



29 March 2011

PATENTS ACT 1977

APPLICANT Q Software Global Limited.

ISSUE Whether patent application number
GB 0617836.2 complies with section
1(2) of the Patents Act

HEARING OFFICER Joanne Pullen

DECISION

Introduction

1. Patent application GB 0617836.2 entitled "A Security Analysis Method" was filed on 12 September 2006 claiming a priority date of 16 September 2005 from a GB application. It was published on 21 March 2007 as GB 2430283.
2. Following amendment of the claims and several rounds of correspondence between the examiner, Mr. Matthew Nelson, and the applicant's attorneys, Fry, Heath & Spence LLP, the examiner remained of the view that the claimed invention is excluded from patentability under section 1(2). Objections were also raised on the grounds of added matter. With the position unresolved, the applicant requested a hearing.
3. A hearing was held on 3 March 2011. The applicant, Mr. David Hunt attended in person with the applicant's attorney, Ms. Victoria Townsend, contributing via a telephone conference link. Also in attendance were hearing assistant Mr. Gareth Griffiths, the examiner Mr. Matthew Nelson and an observer Mrs. Susan Eaves.

The application

4. The application relates to a security system for preventing unauthorized users from gaining access to computer programs and data sources. The applicant gave a very clear and helpful presentation in which he described the invention as a security tool implemented in software which is loaded on a computer system used to manage and run a business and which may comprise many components, computers and workstations. The computer

system runs what is known as an Enterprise Resource Planning (ERP) application which may incorporate thousands of programs and data sources. The security software of the invention allows users (employees) to access certain programs and data sources in order for them to perform their designated job or role, while denying access to other programs and data sources.

5. According to the specification, in the prior art, a user's access rights are individually defined. The process of defining the access rights of all users individually involves a large amount of data, is time consuming, costly and often involves duplication of input parameters. The security software of the invention on the other hand, uses a set of templates, which are a collection of security rules or access rights defined by business role or job function. One or more templates can be assigned to any user to define their access rights. User parameters (business role, job function etc.) are input to the system, matched and locked to a template and an associated user identification is output for each user having those parameters. When more than one template is assigned to a user, their security rules can conflict. Conflicting rules can be identified and altered if necessary.
6. In his presentation, the applicant described two types of ERP application: "closed" based on menus with simple security, in which what the user sees is what he can do, and "open" having complex security in which the user can access programs via "back-door" routes such as by using function keys. The security software of the invention is also able to identify, report and block all possible routes a user can or does take from authorized programs into unauthorized programs, via these "back-door" access routes.
7. The most recent set of claims were proposed with the skeleton arguments for the hearing. It was agreed that for the purpose of this hearing that I shall consider the most recent claims, the single independent claim of which reads as follows:
 1. *A computer system incorporating a data system on which multiple computer programs are installed and are accessed by users via one or more computers in order to perform defined business functions, the computer system configured to perform a security analysis method for determining appropriate access permissions of individual users of the data system comprising;
a storage means storing unique templates each identifying a collection of security attributes defined by user groups and business functions performed by users in those groups, each template being lockable;
a user interface including receiving means for receiving an input of one or more user parameters and a providing means for providing an output of a user identification;
a supply of user identifications output from the providing means each with one or more associated user parameters received by the receiving means,*

means configured to match a user parameter with one or more templates and locking the parameter to the one or more templates whereby to define user appropriate security attributes
means configured to perform a conflict check between multiple templates matched to the parameter and recording the conflict.

The law

8. Section 1 of the Act sets out the conditions that an invention must satisfy in order for a patent to be granted. Section 1(2) declares that certain things are not inventions for the purposes of the Act. The relevant parts of section 1(2) 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) ... ;*
- (b) ... ;*
- (c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;*
- (d) ... ;*

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. The applicant's attorney and the examiner agreed at the hearing that the assessment of patentability under section 1(2) is governed by the judgement of the Court of Appeal in *Aerotel/Macrossan*¹. In this judgement the court approved a four-step test for the assessment of what is often called "excluded matter" as follows:

- (1) properly construe the claim*
- (2) identify the actual contribution (although at the application stage this might have to be the alleged contribution)*
- (3) ask whether it falls solely within the excluded subject matter*
- (4) check whether the actual or alleged contribution is actually technical in nature.*

10. Subsequently, the Court of Appeal in *Symbian*² made clear that that the *Aerotel* test is not intended to provide a departure from the previous requirement set out in case-law, namely that the invention must provide a

¹ *Aerotel Ltd v Telco Holdings Ltd (and others) and Macrossan's Application* [2006] EWCA Civ 1371

² *Symbian Ltd's Application* [2008] EWCA Civ 1066

“technical contribution” if it is not to fall within excluded matter.

