

**THE PATENTS ACT 1977**

0190/94

**IN THE MATTER of Patent Application  
9027460.6 in the name of  
Nissan Motor Company Limited.**

**DECISION**

Application 9027460 was filed on 19 December 1990 and was subsequently published under the number 2240414A. During the course of substantive examination the examiner objected under section 1(2)(c) that the invention claimed could not be patented because it was no more than a computer program or a method for performing a mental act and, in the absence of agreement with the applicant's agent, the matter came before me at a hearing on 22 February 1994 when the applicant was represented by Dr R.M.Waldren of Marks & Clerk.

The present application concerns a method of, and apparatus for, evaluating a design which is composed of a plurality of "design elements", for example the interior of a car where the design elements might be a range of instruments, centre consoles *etc* from which a complete dashboard design could be built up. A set of reference design elements are stored in a database together with "evaluation terms" which are attributes applicable to the design elements and which are in the form of adjectives such as "simple", "bright", "cramped", "for speed mania". The database stores correlation coefficients in a matrix table to provide a measure of the degree to which each design element possesses each such attribute. The correlation coefficients may be compiled using conventional sensory evaluation tests in which a range of people subjectively assess the individual design elements against the criteria set out in the evaluation terms. A designer then decides which of the evaluation terms represents how he would like his overall design to be perceived, and selects, for example using a keyboard, the appropriate design elements accordingly. The apparatus of the invention then displays a computer generated representation of a "unified design" in which all the chosen design elements are slotted into place so that one may visualise what the complete design

actually looks like, and calculates and displays an overall value of the selected evaluation term for that unified design.

At the hearing Dr Waldren addressed his arguments to the claims at large and none of the claims was considered individually, with one minor exception which I shall deal with below. It is however necessary to consider the invention presently claimed and to this end it is convenient to quote the two main, independent claims which are as follows :

1. A design evaluation apparatus for evaluating a design composed of a plurality of design elements, comprising:

a memory for storing a database containing reference design elements, evaluation terms and a table defining relations of the respective design elements with respect to each of the evaluation terms;

an input device for producing electronic data respectively representing individual features of the design;

a processing unit for selecting at least one of the evaluation terms representative of the design from the table based upon the reference design elements of the design; and

a display for producing an evaluation result based upon the selected evaluation term;

wherein the electronic data are reference design elements selected from the database, and the processing unit is functional to cause the display to display a unified design composed from the reference design elements so selected.

19. A method of electronically evaluating a design, the method comprising the steps of :-

(i) storing in an electronic database, reference design elements, evaluation terms and a table defining relationships between the reference design elements and each of the evaluation terms;

(ii) operating an input device to produce electronic data respectively representing individual features of the design;

(iii) electronically cross-referencing the electronic data produced in step (ii) with entries in the table stored in the electronic database to produce an evaluation of the design; and

(iv) displaying the evaluation resulting from step (iii);

wherein said input device is a keyboard wherein said electronic data produced in step (ii) are reference design elements selected from the electronic database, and the processing unit is functional to cause the display to display electronically, a unified design composed from the reference design elements so selected.

At an earlier stage in the proceedings, the application also described a second method of evaluating any complete (unified) design, for example one produced by a rival car manufacturer, by scanning that design into the computer, finding in the database of the manufacturer's own design elements the combination providing the closest match to the competitor's design and then, as before, using the data in the matrix table to display that combination as a unified design together with an indication of how the majority of people would (probably) perceive the overall effect of that design. Dr Waldren had indicated prior to the hearing that the applicant wished to drop all reference to this second method but, as I pointed out at the hearing, one of the claims still on file, viz claim 20, still appeared to refer to this method. Claim 20 reads as follows :

20. A method according to claim 19, wherein said electronic data produced in step (ii) are obtained by:

(a) scanning a pre-prepared design with an electronic scanner which constitutes said input device to produce signals representing the design; and

(b) electronically processing the signals obtained in step (a) to produce electronic data elements respectively representing working design elements corresponding to individual features of said design; the working design elements represented by said electronic data elements obtained in step (b) being electronically compared with the reference design elements stored in the electronic database to select those stored reference design elements which most closely correspond to respective said working design elements, the electronic data cross-

referenced in step (iii) being the reference design elements so selected.

