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D E C I S I O N
of 22 December 1999

Case Number: T 0198/98 - 3.5.1

Application Number: 91115989.5

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IPC: H04N 7/173

Language of the proceedings: EN

Title of invention:
Interactive home information system

Applicant:
ICTV, Inc.

Opponent:
-

Headword:
Interactive Home Information System/ICTV

Relevant legal provisions:
EPC Art. 52(1), 56

Keyword:
"Inventive step (yes) - first Auxiliary Request"

Decisions cited:
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Catchword:
-

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Case Number: T 0198/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 22 December 1999

Appellant: ICTV, Inc.
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Representative: Di Iorio, Giuseppe, Dr.-Ing.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 19 September 1997 refusing European patent application No. 91 115 989.5 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
S. C. Perryman

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse the application on the ground that the subject-matter of the independent claims 1, 6 and 7 lacked an inventive step (Articles 52(1) and 56 EPC) having regard to document D1 (US-A-4 616 263).

Claim 1 reads as follows:

"An interactive television information system for transmitting video picture information received from a plurality of information providers to home televisions (38) coupled to a cable television distribution system (24,26,28,30,32.34,36), comprising:

a regional processing center (4) for assembling and processing said video picture information received from said plurality of information providers, and for transmitting said processed and assembled video picture information over said cable distribution system; and

a plurality of nodes (12) coupled to said cable television distribution system for capturing and storing said processed and assembled video picture information, each of said nodes being associated with a portion of said home televisions (38) coupled to said cable television distribution system;

wherein a cable television subscriber viewing one of said home televisions (38) can display and interact with said video picture information stored in said associated node by communicating commands exclusively to said associated node but not to said regional

processing center, said associated node controlling and coordinating the transmission of said video picture information to said cable television subscriber without communicating with said regional processing center (4), each of said nodes in said cable distribution system containing an identical copy of said video picture information transmitted over said cable distribution system by said regional processing center (4), such that said subscriber interacts exclusively with said video picture information stored in said node and not with said video picture information in said regional processing center."

Claim 6 reads as follows:

"An interactive television information system for transmitting video picture information to home televisions over a fibre optic telephone system, comprising:

a regional processing center for assembling and processing said video picture information to be transmitted over said fibre optic telephone system; and

at least one node disposed in a remote terminal of said fibre optic telephone system for capturing and storing said processed and assembled video picture information, said video picture information being distributed, upon demand, from said node to with [sic!] said subscribers viewing said home televisions."

Claim 7 reads as follows:

"A method for transmitting interactive video picture

information to home televisions coupled to a cable distribution system, said method comprising the steps of:

a) processing and assembling information in a regional processing center;

b) transmitting said processed and assembled information from said regional processing center to a plurality of nodes in said cable television distribution system, each of said nodes being associated with at least one of said home televisions, each of said nodes receiving and storing a substantially identical copy of said processed and assembled information; and

c) transmitting said video picture information stored in a node to a home television associated with said node in response to commands received from a subscriber of said cable television distribution system, such that said subscriber interacts directly with said video picture information stored in said associated node, and not with said video picture information stored in said regional processing center."

II. In the notice of appeal the appellant requested to set aside the decision and auxiliarily requested oral proceedings. With a letter dated 26 January 1998 the appellant filed an auxiliary set of claims 1 to 14. Following the summons to oral proceedings the appellant on 22 November 1999 filed a new first auxiliary request. In this request the only substantial amendment in relation to the claims of the main request (which

contained the claims refused by the examining division) concerned independent claim 6, which had been reworded to overcome the objections of the Board in an annex to the summons to the oral proceedings.

Claim 6 of the first auxiliary request reads as follows:

"An interactive television information system for transmitting over a fibre optic telephone system video picture information to home televisions (38) connected to a cable television distribution system, comprising:

a regional processing centre (4) for receiving said video picture information from information providers and assembling and processing it for transmission over said fibre optic telephone system, and

a plurality of nodes (12) in remote terminals of said fibre optic telephone system for capturing and storing said transmitted video picture information, each of said nodes containing an identical copy of said video picture information and being connected to said cable television distribution system and associated with a portion of said home televisions (38),

wherein a cable television subscriber viewing one of said home televisions (38) can display and interact exclusively with said video picture information stored in said associated node by communicating commands exclusively to said associated node but not to said regional processing centre, said associated node controlling transmission of said stored video picture information to said home television without

communicating with said regional processing centre."

III. The oral proceedings were held on 22 December 1999. The representative of the appellant requested that the decison under appeal be set aside and that the patent be granted on the basis of the description and figures as further amended in the documents submitted at the oral proceedings before the Board on 22 December 1999 and as main request with the set of claims as set out in the decision under appeal, as first auxiliary request with the set of claims 1 to 15 submitted with the letter dated 22 November 1999, and as second auxiliary request with the set of claims submitted with the letter dated 26 January 1998.

