BL O/254/05

13th September 2005

PATENTS ACT 1977

APPLICANT Oracle Corporation

ISSUE Whether patent application GB 2385686 A relates to a patentable invention

HEARING OFFICER Stephen Probert

DECISION

Introduction

1 Patent Application Nº GB 0204357.8 was filed on 25th February 2002 in the name of Oracle Corporation. The application is entitled "Mark-up language conversion"; it was published on 27th August 2003 with the serial number GB 2385686 A.

2 During the course of substantive examination in the UK Patent Office, the examiner reported that the application relates to a scheme, rule or method for performing a mental act and/or a program for a computer as such. Other objections were also raised, on the grounds that the claims lack novelty and/or inventive step.

3 The novelty and inventive step objections have been put to one side in view of the potentially fatal objection that the application does not relate to a patentable invention. In his third examination report, the examiner observed that it was unlikely that further correspondence would resolve the issue and he invited the applicant to request a hearing. The applicant agreed, and requested that a hearing be appointed. The matter therefore came before me at a hearing[1] on 17 August 2005, at which the applicant was represented by Mr Michael Lord and Mr David Wraige of Gill Jennings & Every.

The Invention[2]

4 The invention concerns a method of converting text from one markup language (eg. SGML) to a second markup language (eg. HTML). More specifically, the invention concerns a method of converting a document from a markup language that uses a document type definition (DTD) file to one that doesn't. At the hearing, Mr Lord conceded that there are already systems that convert SGML documents into

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[1]The hearing on this application was held at the same time as the hearing on another of Oracle Corporation's applications - GB 2383152 A - which is the subject of decision O/255/05.

[2]See annex A for a list of useful definitions, eg. markup, SGML, DTD.

HTML format, but he said that they involve a significant amount of human input. Referring to one particular piece of prior art, US 6279015 "Fong et al", Mr Lord said it required someone to generate a specific map for each conversion operation. The map would then be applied to the SGML file and its corresponding DTD file in order to produce a HTML version of the original document.

5 By contrast, Mr Lord submitted that the invention described in his application removes this need for user input. As the specification explains on page 3, the inventors have ...

> "... analysed the structure of certain mark-up languages such as SGML and found that by suitably structuring the conversion or parsing processing, it is possible to achieve very rapid conversion (for example just a few minutes to convert to HTML instead of days). This involves first extracting definition and cross-reference information and then operating on each block of text utilizing the previously extracted definition information."

6 Mr Lord was careful to emphasise that this was a completely new way of the handling the conversion process. It meant, he said, that the inventor had been able to dispense with the map, and automate steps that previously would have had to be controlled and directed by a human operator. Claim 1, as amended, reads as follows:

> 1. A method of converting text written in a first mark-up language and comprising a document file and a document type definition (DTD) file, to a second mark-up language which does not utilize a DTD file, the method comprising operating a processor to carry out the following steps:
>
> i) scanning the DTD file to extract definitions;
>
> ii) scanning the document file to locate cross- reference tags and to identify cross-referenced text; and,
>
> iii) scanning the document file to locate successive blocks of text defined between respective start and end tags of the same type and, for each block, creating equivalent tags and text in the second mark-up language using, where necessary, the extracted definitions and cross-references from steps i) and ii).

7 The words that I have underlined in the claim (above) were added in response to the first examination report, with a view to distinguishing the invention from a simple mental act.

The Law

8 The examiner has reported that the application relates to a scheme, rule or method for performing a mental act, and a program for a computer as such. This objection is based on section 1(2) of the Act, the essential parts of which are shown in bold below:

> **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;

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.

9 Mr Lord recognised that the Patents Court has recently provided some helpful guidance explaining how this section of the Act should be interpreted in the *CFPH* case [3], and he agreed that the correct test is the two stage test set out by the Deputy Judge in *CFPH*. That is:

> (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) — broadly corresponding to section 1 of the Patents Act 1977.

