearing, Mr Kenrick filed two additional written submissions on the 13 February 2006 and 10 April 2006 respectively.

The Application

- 5 The application relates to a computer apparatus for generating a model of the relationship between the products sold for example by a supermarket, the model then being used to create a pricing structure. However, because of the large number of products and relationships involved, it has proven difficult to generate an accurate model using widely available computing power. This problem could be solved by reducing the number of products and relationships used to generate the model, but this will inevitably result in a reduction in the accuracy of the model.

- 6 The invention seeks to overcome this problem by modelling only a limited set of the most significant products and their inter-relationships. This is achieved by nominating as so called category flag products those which are regarded as the most significant by the retailer and which are likely to affect the demand and price of products in a particular category. A simplified model is then generated by modelling only the relationship between products in the same category and those nominated as category flag products.
- 7 The most recent set of claims were filed on 20 July 2005. There are two independent claims 1 and 23 which relate to a computer implemented apparatus and method for modelling the relationship between a plurality of products sold by a retail outlet. There are also a number of omnibus claims including two which relate to a computer program and an associated carrier therefor. For the purpose of this decision it is only necessary for me to recite the first independent claim:

“1. A computer apparatus configured to generate model data, the model data modelling relationships between a plurality of products sold by a retail outlet, the apparatus comprising:

means for generating data allocating each product to a category, and for generating model data comprising a plurality of categories, each category containing a plurality of products;

means for generating data indicating at least one product in each category nominated as a category flag product;

means for generating data modelling relationships between products within the same category; and

means for generating data modelling relationships between two products allocated to different categories only if the two products are category flag products.”

The Law

- 8 The examiner has reported that the application is excluded from patentability under section 1(2) of the Act, as relating to a method of doing business, a mathematical method and/or to a program for a computer as such. The relevant parts of this section read:

1(2) 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 -

(a) a discovery, scientific theory or mathematical method;

(b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;

(c) a scheme, rule or method for performing a mental act, playing a game

or doing business, or a program for a computer;

(d) the presentation of information;

- 9 These provisions are designated in section 130(7) as being so framed as to have, as nearly as practicable, the same effect as Article 52 of the European Patent Convention (EPC), to which they correspond. I must therefore also have regard to the decisions of the Boards of Appeal of the European Patent Office (EPO) that have been issued under this Article in deciding whether the present invention is patentable though I am not bound to follow them.

Interpretation

- 10 As regards the interpretation of section 1(2), my approach will be governed by the judgment in *CFPH*¹ and the Practice Notice that was issued by the Patent Office thereafter (29 July 2005). In *CFPH* a two-step test was advocated (paragraph 95):

(1) Identify what is the advance in the art that is said to be new and not obvious (and susceptible of industrial application).

(2) Determine whether it is both new and not obvious (and susceptible of industrial application) under the description “an invention” in the sense of Article 52 of the European Patent Convention (EPC) — which section 1(2) of the Act reflects.

- 11 Once the new and non-obvious advance has been identified, Mr Prescott suggests² that it would often be possible to determine whether this was an advance under the description of an invention by asking “Is this a new and non-obvious advance in technology”. However, because of the difficulty sometimes associated in determining what is meant by technology, Mr Prescott says that if there is any doubt in this regard then it will be necessary to have recourse to the terms of Article 52 of the EPC.

- 12 Throughout the correspondence, and at the hearing, Mr Kenrick addressed me at some length regarding the continuing need to look for a technical contribution when determining whether an application is excluded under section 1(2), referring me to a considerable body of case law, most notably the Court of Appeal’s judgment in *Fujitsu Limited’s Application*³ and a number of other High Court judgments (*Halliburton*⁴, *Shoppalotto*⁵, *Crawford*⁶ and *RIM v Inpro*⁷) all of which point to a similar requirement for a technical advance in order to pass the test for patentability.

¹ *CFPH LLC’s Application* [2005] EWHC 1589 (Pat)

² *CFPH* paragraph 97

³ [1997] RPC 608

⁴ *Halliburton Energy Services Inc v Smith International (North Sea) Ltd and others* [2006] RPC 25

⁵ *Shoppalotto.com’s Application* [2005] EWHC 2416 (Pat)

⁶ *Cecil Lloyd Crawford’s Application* [2005] EWHC 2417 (Pat)

⁷ *Research In Motion UK Ltd v Inpro Licensing* [2006] EWHC 70 (Pat)

- 13 Mr Kenrick accepted that it was the substance of the invention and not the specific wording of the claims which needed to be considered when deciding if an invention was patentable. He was content for me to apply the two-step test laid down in *CFPH*, but suggested that the second step must involve a consideration of whether the advance involves a technical effect. That is to say, if the advance involves a technical effect then the invention cannot relate to excluded subject matter. I am content to adopt this approach, which I believe is entirely consistent with that which was adopted in the Court of Appeal and High Court judgments referred to above.

