PATENTS ACT 1977

IN THE MATTER OF
Application No. GB 0026184.2
in the name of Kamal Taouabit

DECISION

Introduction

1. Patent application number GB 0026184.2 entitled, "Component Software", was filed on 25 October 2000 in the name of Mr Kamal Taouabit. The application claims priority from an earlier GB application that was first filed on 25 April 2000.

2. Before conducting a full examination of the application, the examiner wrote to the applicant on 28 September 2001 advising him that the invention appeared to be unpatentable since it related to nothing more than a program for a computer as such. At this point, the applicant was given the opportunity to withdraw the application (and receive a refund of the search and examination fees), or submit observations. The applicant did not reply, and consequently an examination report was issued under section 18(3) on 3 January 2002. Because of the nature of the objections that were raised, the usual search for prior art was deferred, and (contrary to the indication on the published patent specification) no report has been issued under section 17.

3. The application was published on 13 March 2002 as GB 2366636 A.

4. In his first examination report, the examiner reported that the claims related to a method of performing a mental act and/or a program for a computer as such, and that consequently the application was excluded from patentability by section 1(2). He also reported that component software (eg. JavaBeans®) was in use well before the priority date of the application, and that consequently the invention did not appear to be novel or inventive.

5. The applicant responded to the first examination report, stating that he was not claiming the idea of component software as such. He agreed that JavaBeans® was in use before the filing date of his application. However, he said that his invention related to a method of developing software. In his letter, Mr Taouabit also gave some further technical information about his invention to show how it differed from conventional methods of generating computer program code. Notwithstanding the applicant's arguments, the examiner maintained the original objections, confirming that in his opinion the invention does not involve any technical contribution to the art of computing. The examiner did accept that the invention may offer advantages in terms of easier/cheaper program development.

6. Turning to the novelty and inventive step of the invention, and in the light of the further technical explanation provided by Mr Taouabit in his letter, the examiner cited a further reference relating to re-usable software components that are distributed and used in binary form. According to the examiner, the reference (http://citeseer.nj.nec.com/context/579923/0) discloses functions which are intended for general use rather than for a specific purpose. The examiner also pointed out that graphical development environments are already known. These are computer programs in which applications (other computer programs) are built by a drag-

and-drop technique, such that components/objects selected by the developer from a palette are automatically connected at compile time, ie. at the binary level.

7. At this stage, the examiner and the applicant agreed that further correspondence was unlikely to resolve the matter of patentability, and a hearing was appointed. That hearing took place on 20 August 2002. At the hearing, which was held using a video conference facility, Mr Taouabit appeared in person.

The Application

8. The application concerns a method of developing software, and is particularly designed to enable someone with little or no experience of programming to produce a working computer program.

9. It is well known that chunks of computer program code can be re-used time and again. In many cases this means copying and pasting code from other programs or using third-party libraries, eg. the program developer calls (or passes program control to) a function or routine stored in a shared library. The application asserts that this process is:

> "... tedious and not flexible enough because a library for drawing images would have functions linked to this particular task and therefore the use of the library is tied-up with the type of application being developed."

10. Mr Taouabit's invention takes advantage of interpreted languages like Java in which elements of a program can be:

> "... loaded at run-time combined with the ability of class methods to be called at run-time. By treating each class as a separate component, we can invoke Methods from different components regardless of the type of application they have been written for as long as the Method parameters match, making software identical to hardware machines that can be assembled from different parts."

11. Referring to the benefits provided by his invention, Mr Taouabit's application continues:

> "The system allows developers, novice or otherwise, to select the components to use, then make connections between the available Methods.
> This way Components written for drawing images could be used with components written for Mathematics as long as Methods that would provide some service are available."

12. The application includes several pages of sample program code and concludes with a single claim, which reads as follows:

> "Developing Software applications by assembling Components and connecting their Methods at the binary level."

Method for performing a mental act and/or Program for a computer

13. The examiner has objected that the application relates to a method for performing a mental act and/or 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;
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> (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
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> (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.**

14. It has been established by the Courts that an invention will not be excluded from patentability by the above provision if it makes a technical contribution. That is to say, if an invention makes a technical contribution, then it is ***more than*** one of the above excluded items, and cannot be regarded as ..... "that thing ***as such***". This principle has been clearly set out by the Court of Appeal in Fujitsu Limited's Application[1]. At page 614, Aldous LJ said:

> "However it is and always has been a principle of patent law that mere discoveries or ideas are not patentable, but those discoveries and ideas which have a technical aspect or make a technical contribution are. Thus the concept that what is needed to make an excluded thing patentable is a technical contribution is not surprising. That was the basis for the decision of the Board in *Vicom*. It has been accepted by this Court and by the EPO and has been applied since 1987. It is a concept at the heart of patent law."

15. At the hearing, Mr Taouabit accepted that this was the correct approach to the law. Furthermore, he accepted (as I understood him) that his invention is a program for a computer; more specifically, it is a computer program to enable a user to develop other computer programs for specific applications. With this in mind, Mr Taouabit directed his submissions to me with the intention of showing that his invention made a technical contribution.

16. During the course of the hearing, it became clear that Mr Taouabit was describing a particular embodiment of his invention that is not clearly disclosed in his patent application. He described a graphical user interface according to which a program developer would be able to select particular program components on screen using eg. known drag-and-drop techniques. The developer would then be able to connect the components on screen by drawing lines between them to reflect the intended flow of input/output data or other signals. In this embodiment, the developer would not need to be familiar with the very specific syntax and mnemonics of computer programming languages. Mr Taouabit explained that it was obvious

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[1] Fujitsu Limited's Application [1997] RPC 14 at page 614.

that one would prefer to use a visual interface (or visual editor) in order to connect the components described in his application, and that such an interface could be written in any computer language. I understood him to be saying that the skilled person would realise that a visual interface was desirable and that the skilled person would not need to perform any inventive exercise in order to produce a suitable visual interface. I am not entirely persuaded that this is the case; certainly it was not as obvious to me as it was to Mr Taouabit that a visual interface could be an element of his invention.