Mr Lord's submissions — Computer programs

10 In the course of his submissions, Mr Lord made several references to the *CFPH* judgement. He drew my attention to the "little man" test[4] in paragraph 104, and emphasised that the deputy judge clearly recognised that an invention is not excluded from patent protection merely because it uses a computer program. In order to appreciate the "little man" test in its proper context, it is necessary to consider paragraph 104 in its entirety. It reads as follows:

> 104. But the mere fact that a claimed artefact includes a computer program, or that a claimed process uses a computer program, does not establish, in and of itself, that the patent would foreclose the use of a computer program. There are many artefacts that operate under computer control (e.g. the automatic pilot of an aircraft) and there are many industrial processes that operate under computer control (e.g. making canned soup). A better way of doing those things ought, in principle, to be patentable. The question to ask should be: is it (the artefact or process) new and non-obvious merely because there is a computer program? Or **would it still be new and non-obvious in principle even if the same decisions and commands could somehow be taken and issued by a little man at a control panel, operating under the same rules? For if the answer to the latter question is 'Yes' it becomes apparent that the computer program is merely a tool, and the invention is not about computer programming at all.** It is about better rules for governing an automatic pilot or better rules for conducting the manufacture of canned soup.
>
> (My emphasis)

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[3] *CFPH LLC's Application* [2005] EWHC 1589 Pat.

[4] As a personification of legal criteria, the "little man" bears a clear family resemblance to the skilled person, and the reasonable man. (Glaxo Group Ltd's Patent [2004] RPC 43 at paragraph 24.)

11 According to Mr Lord, the “little man” test demonstrates that this application is not about computer programming at all. He said it is about better rules for converting a document from one standard to another. He submitted that although the application describes a computer being used to implement the rules, the computer is being used merely in the sense of a tool. The invention lay in the new rules, or procedure, for converting the document. In that respect, it would be possible for a “little man” to operate under the same rules and perform the conversion in place of the computer.

12 I think this argument is stretching the little man test somewhat further than the deputy judge intended. Firstly, the ‘test’ was put forward as a means of assessing the function of a computer program where there is either an artefact or an industrial process that is operated under computer control (eg. an automatic pilot or making canned soup). Secondly, it seems to me that the ‘test’ must take some account of processing speed since, as Mr Lord said at the hearing, in principle there is nothing that a computer can do that a human (regardless of gender and stature) cannot. Computers merely do most things much faster.

13 Thus it seems to me that the “little man” test is not really an appropriate question to ask in this case. Not only is there no artefact or industrial process being controlled, but the application makes it clear that the purpose of the invention is to convert a document from one format to another in a few minutes without requiring manual input from a user, where previously it would have taken days — with or without the assistance of a computer. Therefore a little man could never replace the computer in this invention without defeating the main purpose(s) of the invention.

14 Notwithstanding the inappropriateness (or otherwise) of the little man test in the particular circumstances of this case, I do have some sympathy with the general direction of Mr Lord’s argument on the point. On the face of it, it is not entirely clear that the invention in this application is about computer programming. The skilled person, having read the description of the invention in the application, would still need to go away and write a program to do it. Therefore, (or so the argument runs) the application does not disclose a program as such. But that is probably too narrow an interpretation to place on the meaning of the term - “a program for a computer”. A flow-chart representing a process to be carried out using a computer would not normally be described as a computer program because it is not in a form that enables it to be executed directly by a computer. But the same could be said of most computer programs written in high-level, or source, languages — ie. they need to be converted (eg. “compiled”) into a low-level, or object, code before they can be executed directly by a computer. On this basis it seems to me that any set of rules or procedures that are intended to be carried out by a computer may reasonably be regarded as a program for a computer, howsoever those rules or procedures are defined. If that is so, then even a cursory reading of claim 1 of this application would strongly suggest that it is defining — albeit in plain (or patent) English — a program for a computer.

15 Leaving aside the little man test, I turn instead to the two stage test indicated in paragraph 9 above. The advance that is said to be new and not obvious is the idea of extracting definitions from a DTD file, and cross reference tags from a document file, and then using the extracted definitions and cross references to convert (or expand) the document file into a form that does not rely upon the use of a DTD file. The second

step requires me to determine whether such an advance (assuming it is new and not obvious) is both new and not obvious under the description "an invention" in the sense of Article 52. I admit that I have not found it easy to address this step of the test in this case. To reach a clear decision, I have had to look further into the *CFPH* judgment, and consider some of the reasoning behind it.