11. I will therefore consider each of the steps of the *Aerotel/Macrossan* test as modified by *Symbian* with regard to the independent claim to determine the patentability of the invention.

Applying the four step test

Step 1 – Properly construe the claim

12. During the processing of the application, the objections raised with respect to added matter and clarity in the independent claims did not prevent the examiner from construing the claims and no objection was made by the applicant in the construction applied by the examiner. Similarly, at the hearing there was some discussion with respect to added matter and clarity in the latest single independent claim, but no apparent difficulty in construing it. Indeed, there was not a great deal of discussion on this point.
13. The claim would seem to relate to a computer system incorporating a data system, the system configured to analyse and determine access permissions of users of the data system and comprising (i) storage means storing templates each identifying a set of security attributes defined by user groups and business functions performed by users in those groups, (ii) a user interface including means for receiving one or more user parameters and means for outputting a user identification, (iii) a supply of user identifications each with one or more associated received user parameters, (iv) means configured to match a user parameter with one or more templates and locking the parameter to the one or more templates to define user security attributes and (v) means to perform a conflict check between multiple templates matched to the parameter and recording the conflict.

Step 2 – Identify the actual contribution

14. Paragraph 43 of *Aerotel/Macrossan* confirms that identifying the contribution involves looking at the substance of the claimed invention, rather than the form of the claims, to determine what the inventor has added to the stock of human knowledge. This may involve looking at the problem to be solved, how the invention works and what its advantages are.
15. The applicant considered the contribution to lie in the use of templates based on rules defined by business function. He explained that the invention allows the user to have multiple roles via the templates with conflict checking provided to identify and remove any rule clashes.
16. In his presentation, the applicant went on to stress the distinction between the software of the invention and the prior art in that the software of the invention can provide security in “open” based systems which have

“backdoors” or hidden access routes, whereas prior art security software only works in “closed” systems which do not. This was seen as a key advantage. Unlike the prior art, the software could identify and track hidden access routes between and into programs, for example via function keys, and block that capability if required. However, these advantages were not tied to particular features of the claim.

17. The applicant’s letter of 30 March 2010 explained that (a) the particular type of template claimed in claim 1, namely one defined by user groups and business functions, (b) the provision of multiple parameters associated with a user each of which is matched to templates and (c) means for conflict checking provide the technical features which distinguish the invention from the prior art. The examiner appeared to agree with this assessment when dropping objections based on prior art documents showing use of templates per se.
18. The applicant made the further point that there was nothing new in role based security. What was new was how the software of the invention managed it by taking it down to a more granular task based level to create job functions assigned to the user.
19. Having regard to all the points made, I am of the opinion that the contribution lies in an improved system for determining access rights for users of a computer system incorporating a data system, in which templates defined by user group and business function, are matched to one or more user parameters and associated user identifications and a conflict check between templates matched to the parameter is performed.

Steps 3 and 4: Does the contribution fall solely within the excluded subject matter and is it actually technical?

20. What I must do now is decide whether the contribution relates solely to one or more of the matters which are excluded from patentability under section 1(2).
21. The applicant argued that the invention provides a technical contribution which does not fall within the excluded subject matter in two separate ways. Firstly it provides a more secure computer system and secondly, because the software implementing the invention takes up less memory space and requires less processing power to run, the contribution also lies in a faster, more efficient computer system. In other words it is a better computer system with an improved technical ability rather than simply a computer program.
22. I asked the applicant whether these contributions were different to that identified in step 2 of the test. He replied that they were the same but described in terms of the advantages of the improved security system.

23. With regard to the second point raised in paragraph 21, it is clear that the contribution I have identified is implemented as a computer program on conventional hardware. But does this, as the applicant argues result in a technically better computer system? As described in the specification, one of the advantages of the invention is that the use of templates reduces the amount of data to be input and stored in the system. However the reduction in memory space and any decrease in the required processing power to run the program do not, to my mind, mean a technically better computer system. It seems to me that the underlying computer hardware is conventional and unchanged. Its processing power, speed and memory are fixed at an architectural level. The reduction in memory space and decreased processing power required to run the program are in my opinion, improvements in the computer program rather than hardware. If this were not the case, any computer program which was smaller and less processor hungry than the prior art, no matter what it did, would be patentable. It seems to me that this contribution amounts to no more than a better, more efficient program for providing security in a computer system.