Arguments

- 14 The examiner has reported that the advance in the art made by the claimed invention is a method of modelling the relationship between products sold by a retail outlet which is then used to generate an optimized pricing structure. The model is implemented in software using a well known arrangement of hardware. The examiner considered the advance to fall within the description of a business method, a mathematical method and/or a program for a computer and as such was excluded from patentability under section 1(2).
- 15 Mr Kenrick argued that the invention provides a technical solution to a technical problem in line with the decision in *Hitachi*⁸ and that by adopting the EPO approach the invention would be patentable. He suggested that the invention as claimed provides a technical solution to the technical problem of generating model data which can be handled more efficiently by a computer. The solution is to provide a computer configured in a particular way, to nominate particular data items representing flag products, and having done that, to model the relationships in a particular way based on those flag products alone and to thereby provide a new and more efficient computer with increased processing speed, capable of generating a viable model which was previously not possible using conventional hardware. In support of his arguments, he referred me to the judgments in *Merrill Lynch*⁹, *Vicom*¹⁰, *Sohei*¹¹ and *Comvik*¹².
- 16 Whilst Mr Kenrick maintains that the invention as claimed provides a technical contribution and as such cannot be excluded from patentability, he went on to explain why, in his opinion, the advance is not a method of doing business or a mathematical method as such.
- 17 He argued that the business method per se was well known, that using such a model to generate pricing data is not new, and that the apparatus as claimed is not configured to carry out any such business method. Rather, it is configured to generate model data which may be used for business purposes. Thus, in Mr Kenrick's opinion, the invention resides firmly in the technical field of data processing, not the field of business methods.

⁸ *Hitachi Ltd/Automatic auction method T 258/03*

⁹ *Merrill Lynch's Application [1989] RPC 561*

¹⁰ *Vicom/Computer-related Invention T 208/84*

¹¹ *Sohei/General-purpose management system T 769/92*

¹² *Comvik/Two Identities T641/00*

- 18 Furthermore, in his written submissions of the 10 April 2006, he referred me to the decision of Mann J in *Macrossan's Application*¹³, specifically paragraphs 28 to 30. In particular, at paragraph 30 of his judgement, where Mann J considered that although the invention in *Macrossan* may relate to a method of providing business services, this was not what the business method exclusion of Section 1(2)(c) of the Patents Act 1977 sought to exclude from patentability. In light of Mann J's conclusions, Mr Kenrick submitted that it is clear that the invention of the present application is similarly not a method of doing business. Rather, it is a technical method of improving a data processing apparatus.
- 19 He went on to refer to the "little man test" set out in paragraph 104 of *CFPH* where Mr Prescott QC suggests that if an invention is new and non-obvious merely because there is a computer program it will be excluded. However, if the invention would still be new and non-obvious in principle even if the same decisions and commands would somehow be taken and issued by a little man at a control panel the invention would not relate to excluded subject matter. Mr Kenrick suggests that the invention, particularly as it is claimed in claim 23, includes a series of steps which could be carried out by the "little man" at the control panel, and that these steps would in themselves be new and non-obvious, therefore indicating that the invention does not relate to a computer program as such. Rather, the invention relates to an improved way of operating a computer at a technical level, allowing it to do something it previously could not do, by handling the data processing operations in a new way. In short, Mr Kenrick said that the invention provides a technical solution to a technical problem and is therefore patentable.
- 20 In summary, Mr Kenrick argues that the invention lies in a novel data processing apparatus which generates improved model data. Specifically, novel data processing techniques are used in which particular products are nominated to be category flag products, and only those products are used to generate the model. Thus the invention results in the creation of a simplified model including fewer relationships between products whilst still producing an accurate pricing structure. That is to say, in his opinion, the substance of the invention relates to an apparatus configured to generate model data which can be manipulated using less computing power with a substantial increase in processing speed, and that this provides the necessary technical contribution to save the invention from exclusion.

Discussion

Computer program

- 21 The first step of the *CFPH* test is to identify the advance in the art which is said to be new and non-obvious. In this case, the computer apparatus is entirely conventional, and therefore the advance would seem to lie in the program which is used to generate a simplified model of the relationship between products and is capable of producing a reliable output from a limited set of parameters. This is achieved by modelling only the relationship between products in the same category and those nominated as category flag products.