16 Amongst the passages in *CFPH* to which Mr Lord referred me was paragraph 98 which reads:

> 98. ... Article 52 contains a series of exclusions. It is necessary to bear in mind the *reasons* for those exclusions, and in my judgment they are not uniform and the same. I have discussed them in paragraphs 34 to 41 above.

17 The deputy judge made similar remarks in paragraphs 27 and 31 where he indicates clearly that the various exclusions of Article 52 should be given a purposive or teleological interpretation. With regard to computer programs, the deputy judge states at paragraph 35 that the reason why they are not patentable is because:

> "... at the time the EPC was under consideration it was felt in the computer industry that such patents were not really needed, were too cumbersome (it was felt that searching the prior art would be a big problem), and would do more harm than good. ... Copyright law protects computer programs against copying."

18 A footnote to paragraph 35 further explains that:

> "As late as 1971 the industry declared that it was content to be protected by the law of contract and trade secrets alone."

19 The invention described (and claimed) in the specification of this patent application is not protected against copyright. Anyone who reads the specification and then writes a program to convert (say) SGML documents into HTML format using the very ideas that he or she has learnt from the specification would not be infringing the applicant's copyright. (On the contrary, the program that he or she wrote would attract copyright protection in its own right.) So perhaps Mr Lord would have been justified in claiming that because the invention disclosed in his application is not protected by copyright law, then it cannot be a computer program — because if it were a computer program as such, then it would be protected against copying by copyright. This is an attractive argument, so far as it goes.

20 But *CFPH* goes further, and paragraph 103 states that:

> 103. **It was the policy of the "computer program" exclusion that computer programs, as such, could not be foreclosed to the public under patent law.** (Copyright law is another matter.) They would be foreclosed if it was possible to patent a computer when running under the instructions of the program, for example, or magnetic disk when storing the program. (My emphasis)

21 If computer programs are not to be foreclosed to the public, then it is clear to me that I cannot allow this application to proceed to grant. Not only would the present claims (if granted) foreclose computer programs to the public but, on my reading of the claims,

there is little or nothing else that would be foreclosed by them. I therefore conclude that the advance in the art that is said to be new and not obvious, is not "new-and-not-obvious" under the description "an invention" in the sense of Article 52.

22 I cannot profess to be entirely comfortable with the process by which I have arrived at my decision in this case. Nevertheless, I am reasonably confident that the result is consistent with the ratio decidendi of the Patents Court in *CFPH*. I am also conscious that I have been considering the advance in the art that is ***said*** to have been made, before it has been established whether or not the said advance is ***in fact*** new and not obvious in the more general sense — that is to say, with reference to the prior art solus.

Mr Lord's submissions — Mental act

23 One of Mr Lord's earliest submissions at the hearing was that a patent application should not be refused on the grounds that it relates to a program for a computer **and** a scheme, rule or method for performing a mental act. In other words, he argued that if an invention relates to one of the excluded things **as such**, then it cannot also relate to one of the other excluded things. In Mr Lord's view, if one cannot decide whether an invention is one thing or the other, then it is neither.

24 Having chewed this over at the hearing and afterwards, I still don't think that Mr Lord's proposition stands up to close scrutiny. Even if it were true in the isolated example of computer programs and mental acts (which is not established in my mind), it certainly could not be said of all the other excluded items. For example, a new method for determining the roots of a quadratic equation could easily be a mathematical method **and**, at the same time, a method for performing a mental act. More specifically, it could be both of those things **as such**. And again, as the deputy judge said in *CFPH*:

> "Quite often a "business method" case will overlap with the "computer program" exclusion and that is so in the present case."
>
> (Paragraph 102)

25 Fundamentally, what this invention is doing could be described as a mental act. Put in simple terms, it is converting a document from one standard format to another. Humans have done this manually in the past, but Mr Lord contends that the invention performs this conversion in an entirely new way, and he maintained that the human mind simply would not follow the same steps. I asked Mr Lord how his submission could be reconciled with the words of Aldous J (as he then was) in *Wang's Application* [5] where he said:

> "The method remains a method for performing a mental act, whether a computer is used or not. Thus a method of solving a problem, such as advising a person whether he has acted tortiously, can be set out on paper, or incorporated into a computer program. The purpose is the same, to enable advice to be given, which appears to me to be a mental act. Further, the result will be the advice which comes from performance of a mental act. **The method may well be different when a computer is used, but to my mind it still remains a method for performing a**

[5] *Wang Laboratories Inc's Application* (1991) RPC 20 at page 473.