Dr Waldren indicated that this was an error. One possibility was that claim 20 was simply inconsistent with claim 19, to which claim 20 was appended, in which case claim 20 should be deleted. On the other hand, Dr Waldren was concerned that it might be that claim 19 was broad enough also to cover the second method which was the subject of claim 20, in which case claim 19 would be broader than the applicant intended and would require revision to limit it to the first method described above. He was however, understandably reluctant to reach a snap judgment on the spot. Having subsequently considered this, it seems clear to me that claim 19, if only by virtue of its reference to the input device being a keyboard used to select design elements from the stored database, is properly restricted to the first method described above and is inconsistent with claim 20. Consequently, for the purposes of this decision, I shall simply disregard claim 20.

On this basis, the examiner's objections in brief are that the specification does not suggest that anything other than a conventional computer, suitably programmed, is involved and that it therefore follows from the judgments in Merrill Lynch's Application [1989] RPC at page 569 and in Gale's Application [1991] RPC at page 315 that to avoid exclusion under section 1(2)(c) as a program for a computer, there must be a technical advance on the prior art in the form of a new result. It is however the examiner's view that all that is disclosed in the present application is the use of a conventional computer programmed to display a design assembled from individual design elements and to evaluate the aesthetic merits of that design, and that this does not involve a technical advance. Moreover, the examiner also takes the view that the invention should also be excluded under section 1(2)(c) as no more than a scheme, rule or method for performing a mental act because there is no reason why designers could not use their own mental ability to decide, by looking at a correlation coefficient matrix table, which design elements to include in their designs. Having selected the design elements, they could then either use their imagination to visualise the overall design, or pencil and paper to sketch out the design in accordance with the method of the invention. Alternatively, as had been suggested by Dr Waldren in the course of the correspondence with the examiner on this application, designers could also use scissors and glue to produce a

crude image. And they could of course calculate the value of the selected evaluation term in relation to their designs as required by the method of the invention.

Dr Waldren accepted that the law to be applied is as stated in the judgments in Merrill Lynch and in Gale and since I too believe that this is the case, I must look very closely at those judgments. In Merrill Lynch at page 569, Fox LJ said :

"The position seems to me to be this. Genentech decides that the reasoning of Falconer J is wrong. On the other hand, it seems to me to be clear, for the reasons indicated by Dillon L J, that it cannot be permissible to patent an item excluded by Section 1(2) under the guise of an article which contains that item - that is to say, in the case of a computer program, the patenting of a conventional computer containing that program. Something further is necessary. The nature of that addition is, I think, to be found in the Vicom case where it is stated: "Decisive is what technical contribution the invention makes to the known art". There must, I think, be some technical advance on the prior art in the form of a new result (eg., a substantial increase in processing speed as in Vicom)."

The Vicom case referred to by Fox L J is Vicom Systems Inc T208/84 [1987] EPOR 74 in which the European Patent Office Technical Board of Appeal decided that even if the idea underlying an invention may be considered to reside in a mathematical method, a claim directed to a technical process in which the method is used, which in Vicom was a technical process involving image processing, does not seek protection for the mathematical method as such.

I think it is clear that both Dr Waldren and I are agreed that what this means is that for a conventional computer containing a novel program to be patentable, a technical advance on the prior art in the form of a new result must be present (because otherwise, the claim amounts to no more than the program as such.)

Further elaboration of this is to be found in a passage from Gale, to parts of which Dr

Waldren specifically drew my attention. The passage is found in 1991 RPC at page 315 where Aldous J said:

"... I conclude that the first task of the court is to construe the claim, as that is where the invention is defined. If the claim properly construed is drafted so as to relate to any of the matters disqualified by section 1(2) then the invention is not patentable. If however, the claim is drafted to a process or technique or product and the basis of such process or technique or product is a disqualified matter, the court should go on to consider whether the claimed invention is in fact no more than a claim to an invention for a disqualified matter. It is a question of fact to be decided in each case, but if the claimed invention is more than a claim to an invention for a disqualified matter then it qualifies as a patentable invention.

In deciding that question of fact it is always important to consider whether the claimed invention is part of a process which is to be used in providing a technical result. If it is, then the claim cannot be said to be an invention relating to no more than one of the disqualified matters. Similarly, where a claim is directed to a product, it is important to consider whether the product claimed is a new technical product or merely an ordinary product programmed in a different way as in the latter case the claim is in reality to the program and therefore could not relate to a patentable invention."