Thus the following description documents now serve as the basis for the decision:
pp. 1, 3, 9 to 38 as originally filed,
p. 39 as filed on 20 March 1995,
pp. 2 and 2a filed on 21 November 1995,
pp. 4 to 8 and 43 to 45 filed in the oral proceedings before the Board.

Drawings now on file:
drawing sheets 1/34 to 24/34 as filed with letter dated 23 December 1991 and drawing sheets 25/34 to 29/34 filed in the oral proceedings with figures 21, 22, 23A, 23B and 23C (corresponding to figures 26, 27, 28A, 28B and 28C on sheets 30/34 to 34/34 filed with the letter dated 23 December 1991).

IV. The appellant argued as follows:

The information system described in D1 was a hybrid

system which was different from the cable TV system according to the invention. This hybrid system used cable TV (CATV) or similar broadband facilities for the downstream transfer of full motion video, photographic stills and audio segments, but for the bidirectional transfer of information between an information provider and the user it utilized telephone facilities. The present invention, however, in principle only used the cable network.

The central data processing facility in D1 was connected to the information providers over a packet switched network. Via a communication interface processor in the central data processing facility the data received from the providers was stored in a server processor. The interface processor was adapted to be coupled to the packet switched network so that communications could be effected either directly via a dedicated connection to the user or indirectly using the packet switched network and the public telephone network (the packet switched network was also connected to the user's central telephone office). The central data processing facility was (via its video subsystem) also linked to a transmission media such as the CATV system shown in figure 1 in D1. The user's terminal in D1 was thus interfaced to both the telephone network and the CATV network. Connection to the hybrid network had to be set up over the telephone link before a videotex session could take place. Upon demand during the session a data message was returned to the terminal dictating the time and channel of the segment broadcast.

The user in the present invention used only a cable

television system (e.g. with the aid of an infrared control device) for connecting itself to the information system. Thus this system could not be compared to the hybrid system according to document D1. Moreover, the system according to the present invention made use of nodes which were contained in every separate television cable network. All of those nodes contained copies of the information collected by the regional processing center and the copies were subsequently updated and therefore fresh information was always available to the home television users. There were no hints at all in the prior art that pointed in the direction of the invention.

Reasons for the decision

1. The appeal is admissible.

Main Request

2. *Inventive Step of the subject-matter of Claim 6*

The subject-matter of claim 6 is clearly novel, because it is not stated in D1 that the interactive information system disclosed in figure 1 uses a fibre optic telephone system.

In assessing inventive step the Board notes that claim 6 also claims protection for the alternative that the information system has only **one node** disposed in the remote terminal (cf. the last paragraph of the claim). In such case only one single node is present in

the claimed information system and it is noted that there is no mention at all of an identical copy or identical copies in claim 6 contrary to claim 1.

Therefore, the Board sees a striking similarity between the system defined in claim 6 and the system according to D1. The Board agrees with the examining division that the essential idea of D1 can be seen in providing a local site, indicated in D1 as "central data processing facility" that serves as a mirror location for (part of the) information located remotely in an information provider network, the advantage being that if the same information is requested more than once this is much more efficient in terms of response time. Claim 6 according to the mentioned alternative, claiming only a single node, must be considered to define a system in which the "central data processing facility" in D1 can very well be considered to correspond to the single node identified in claim 6 and disposed in the "remote terminal", because that data processing facility in the system of D6 is the means which like the node according to the invention directly interacts with the user. The "central data processing facility" in D1 thus stores the processed and assembled video picture information transmitted from the "information provider" (cf. the box in the left top corner in figure 1 in D1) which in this case corresponds to the "regional processing center" identified in claim 6. The video picture information being stored in the "central data processing facility" is according to D1 then on request distributed to the subscribers (figure 1 - "user") of the home televisions connected to the TV operator.

Thus, the only difference between the subject-matter of the single node alternative of claim 1 and the arrangement of D1 appears to be that according to claim 6 a fibre optic telephone system is used for the transmission of information. It is not quite clear from D1 which kind of transmission network is used in the arrangement of figure 1 of D1, but as pointed out by the examining division, D1 explicitly mentions a number of alternatives for information delivery in the introductory part of the description, including the use of optical fibre, cable television and the telephone network. Therefore, the Board is of the opinion that it is obvious to a skilled person having regard to the teaching of D1 to arrive at the information system identified by the alternative of claim 6, claiming one (single) node.