> **mental act, whether or not the computer program adopts steps that would not ordinarily be used by the human mind**."
>
> (My emphasis)

26 Mr Lord said that this was old law. That may be so; certainly *Wang* does not express the test in the same way as *CFPH*. Nevertheless, it seems clear to me that the underlying principle in the above passage from *Wang* is not inconsistent with *CFPH*, and neither (to my knowledge) has it been contradicted by the Court on any other occasion. I am therefore led to the conclusion that the invention in this application may also be regarded as a scheme, rule or method for performing a mental act.

27 Strictly speaking, in the light of *CFPH*, I do not think I need to determine whether the invention as described and claimed in this application is a method for performing a mental act or a program for a computer. What matters is whether the invention is both new and not obvious (and susceptible of industrial application) under the description "an invention" in the sense of Article 52 EPC. According to *CFPH*, the various categories of excluded items are not intended to form the basis of specific objections to patentability in themselves. Rather they are provided as a means of telling us what an 'invention' is not. As the deputy judge put it in *CFPH*:

> "18. Therefore, in telling us about patentable inventions the Patents Act 1977 does not try to define what is an 'invention'. Instead, it contains a list of things that are *not* inventions."

28 I have therefore used the list to help me to decide whether the advance in the art that is said to be new and not obvious is an 'invention', and I am therefore not particularly concerned about whether the advance fits neatly into one (or more) of the categories in that list.

Conclusion

29 I have decided that the advance in the art that is said in this application to be new and not obvious (and susceptible of industrial application) does not satisfy these criteria under the description "an invention". I have read the whole application carefully, and I cannot see any amendment that would overcome this deficiency. Consequently I refuse this application under section 18 on the grounds that the advance it describes and claims as an invention does not satisfy the requirements of section 1.

Appeal

30 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days of the receipt of this decision.

S J PROBERT
Deputy Director acting for the Comptroller

Annex A — Useful definitions

Markup — The sequence of characters or other symbols (usually called tags) that are inserted at various places in a text or word processing file to indicate how the file should look when it is printed or displayed. They can also be used to describe a document's logical structure.

SGML — **S**tandard **G**eneralized **M**arkup **L**anguage: a system for organizing and tagging elements of a document. SGML was developed and standardized by the International Organization for Standards (ISO) in 1986. SGML itself does not specify any particular formatting; rather, it specifies the rules for tagging elements. These tags can then be interpreted to format elements in different ways.

SGML is used widely to manage large documents that are subject to frequent revisions and need to be printed in different formats. Because it is a large and complex system, it is not yet widely used on personal computers. However, the growth of Internet, and especially the World Wide Web, is creating renewed interest in SGML because the World Wide Web uses HTML, which is one way of defining and interpreting tags according to SGML rules.

(**Source:** Webopedia)

DTD — Document Type Definition: a specification that accompanies a document and identifies what the funny little codes (or markup) are that, in the case of a text document, separate paragraphs, identify topic headings, and so forth and how each is to be processed. By mailing a DTD with a document, any location that has a DTD "reader" (or "SGML compiler") will be able to process the document and display or print it as intended. This means that a single standard SGML compiler can serve many different kinds of documents that use a range of different markup codes and related meanings. The compiler looks at the DTD and then prints or displays the document accordingly.

(**Source:** SearchWebServices.com)

HTML — **H**yper**T**ext **M**arkup **L**anguage: the authoring language used to create documents on the World Wide Web. HTML is similar to SGML, although it is not a strict subset.

HTML defines the structure and layout of a Web document by using a variety of tags and attributes. The correct structure for an HTML document starts with <HTML><HEAD>(enter here what document is about)<BODY> and ends with </BODY></HTML>. All the information you'd like to include in your Web page fits in between the <BODY> and </BODY> tags.

There are hundreds of other tags used to format and layout the information in a Web page. Tags are also used to specify hypertext links. These allow Web developers to direct users to other Web pages with only a click of the mouse on either an image or word(s).

(**Source:** Webopedia)