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Anmeldenummer / Filing No / N^o de la demande : 83 110 299.1

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Bezeichnung der Erfindung: Text processing system with communications data
Title of invention: save facility
Titre de l'invention :

Klassifikation / Classification / Classement : G06F 15/20

ENTSCHEIDUNG / DECISION

vom / of / du 10 April 1990

Anmelder / Applicant / Demandeur : International Business Machines Corporation

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : "Inventive step (no)"

Leitsatz / Headnote / Sommaire

Europäisches
Patentamt
Beschwerdekammern

European Patent
Office
Boards of Appeal

Office européen
des brevets
Chambres de recours



Case Number : T 113/87 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 10 April 1990

Appellant : International Business Machines Corporation
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Armonk, New York 10504
(USA)

Representative : Ahlman, Bertel, et al
IBM Svenska AB
Intellectual Property Department
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Decision under appeal : Decision of Examining Division 065
of the European Patent Office dated
17 December 1986 refusing European
patent application No. 83 110 299.1
pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : P.K.J. Van den Berg
Members : J.A.H. Van Voorthuizen
J. Stephens-Ofner

Summary of Facts and Submissions

- I. European patent application No. 83 110 299.1 (publication No. 0 108 291) claiming a priority of 9 November 1982 (US), was refused by decision of Examining Division 2.2.01.065 dated 17 December 1986.
- II. That decision was based on Claims 1 to 3 filed on 14 April 1986. The ground given for the refusal was lack of inventive step having regard to US-A-3 974 480.
- III. The Appellant (Applicant) lodged a Notice of Appeal against this decision on 11 February 1987 and paid the relative fee on the same date. A Statement of Grounds was filed on 9 March 1987.
- IV. In his Statement of Grounds and in a reply received on 12 January 1990 to a Communication of the Board dated 6 December 1989, the Appellant argued essentially as follows:

The present invention deals with the problem in a text processing system that arises when, during the preparation for transmission of files, the operator needs to perform a further task on the system. As RAM storage in text processing systems is limited in size, each task when entered overlays the task previously entered into the storage, that means, data relating to the previous task is lost.

The present invention solves this problem by allowing communications preparation data to be stored on the communication control program diskette, if the operator needs to exit from a partially completed communications preparation operation.

The invention cannot be regarded as obvious over the cited prior art for the following reasons:

The cited US patent relates to interrupt handling in a data processing system, specially for real-time applications adapted for controlling industrial processes. When a program interrupt occurs the contents of all the processor registers (about 10) are sequentially transferred to at least one auxilliary storage, a safeguard storage, consisting of a stack of a number of independent, sequentially addressable registers.

Upon resumption the transferred information is re-charged in opposite sequential order in the processor registers making it possible to continue the interrupted program exactly at the point where it was interrupted.

It is to be observed that only "program step" data, e.g. the address to the next point in the program sequence, some parameters and intermediate results, are saved. The application program itself is stored in memory all the time.

Further, it is common to save data files, e.g. from the main memory in a PC onto a diskette by means of a special DOS command. Such a file may be an executable program file, which can again be loaded from the diskette by means of another DOS command and subsequently run.

Still further, it is known in the PC environment to have application programs stored on separate diskettes. In order not to destroy such programs these diskettes always have been write-protected.

In the subject invention the communication session data including queue data are stored onto the communication program diskette when the said session has to be interrupted by another task. After that said task has been completed the communication session can be continued by inserting the communication task diskette, if not already inserted, and selecting the EDD feature task. Then, control proceeds directly to the Session Summary frame, and the setup, the send queue and associated parameters, and the previously selected options are restored to memory, so that the system again is in the state from which it was exited.

That means, the communication program as well as the "program step" data and the send queue data file are restored in one step.

Thus, the problem as well as the solution is quite different from that of the subject application.

- V. The Appellant requested the grant of a European patent on the basis of Claims 1 to 3 filed on 9 March 1987, Claim 1 of which reads as follows:

"1. A text processing system adapted to perform multiple tasks each under the control of control data contained in an individual storage element mountable into a storage unit (3) from which the control data is transferred to a main memory device (8), thereby overwriting control data already therein, one of said individual discrete storage elements, the communications control storage element (EDD), containing a communications control program, characterized by means for developing, in the main memory device (8), data defining a queue of messages to be communicated from the system under control of the communications control program and means responsive to

interruption of the queue data development to cause transfer of the queue data from the main memory to the communications control storage element."

Claims 2 and 3 are dependent on Claim 1.

Reasons for the Decision

1. The appeal is admissible.
2. A text processing system according to the preamble of Claim 1 is known in itself as is admitted by the Appellant in his Statement of Grounds where he expresses agreement with a statement, to this effect by the Examining Division in its decision. The Board sees no reason to disagree on this matter.
3. The communication control program permits documents to be transmitted to other locations in the form of digital data. When preparing for such a communication session the operator enters inter alia a queue of document names and their location in the system, which means that he develops in the main memory data defining a queue of messages to be communicated from the system.
4. When during this preparation phase the operator has to perform a further task, thus requiring him to interrupt the communication preparations, a problem arises due to the fact that RAM storage in text processing systems is limited in size. In the present application it is proposed to solve this problem by transferring the data defining the queue in case of an interrupt to the communications control storage element (usually a diskette).

5. The problem which the application sets out to solve will be found to exist when an operator uses the known system so that formulating it cannot contribute to inventive step.
6. From US-A-3 974 480 it is known in a data processing system for real-time applications to save data needed for a first task when it is interrupted by a second one. The document states that the said system was developed mainly for controlling industrial processes. However, it is not limited to that particular application but mentions amongst further possible applications teletransmission.
7. US-A-3 974 480 also points out that when provision is made for a separate "safeguard storage" no storage room for interrupt purposes is required in the "line memory" (i.e. a RAM). In the only embodiment shown the safeguard stores consist of a stack of separate sequentially addressable registers.
8. In order, however, to obtain an economical solution to the problem the skilled person would seek a solution which, as far as possible, makes use of the equipment already present in the system. Since it is conventional in text processing systems to use individually mountable storage elements (diskettes) for storing programs and data and to transfer these between the main memory and the diskette whenever required, the skilled person must be expected to consider the possibility of storing data to be saved during an interrupt on such an element as well. Although program diskettes may be write-protected this is an optional feature.
9. In practice diskettes, in particular such containing program instructions (control data) will not be always completely filled so that empty storage space remains. In

this situation it would be obvious to use the particular storage element which is mounted when the interruption occurs, which normally will be the one containing the communications program, and which is known to have free storage space, to store temporarily the prepared queue data. This implies that such data has to be transferred from the main memory to the communications control storage element.

10. The Appellant has argued that in the system according to the US patent the contents of the processor registers are transferred to the safeguard storage whereas the application program is stored in memory all the time. In contrast thereto, according to the invention the communication program as well as the program step data and the queue data filed are restored in one step. The Board cannot accept this argument as an indication for the presence of inventive step, however, as it in fact follows as a logical consequence from the differences in architecture and use of the prior art system and the usual text processing system.
11. In view of the foregoing reasons the Board is of the opinion that Claim 1 does not involve an inventive step.
12. It is also obvious that means must be provided to direct the saved data back into the main memory, in order to resume the interrupted task when it is recalled. Moreover, since it is standard practice in interactive systems to display prompt messages to the operator, it is obvious to prompt the operator to insert the communications control storage element and to prompt him to transfer the queue data to it.

Thus no inventive step is involved in Claims 2 and 3.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:



P. Martorana

The Chairman:



P.K.J. van den Berg