17. In the event, Mr Taouabit confirmed that the visual interface was not an essential part of his invention and he went on to describe a text-based alternative in which two functions were linked by writing them on the same line of a program with the word 'link' between them. In my view, this is much more consistent with the description of the invention in Mr Taouabit's application. However, I was struggling to see how this embodiment of the invention differed in principle from the traditional method of generating computer programs (ie. object code) according to which a programmer is provided with a series of functions, each of which represents a multitude of individual computer instruction codes.

18. Several times during the hearing, Mr Taouabit stressed that the fundamental concept behind his invention is the way in which multi-purpose functions such as ADD, SUBTRACT, MULTIPLY are 'connected', such that programmers do not need to actually write code.

19. After giving the matter much thought, I am satisfied that there is no technical contribution in the invention that is described in this application. It appears to me to be a method of constructing computer programs, and whilst the terminology used to describe the process in the application may be unusual, having heard Mr Taouabit's explanation, I consider that the process itself is entirely conventional. Consequently I think that the examiner was correct when he reported that the invention defined in the claim is both a method for performing a mental act, and a program for a computer as such.

Novelty / Inventive Step

20. The other objection that was raised during the examination phase of this application was that the invention is not new and does not involve an inventive step. These are specific requirements laid down in section 1(1) of the Patents Act. Although no statutory search has been performed, the examiner reported that he was aware that component software, such as JavaBeans®, was in use before the priority date of the application. At the hearing, Mr Taouabit agreed that this was true, but he maintained that his invention was different from the conventional types of component software that were already available on the market. More specifically, he submitted that according to his invention, the components were connected "at the Method level" rather than component level, and that this made it different to other systems for constructing computer programs using component software. (According to Mr Taouabit, Java programmers use the term 'Method' to describe what programmers in other languages would more often refer to as a 'function'.)

21. As I understood him, Mr Taouabit was saying that by enabling a programmer to connect components at the Method (or function) level, it is possible to provide a greater range of functionality than if they can only connect the components themselves. He said that for simple applications, the programmer would generally have no problems achieving the desired result using components that had already been written and were widely available. The difficulty would arise when the programmer wanted to do something for which there was no available

component. Mr Taouabit submitted that his invention solved this problem by allowing the programmer to connect functions at a much more basic level.

22. The example Mr Taouabit used to explain the principle seems to me to be a good one. Suppose an architect wishes to write a program to assist him with the design of a building. He could purchase a set of components that would be tailored to his needs — ie. it would include the sort of components that an architect is likely to need. But if that same set of components were given to another person in a different field (eg. a vehicle designer), he would be unable to use many of the components because they would have been prepared for a specific application (ie. architecture). The vehicle designer would need to purchase additional components that were better suited to his/her own particular needs and circumstances.

23. However, according to Mr Taouabit's invention, components would be used in such a way that it would not matter who was using them. The programmer would be able to select general purpose components that provide, for example, general mathematical functions. Nevertheless, Mr Taouabit conceded that once the programmer was provided with a set of general purpose components, the manner in which he/she would construct a program would be exactly the same as when he/she was using a more specific set of components.

24. I have deliberately gone into the substance of Mr Taouabit's invention in greater detail than might strictly be necessary in order for me to decide whether the invention defined in the claim is new and inventive. I am aware that no statutory search has been performed, and that Mr Taouabit would normally have the opportunity of amending his claim(s) in the light of whatever prior art might be identified. Consequently, in deciding the novelty and inventive step of Mr Taouabit's invention, I have tried to consider every aspect of the invention as described in the application and not merely the claim originally filed with the application. (See paragraph 12 above.)

25. Having regard to the examples of prior art that have been reported (eg. JavaBeans® and a couple of references taken from the Internet[2]), and also to Mr Taouabit's admission as to what was available before the priority date of the application, it seems to me that the invention as claimed is not new, and does not involve an inventive step. Whether or not the description could support a claim to a novel invention is not clear; I suspect it might, although one of the Internet reference indicates that the concept of generating specific systems from "standard components" was known at the priority date. In the absence of a full search I am unable to determine the matter conclusively. However, on my understanding of Mr Taouabit's invention as described in the application, I do not think that there is an inventive step that could form the basis of an allowable claim. In essence, it appears to me that what Mr Taouabit has conceived is a set of general purpose components to supplement dedicated components that were already available to suit specific applications. The method according to which the components are connected appears to be entirely conventional.

Summary

26. In summary I have decided that the invention as described and as claimed in this application is a method for performing a mental act and a program for a computer as such. I have also decided that the invention as claimed is not new, and does not involve an inventive step. Having read the specification in its entirety, I cannot envisage any amendment to the claim that would be allowable having regard to section 76, and that would overcome the exclusions to

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[2]http://citeseer.nj.nec.com/context/579923/0

patentability. Accordingly I hereby refuse the application under section 18(3) on the grounds that the invention claimed therein is excluded by section 1(2)(c), and lacks novelty and inventive step as required by section 1(1)(a) & 1(1)(b).

Appeal

27. This being a substantive matter, any appeal from this decision must be lodged within six weeks of the date of this decision.

Dated this 10th day of October 2002

Stephen Probert
Principal Examiner, acting for the Comptroller
PATENT OFFICE