¹³ *Macrossan's Application* [2006] EWHC 705 (pat)

- 22 Having done that, the next step is to decide whether this advance is both new and non-obvious under the description “an invention” in the sense of Article 52 of the EPC or to put it another way is this a new and non-obvious advance or contribution in technology.
- 23 The examiner has argued throughout the proceedings that the advance lies in a computer program as such and is excluded from patentability under section 1(2) of the Act. Furthermore, the examiner was unable to identify any technical effect or contribution which would save the invention from exclusion.
- 24 Mr Kenrick accepts that the invention lies in a computer program but stresses that there is a technical contribution in the way in which the apparatus is configured which saves it from exclusion.
- 25 There is no doubt in my mind that the invention as claimed requires a computer program for its implementation and that the hardware being used is entirely conventional. However, the mere fact that the invention is effected in software does not mean that it should be immediately excluded as a computer program as such. One needs to look beyond the means for effecting the advance and look at the advance itself. If that is technical in nature then one is not dealing solely with a computer program.
- 26 However, what we have here is nothing more than a program for instructing a computer to process information regarding the relationship between retail products in a non-technical manner. I agree that the model can be generated more quickly and that processing speed is enhanced but this is achieved by modelling less data not by any technical advance in the software or the computer on which it runs.
- 27 Mr Kenrick also made reference to the “little man” in *CFPH*. However, I do not think this is a case where that can offer me much assistance. That test was proposed as a means of deciding whether an artefact or process was new and non-obvious because there was a computer program or because the invention really related to better rules for doing something, which could in principle be carried out by the little man instead of by a computer. As the examiner has pointed out, and as was explained by the hearing officer in the *Oracle*¹⁴ decision, this test has its limitations and is inappropriate where replacing the computer with a little man would actually defeat the purposes of the invention. This is such an application and likewise I do not consider it lends itself to the application of the “little man” test.
- 28 I accept that the claims are not drafted in terms of a program as such, but they set forth the rules and procedures which will be necessary to get the computer to operate in the desired manner and can therefore be regarded as relating to a computer program as explained in the *Oracle* decision. I therefore consider the invention to be a program for a computer and in the absence of any technical contribution, to be excluded as such.

¹⁴ *Oracle Corporation BL 0/254/05*

Mathematical method

- 29 At the hearing, Mr Kenrick referred me to paragraph 64 of CFPH where Mr Prescott suggests that 'mathematical methods' are to be treated as "soft" exclusions, and that once they are embodied in something useful, e.g. in a machine, they become patentable. However, in my opinion, what is needed to make an otherwise excluded mathematical method patentable is for it to be tied to a technical application or a method of manufacturing a tangible artifact, as was the case in *Vicom*, where the method was limited to producing an enhanced image or in *Halliburton*¹⁵ where a drill bit was to be manufactured. I can see no such limitation in the current application where the apparatus merely processes data, to produce a model which may be used to generate a pricing structure. I can see nothing technical in that and therefore consider the invention to fall squarely within the definition of a mathematical method and having not been able to identify any technical contribution find that it is excluded as such.

Business method

- 30 Mr Kenrick argued throughout the proceedings that the invention does not relate to a business method, but to a technical method of improving a data processing apparatus. At the hearing, I suggested to him that, in my opinion, the invention relied upon an experienced retailer identifying the most significant products to be included in the model in order for it to produce a reliable pricing structure. This is clearly a business decision which would tend to suggest that what we have here is indeed a business method. Whilst he was prepared to accept that input from the retailer was required at some stage, he argued that the invention lay in deciding how to go about modelling the data more efficiently using a computer, and that this required an expert in data processing to come up with a new technical solution which was to use category flag products in the model.
- 31 I must say that I am not entirely convinced by Mr Kenrick's arguments, and having already decided that the invention is excluded as a computer program and a mathematical method, it is not strictly necessary for me to decide whether the invention is also excluded as a business method. However, given Mann J's comments in *Macrossan*, I am inclined to accept that the invention is more a "tool" for use in business, than a business method as such

Conclusion

- 32 I have found that the invention relates to a program for a computer and a mathematical method as such and is therefore not patentable. I have read the specification in its entirety and cannot identify anything that could form the basis of a patentable invention. I therefore refuse the application under section 18 as failing to meet the patentability requirements of section 1.

¹⁵ *Halliburton Energy Services, Inc v Smith International (North Sea) and others* [2005] EWHC 1623 (pat)

Appeal

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

P R SLATER

Deputy Director acting for the Comptroller