BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal ~~Yes~~ / No

File Number: T 103/91 - 3.5.1

Application No.: 84 114 294.6

Publication No.: 0 149 759

Title of invention: Method of storing and printing image with non-reentrant basic disc operating system

Classification: G06F3/06

D E C I S I O N
of 16 September 1991

Applicant: POLAROID CORPORATION

Headword:

EPC Article 56

Keyword: "Inventive step (no)"
"Long-felt need (not proved)"

Headnote

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 103/91 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 16 September 1991

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Decision under appeal : **Decision of Examining Division of the European Patent Office dated 12.07.90 refusing European patent application No. 84 114 294.6 pursuant to Article 97(1) EPC.**

Composition of the Board :

Chairman : P.K.J. van den Berg
Members : R. Randes
M. Schar-Schuppisser

Summary of Facts and Submissions

I. European patent application No. 84 114 294.6, claiming a priority of 28 November 1983, filed on 27 November 1984 and published as EP-A-0 149 759, was refused by a decision of the Examining Division, dated 12 July 1990.

Claim 1 of the refused application, filed on 15 January 1990, reads as follows:

"A method of storing and printing an image utilizing computer graphics apparatus of the type having a non-reentrant basic disk operating system comprising the steps of:

A. requesting the computer graphics apparatus to save bit mapped image data for a selected image on an external data storage medium (16);

B. determining (100) whether the basic disk operating system is active and setting (102') a request to save image flag as well as holding further image saving action pursuant to said image save request if the basic disk operating system is determined to be active;

C. determining (206) at the end of each period in which the basic disk operating system is active whether an image save request was made during that period of basic disk operating system activity;

D. saving (210) said bit mapped image data on the external storage medium (16) either immediately in response to said image save request upon the determination (100) in step B that the basic disk operating system is

not active or after the termination of basic disk operating system in response to the determination (206) in step C that said image save request was made during a period of basic disk operation system activity; and

E. printing the image from said bit mapped image data storage on said external storage medium (16)."

II. The reason given for the refusal was that the claimed subject-matter lacked an inventive step having regard to the prior art known from the following documents:

D1: EP-A-0 067 004

D2: AFIPS Conference Proceedings, National Computer Conference 1983, 16-19 May 1983, Anaheim, Ca, USA; pages 329 to 339; R.P. O'Mara: "An Interactive Display Environment, or knitting sheep's clothing for a wolf".

It was said in the said decision that Claim 1 considered the general technical problem of servicing a request to use a non-reentrant resource which is already being used at the time for the request. The claimed solution was said to be "to log the request status, then test the status once the resource has again been free for use, and then to make the resource available to the requester in the event that the status was set". The basic disk operating system mentioned in Claim 1 was thereby identified as the said non-reentrant resource.

In the decision (paragraphs 3 and 4) the Examining Division explained its view and argued in the following way:

"In D1, on pages 2, 4 to 6, 8 and 11, there is described a method for storing and printing an image using computer graphics apparatus. A master processor controls among other things the transfer of data to disk, the data being obtained from a number of possible sources including a computer. The applicant himself acknowledges in the description that this process can include video images.

D2 concerns using windows to interact with a user, this being a feature of dependent Claims 5 and 6, as originally filed.

The subject-matter of Claim 1, as originally filed, differs from the prior art document D1 in that Claim 1 also contains the steps B and C and the two alternatives within step D.

In a situation such as given in D1, the technical problem would be to schedule the basic disk operating system (BDOS) tasks. The solution requires the flagging of resource allocation requests, interrogation of busy status, logical decision making and subroutine calls, all under the control of a very simply algorithm. Such activities are within the normal design competence of a skilled person possessing the relevant programming knowledge.

It would thus be obvious to combine them in such a way as to achieve the scheduling of BDOS tasks to save the image onto disk; especially, since such scheduling problems are already well known as are their solutions using standard programming techniques, and since no surprising technical effect arises.

Thus the inclusion of extra steps B, C and D is obvious since they follow well known techniques used in the art of

task queuing and resource allocation, to which art the present application belongs. The steps are considered to lie within the ordinary competence of a person possessing the relevant programming skills, and no new or surprising technical effect would result from their inclusion in the present application."

Moreover, the Examining Division disputed the allegation made by the Appellant (Applicant) that the subject-matter of the present application was mentioned as planned in D2 but had not been implemented, while the skilled man had not been able to solve the problem because of severe difficulties at the design thereof. Instead the Examining Division was of the opinion that D2 merely referred to lack of time for implementing further features.