On this basis, Dr Waldren's central argument was that there is a technical end result in the present case which provides a technical advance in the art and that accordingly, the present invention should not be excluded as amounting to no more than a program for a computer. In arguing his point, Dr Waldren drew my attention to what he called "peripheral issues" which he felt were significant. These included the fact that certain claims in the application considered in the Merrill Lynch judgment were subsequently granted (in British Patent number 2180380 B). This being so, Dr Waldren suggested that if the Patent Office is to be consistent as to what it accepts and what it rejects, then by analogy with the claims eventually granted on the Merrill Lynch application, the present applicant's claims should also be

accepted.

As I explained at the hearing, while I fully accept that the Patent Office must be consistent in what it accepts and what it rejects under section 1(2), I do not regard the granting by the Patent Office of claims in any given case as being in any way conclusive. The facts in each case will be different and the issue must be judged on the merits on the basis of the facts. In this connection, it may be of some significance that, as with the claims in the present case, the claim which was rejected by the Court in Merrill Lynch did include a number of functional features which would have been implemented by technical means but which did not save the claim.

Dr Waldren also invited me to consider the position if claim 1 of the present application is construed as encompassing not only a technically conventional computer programmed to perform the specified functions, as in the embodiment of the invention which is described, but also a completely hard-wired form. This line of argument had not previously figured in the correspondence on this case but, as I understood Dr Waldren, he was submitting that looking at the invention in this way underlined his argument that what is disclosed in the present application is a technical, and therefore patentable, artefact and not just an unpatentable program for a computer. At the hearing, I indicated that it seemed to me that the question of whether the invention is embodied in a conventional computer with a software program, or purely in hardware, is beside the point at issue here which in essence is not concerned with the nature or form of embodiments of the invention, but rather with the nature of the invention which is embodied. In particular, the questions arising from the Merrill Lynch judgment are whether the invention involves a conventional computer with a program and if so, whether it involves a technical advance. I suggested that on any footing, and regardless of how it might be embodied, the present invention is in essence concerned with using an otherwise technically conventional computer to perform the particular functions set out. Consequently, given that I regard programs for computers as simply any means which cause a computer to perform the functions required of it, regardless of whether the means used are software, hardware or indeed a combination of hardware and software, it followed that in my view the conclusion that the invention concerns a technically

conventional computer with a program would be wholly unchanged simply by the use of a hardwired system in place of a software program. The central question would then remain as to whether the invention, regardless of how it might be embodied, did or did not involve a technical advance.

I considered this point further after the hearing and saw no reason to change my view. Indeed, on the contrary I was strengthened in that view by remarks made in a decision of the European Patent Office Technical Board of Appeal in IBM/ Abstracting Documents, T22/85, 1990 EPOR 98 which, though not referred to at the hearing, seem to me concisely to make the point. In rejecting an application for a computer programmed automatically to abstract documents to facilitate their subsequent use in a database, the Board said :

"The foregoing considerations have been made mainly on the basis that the claimed systems and methods would involve a conventional computer controlled by a software program.... Analogous considerations, however, apply in the case where the control of the computer would be effected by hardware ..., an option also falling within the scope of the claims, as the choice between the two possibilities is not of an essential nature but is based on technical and economic considerations which bear no relationship to the inventive concept as such."

Since this had not been considered specifically at the hearing, the examiner wrote to Dr Waldren on 14 March 1994 inviting his views on this European decision and its relevance to the present application, and offering an opportunity to be heard in the matter. Dr Waldren replied in a letter dated 7 April in which he argued that the facts in the Vicom decision were directly analogous to those in the present case and that :

" ... The analogy between the software and hard-wired alternatives was raised at the hearing to draw attention to the fact that one could not regard the inventive concept as deriving from software per se because clearly, it could be achieved by non-software means ... . Rather, patentability derives from the nature of the operations executed, regardless of their specific means and from the fact that an end result is



achieved which is technical in nature and moreover, constitutes technical advance in this particular field."

Dr Waldren also indicated that the applicant did not wish to be heard.

From this it is I think clear that Dr Waldren and I are agreed that the question of whether the present invention is embodied in software or in hardware is not relevant to the central question which I must address which is whether the totality of what is claimed in the present application does or does not involve a technical advance in the form of a new result.

In this respect, Dr Waldren argued that the present invention brought about a result in the field of manufacturing design which was technical in nature and which involved a technical advance. He elaborated this in his letter of 7 April in which he referred to the decision in IBM/ Abstracting Documents and the following remarks made by the European Patent Office Technical Board of Appeal when they said:-

"... in 'Vicom' the operation was on a physical entity, albeit in the form of an image stored as an electric signal, in contrast to the present case in which the signals related only to information."