24. Paragraph 54 of *Symbian* states that:

More positively, not only will a computer containing the instructions in question "be a better computer", as in Gale, but, unlike in that case, it can also be said that the instructions "solve a 'technical' problem lying with the computer itself". Indeed, the effect of the instant alleged invention is not merely within the computer programmed with the relevant instructions. The beneficial consequences of those instructions will feed into the cameras and other devices and products, which, as mentioned at [3] above, include such computer systems. Further, the fact that the improvement may be to software programmed into the computer rather than hardware forming part of the computer cannot make a difference – see Vicom; indeed the point was also made by Fox LJ in Merrill Lynch

25. In this case the invention does not solve a technical problem lying with the computer itself. Rather the invention addresses problems in an “open” ERP application and provides an improved way of determining access rights to the programs and data inside the ERP application.

26. With regard to the first point raised in paragraph 21, it is not entirely clear whether the software of the invention provides a more secure system than the prior art which relies on individually tailored security attributes. As the applicant explained, it is certainly less time consuming and requires less skill to install. Nevertheless, any advantages it provides, be that through the use of templates defined by business function with conflict checking or identification of backdoor access routes, seems to me to be a result of a better or more efficient way in which the security software works in conjunction with the ERP software. The contribution is still a computer program and does not provide a technical effect external to the ERP application. It merely provides a more secure ERP application. Put simply, it is a program for determining user access rights to another program or

set of programs and data. I cannot see this as being anything other than a computer program as such which falls foul of section 1(2) as excluded matter.

27. The applicant has argued that the technical effect of the invention is an improvement in the processing power (and therefore speed) of the computer system. This point relates to the fourth of the 'signposts' set out in *AT&T/CVON*³ which may indicate that there is a relevant technical contribution and which would thus overcome an excluded matter objection.

28. While the computer program of the invention may require less processing power to run than prior art solutions, the overall system has the same processing power. The program is more efficient but the computer on which the program runs does not gain an increase in speed or reliability.

29. For completeness I shall consider the remaining "signposts" as set out in *AT&T/CVON* that may indicate that there is a relevant technical contribution and which would thus overcome an excluded matter objection.

30. The *AT&T/CVON* signposts are:

(i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;

(ii) whether the claimed technical effect operates at the level of the architecture of the computer, that is to say whether the effect is produced irrespective of the data being processed or the applications being run;

(iii) whether the claimed technical effect results in the computer being made to operate in a new way;

(iv) whether there is an increase in the speed or reliability of the computer;

(v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

31. There is no effect on any process outside the 'computer' due to the invention, the claimed technical effect does not operate at the level of the architecture of the computer nor does it result in the computer operating in a new way. Therefore none of the first three signposts convince me of the applicant's case.

32. I have already considered the fourth above and found that the program of the invention does not increase the speed or reliability of the computer.

³ *AT&T Knowledge Ventures LP and CVON Innovations Limited* [2009] EWHC 343

33. The perceived problem of the requirement to input data defining individual users and their access rights to the system does not appear to be solved by the invention, but is circumvented by providing templates which can be applied to many users. The invention does not appear to improve security over systems with individually tailored user access rights, but is a different way to establish such security.

34. Therefore I find that the contribution made is a computer program which lies within the excluded fields, and is excluded as it is not technical in nature.

Other outstanding objections

35. I do not now have to consider whether the objections raised with respect to added matter are valid. However, I do note that at the hearing it became clear that the examiner and applicant agreed that the issue was more one of clarity of the claims rather than added matter.

Alternative form of claims

36. Having reviewed the dependent claims and the specification as a whole, and bearing in mind it is the substance rather than the form of the claims which is important, I am of the opinion that there are no modifications which could be made to the claims in order to confer patentability.

Conclusion

37. I find the application is excluded under section 1(2) as relating to a computer program. I also find that there are no possible amendments to allow the application to progress to grant and I therefore refuse it.

Appeal

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

J Pullen

Deputy Director acting for the Comptroller