III. On 12 September 1990 the appellant filed a Notice of Appeal and paid the fee. In a Statement of Grounds of Appeal which was filed on 22 November 1990 the Appellant requested that the decision be reversed and principally argued along the same lines as set out in the examining procedure. He thus expressed the opinion that the decision was based on hindsight considering the problem and the solution of the invention, thereby taking into account the programming skills of the person of the year 1990 but not of the year of priority of the application. It was also said that the Examining Division had failed to bring up any piece of prior art showing that the necessary skills had been within the normal design competence of a skilled person. Moreover the Appellant said in said Statement:

"at the time of making the present invention, there has been a long-felt need for directly saving bit mapped image data from the screen to an external data storage medium without any solution being available at the time of filing the present application.

In contrary to the opinion of the Examiner, this also is clearly indicated in document D2 wherein on page 339 under the heading 'Aerea for further study' it is clearly indicated in lines 44, 45 that it might be desirable to copy the content of typewriter-mode windows to disk. It is to be highlighted that this statement clearly shows that even typewriter-mode windows obviously could not, without further inventive activity, be made to copy their contents to disk, and this of course would be true even more for bit-mapped image data."

Reasons for the Decision

1. The appeal is admissible.

2. As may be seen from points II and III above, the only question to be answered in this appeal is whether or not the claims in suit involve an inventive step.

In the Statement of Grounds of Appeal the Appellant principally uses the same arguments as in the examining procedure. Thus, he apparently wants to point out, that when starting from a situation as given in D1 it would not at all be obvious to a skilled man to end up with a solution as claimed in Claim 1. On the contrary, he is of the opinion that the said indication in D2 (see the cited paragraph under III above) clearly shows that a long-felt need for saving bit mapped image data from the screen to an external data storage medium had been existing and that no solution to that problem had been found.

However, the arguments made by the Appellant fail in the Board's view to show that the argumentation made by the Examining Division in the impugned decision (see under II

above) was incorrect and thus unjustified. The Board has, thus, no reason to be in disagreement with the Examining Division, since in the contested decision due considerations were given to the prior art referred to and in the Board's view also the correct conclusions were drawn therefrom.

2.1 It is true that, if the state of the art has been inactive over a long period prior to an invention, this could be an indication that an inventive step is involved - if during that time an urgent need for improvement has demonstrably existed (cf. T 109/82, OJ 84, 473). However in the present case the Appellant has not been able to demonstrate that such a long-felt need has been existing, as a similar problem (or need) is for the first time mentioned in said D2 (i.e. to copy the content of typewriter-mode windows to disk), which was published in 1983 and apparently only some months before the priority date of the present application. Therefore the requirements for a long-felt need are not fulfilled.

2.2 Moreover, as has been noted by the Examining Division, the said need has been met by an obvious combination of teachings from the state of the art. This statement has, however, been contested by the Appellant and, as mentioned above, he is of the opinion that the argumentation of the Examining Division is based on the programming skills of a person of today and not on the programming techniques of 1983. The Board is, however, of the opinion that the problem to be solved and its solution in this case are of such a well known nature that - even if the programming techniques of 1983 were not so developed as today - they must be considered as having been obvious to a skilled person at the time of the priority date of the present application.

Thus, in a situation as given in D1, the technical problem would be to schedule the basic disk operating system (BDOS) tasks (see under III above). As the BDOS is a non-reentrant system, i.e. generally a system which cannot be interrupted during an activity period, it appears to be self-evident to start with determining whether the said system is active or not (first part of feature B). Also it must be self-evident to save immediately said bit mapped image data were the system not active (first part of feature D).

Were the system active, however, and thus not immediately accessible, it must be quite obvious for anybody trying to use such a system that he has to wait till the activity period of the said system has terminated before he can use it himself. Since the operation of the said system in this case cannot be observed directly by the user, it appears to be self-evident to him to maintain his request to use that system (second part of feature B) in order to be able to use it after the said termination.

It moreover follows from the problem to be solved that the controlling system in some way must be made able to detect the termination of the said activity period and in case of a request to save the image after the termination of the activity period. It therefore appears to be obvious to a skilled man having regard to the principles of programming techniques to determine at the end of an activity period whether an image save request was made during the activity period and so arrive at feature C and thereafter of course at the last part of feature D.

Thus, having regard to the said problem, it appears that the solution follows in a straightforward way. Therefore the Board's opinion is in full agreement with the one of the Examining Division.

3. In view of the preceding considerations, the present Claim 1 relates to subject-matter which lacks an inventive step and is, therefore, not allowable under Article 52(1) and 56 EPC.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl P.K.J. van den Berg