Dr Waldren argued that it is clear from this that the facts in Vicom were directly analogous to the present invention where a physical entity, *ie* an image, is the end product.

I do not accept this view. What was involved in Vicom was a process which concerned the technical representation, and technical quality, of an image and not just the image *per se*. The present invention on the other hand is not concerned with the technical representation or quality of an image, but simply with what the image represents. The present invention assembles a complete design from a collection of individual, pre-stored design elements under the instruction of a designer, calculates from a stored database the value of one or more of the evaluation terms for the complete design and displays that value together with a representation of the complete design. Thus, it seems clear to me that all that matters is the

intellectual content of the image which is displayed and, having read the specification very carefully, I see nothing to indicate that this has any truly technical significance. In my view, using the words of Aldous J from Gale, I do not believe there is a technical result. On the contrary, I think there is an abstract or intellectual, not to say aesthetic, result. Furthermore, so far as the apparatus is concerned, again using the words of Aldous J from Gale, I do not believe there is a new technical product but merely an ordinary product programmed in a different way. Similarly, adopting the words of Fox LJ from Merrill Lynch, while I am happy to accept for the purposes of this decision that there is an advance in the sense that the invention is different from what has gone before, it seems quite clear to me that the advance does not arise at the technical level and that accordingly, it cannot be said that there is a technical advance.

That being so, it follows that the invention claimed, and regardless of whether it is implemented in software or hardware, amounts to no more than a program for a computer and as such, is excluded by section 1(2)(c).

Turning to the examiner's objection that the invention amounts to no more than a method for performing a mental act, at the hearing Dr Waldren argued that the present invention provided a technical result and that what was produced was not merely a crude mental picture or rough sketch but was something which, by its very nature, could be used in a manufacturing process. Thus, he argued, the present process was not merely qualitatively different from an equivalent mentally based process but was substantively different. This reference to a qualitative difference arises from remarks made by Fox LJ in the Merrill Lynch judgment which I put to Dr Waldren at the hearing. Having said that a conventional computer with a program would be patentable if there were a technical advance in the form of a new result, as indicated above, Fox LJ went on to say :

"Now let it be supposed that claim 1 can be regarded as producing a new result in the form of a technical contribution to the prior art. That result, whatever the technical advance may be, is simply the production of a trading system. It is a data processing system for doing a specific business, that is to say, making a trading market in

securities. The end result, therefore, is simply "a method...of doing business", and is excluded by section 1(2)(c). The fact that the method of doing business may be an improvement on previous methods of doing business does not seem to me to be material. The prohibition in section 1(2)(c) is generic; qualitative considerations do not enter into the matter. The section draws no distinction between the method by which the mode of doing business is achieved. If what is produced in the end is itself an item excluded from patentability by section 1(2), the matter can go no further."

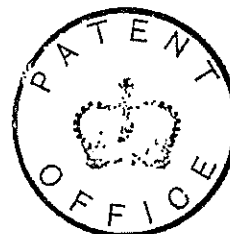
On the basis of this judgment, the basic question Dr Waldren was inviting me to consider was whether the method used in the present invention was merely qualitatively better than an equivalent mental process, in which case his application would fail because it amounted to no more than a method for performing a mental act, albeit one performed with the aid of a computer, or whether the method used was substantively different from an equivalent mental process, in which case the objection that it amounted to no more than a method for performing a mental act would fail.

Having considered this carefully, and while I confess to having some doubt as to Dr Waldren's argument on this point, I do not feel able to say confidently that the present method is not substantively different from an equivalent mental process. Consequently, I need say no more than I am not persuaded that the present invention amounts to no more than a method for performing a mental act.

Nevertheless, I have found that claims 1 and 19 amount to no more than a program for a computer and consequently, should be excluded as such under section 1(2)(c). As for the remaining claims, and the overall disclosure in the specification, I have also considered these very carefully but I can see nothing which adds anything of substance to what is set out in claims 1 and 19 and which would amount to anything more than a program for a computer. Accordingly, I hereby refuse the application under section 18(3).

Any appeal from this decision should be filed within a period of six weeks from the date of this decision as set out below.

Dated the 29 day of April 1994.



D M HASELDEN

Principal Examiner, acting for the Comptroller.

**THE PATENT OFFICE**