The appellant in the oral proceedings before the Board very much stressed that the system according to document D1 was a hybrid system. However, in assessing whether the subject-matter of claim 6 involves an inventive step, this difference between the invention and the prior art document cannot have any influence, since claim 6 does not appear to identify such a difference.

Thus, claim 6 is not allowable.

3. Since, the subject-matter of claim 6 of the main request does not meet the requirements of Article 56 and 52(1) EPC, the main request has to be rejected.

First Auxiliary Request

4. *Inventive step of the subject-matter of claim 1*

Claim 1 states that in addition to the information providers and to the regional processing center 4 there are a plurality of nodes 12 within a cable distribution system. These nodes are used by the different users of the home televisions within that cable TV system to directly fetch information from their associated nodes. Thus, the activity between the user and the node is in principle limited to the separate cable TV system concerned.

This is in the Board's opinion quite different from the system according to D1. In the system of D1 there is, as has been pointed out above (cf. the main request discussion under reason 2), only one single "central data processing facility" which is outside the real cable TV distribution system and there are no storing means at all disclosed in the cable network. This "central data processing facility" communicates with a "cable TV operator" which apparently provides the connection to the cable TV distribution system, i.e. the connections between the single "data processing facility" and the separate home televisions. Thus according to D1 the cable television subscribers (see box "information user" in figure 1 of D1) communicate directly with the "central data processing facility" corresponding to the regional processing center 4 according to the invention.

The Board is of the opinion that there is nothing in D1 that hints at a possibility to extend the system described therein to additional interactive storing means or nodes within a cable network in the sense of

the invention. Moreover, it appears that the provision of a plurality of nodes within a separate cable system which receive identical copies from the regional processing center represents a solution to the problem to increase the efficiency of the interactive information system. As put forward by the appellant during the oral proceedings before the Board the nodes function as a kind of local information reservoirs which may be refilled continuously and which can be simultaneously fed with fresh matter. Such refilling could, in particular, be made during periods of no or little need for information (e.g. during night), so that the updating operation disturb the interactive transmissions as little as possible. Thus, the users always have updated information and they receive it very quickly. As is stated in the present (published) description of the application (column 10, lines 41 to 49), a full bandwidth TV channel is available from the node to each home. A cable system may use a thousand or more nodes (cf. column 11, last paragraph of the description). A very large cable system (for an entire city) could, indeed, have 100 000 homes connected. Instead of using a single central computer for all those home televisions (as in D1), the system according to the invention may use for example up to 8000 nodes (in correspondence to the number of line amplifiers).

It appears to the Board that the addition of nodes within the meaning of claim 1 to the prior art system of D1 provides a real efficiency and quality increase of the system concerned. This is surprising and, therefore, not obvious, because it is, in principle, arrived at without new and powerful computers and without redesigned expensive transmission lines.

The examining division has in its decision compared the idea of the present invention with the organisation of a library system, i.e. the organisation of local libraries, provincial libraries and national libraries. It expressed the opinion that the basic principle of retaining "local copies" at more than one level was commonplace. However, the Board doubts that this comparison is suitable in the present case. The flow of information in an interactive information system in all possible directions and the continuous updating of that information appears to be different from the traditional library system which collects hard copies to be used by its clients but has also the task to save them for ever. Moreover, it does not appear to be common practice to provide a plurality of identical copies of assembled information in interactive information systems. Instead, as the examining division itself concedes, even users of the interactive system in D1 have the possibility to receive data, in addition to data from the "central data processing facility", directly from the remote information providers. This appears to support the traditional view that in an interactive system the user should be quite free to form its own individual information basket.

It therefore appears that the skilled man would, neither arrive at the invention having regard to the prior art disclosed in the document D1, nor arrive at the invention having regard to a traditional hierarchical library system, nor arrive at it having regard to the combination of that prior art. The Board thus is of the opinion that the subject-matter of

claim 1 of the first auxiliary request is not obvious to a skilled man and therefore meets the requirements of Articles 56 and 52(1) EPC.

5. Since the subject-matter of the method claim 7 of the first auxiliary request corresponds to the one of claim 1, claim 7 is also allowable.

Moreover, claim 6 of the first auxiliary request, concerning an interactive television system for transmitting over a fibre optic telephone system, has in relation to claim 6 of the main request been properly restricted to a system corresponding to the one of claim 1 and, therefore, meets the requirements of articles 56 and 52(1) EPC.

6. The dependent claims 2 to 5 and 8 to 15 concern particular embodiments of the invention and are likewise allowable.

Second Auxiliary Request

7. The second auxiliary request needs not to be dealt with, since the first auxiliary request is considered to be allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The appellant's main request is refused.

3. The case is remitted to the first instance with the order to grant a patent on the basis of the appellant's first auxiliary request.

The Registrar: The Chairman:

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