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D E C I S I O N
of 15 December 1998

Case Number: T 0505/96 - 3.5.1

Application Number: 90302801.7

Publication Number: 0393837

IPC: G06F 15/46

Language of the proceedings: EN

Title of invention:

On-line plant operating procedure guidance system

Applicant:

WESTINGHOUSE ELECTRIC CORPORATION

Opponent:

-

Headword:

Displaying data (On-line plant)/WESTINGHOUSE

Relevant legal provisions:

EPC Art. 56, 52(1)

Keyword:

"Inventive step (no) "

Decisions cited:

-

Catchword:



Case Number: T 0505/96 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 15 December 1998

Appellant: WESTINGHOUSE ELECTRIC CORPORATION
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 8 December 1995
refusing European patent application
No. 90 302 801.7 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
V. Di Cerbo

Summary of Facts and Submissions

- I. European patent application No. 90 302 801.7 (publication No. 0 393 837) was refused by the examining division on 8 December 1995 on the ground that the subject-matter of claim 1 lacked an inventive step having regard to the document

D1 = US-A-4 803 039.

Refused Claim 1 read as follows:

"A method of displaying data related to a procedure for operating a complex facility wherein equipment data indicating operational status of equipment in the complex facility is received and text corresponding to a portion of the procedure for operating the complex facility is displayed, **said method characterized by**

displaying, simultaneously with the text all items of the equipment data related to the portion of the procedure, which equipment data displayed is determined solely by a fixed relationship to the portion of the procedure, without artificial intelligence".

- II. The appellants lodged a notice of appeal against this decision on 12 February 1996 and paid the prescribed fee on the same day. The statement of the grounds of appeal was filed on 18 April 1996.
- III. With the statement of the grounds of appeal the appellants filed a new claim 1, the characterizing part of which was amended in relation to the refused claim in order "to improve clarity of the main claim".

IV. In a communication the Board expressed the provisional opinion that, rebus sic stantibus, the decision taken by the examining division appeared to be quite correct. The amendments to the clarity of the claim did not influence the assessment of inventive step.

V. With a letter, dated 5 August 1998, the appellants filed an amended claim 1, the characterizing part of which contained additional clarifications in comparison with the previous claim (cf. under III above). The characterizing part of the present claim reads as follows (the preamble as under I above):

"said method characterized in **that the procedure is manually implemented, and** that for each portion of the procedure there is a predefined, fixed, related set of equipment data items, and that for each displayed procedure portion, the entire set of equipment data items is displayed, and nothing else, **and without the utilisation of artificial intelligence**".

The phrases written in bold are the said additional clarifications.

VI. The appellants' arguments are summarized as follows:

The invention is a method of displaying data for safely operating a complex facility like a commercial nuclear reactor facility such as that disclosed in D1, but in contrast thereto without using artificial intelligence. At the priority date there was a need for a system having the benefits of the system disclosed in D1 but which could be made cheaper by relying on human judgement rather than costly artificial intelligence. Claim 1, therefore, now explicitly states that the procedure is manually implemented and that artificial intelligence is not used. According to the invention

"continual presentation of the 'fixed relationship' critical text and **also** the data 44 (which is not suggested by D1) gives the human operator, at all times and on one display, minimal (but critical) data to confirm or contradict the separately displayed, changing procedural steps through which he is scrolling". Thus, according to the invention in addition to the predefined set of equipment data items relating to a procedural step, the method displays simultaneously critical operational data (e.g. CHG PUMPS A, B and C, data 44 in Figure 2), which may not directly relate to the step currently displayed, but which is important during the whole procedure and, therefore, is displayed during all the steps.

VII. The appellants request that the decision under appeal be set aside and a patent be granted on the basis of claim 1 as filed on 5 August 1998 and on the basis of the dependent claims 2 to 14 as filed on 8 June 1994.

Reasons for the decision

1. The appeal is admissible.
2. The amendments to the wording of claim 1 are allowable, since they merely clarify the claim and meet the requirements of Articles 84 and 123(2) EPC.
3. The appellants in their letter, dated 5 August 1998, state that "it is important to note that the procedure [according to the invention] is human implemented and that artificial intelligence is not used". In order to make that clear they have filed amended claim 1 (see under V). In the Board's opinion the amendments to claim 1 relate only to clarifications and have not changed the circumstances of the case, since the

refused claim 1 already included the feature "without artificial intelligence". The additional feature concerning the manual implementation only appears to strengthen the last feature "without the utilisation of artificial intelligence". This opinion is supported by the fact that the appellants have not cited any passages from the original application documents which would be necessary if the additional feature concerning the manual implementation were to be an independent technical feature.

Thus the examining division's reasoning in its decision to refuse the application is still applicable to the present claim 1.

- 3.1 The present invention relates to a method of displaying data for guiding a human operator of a complex facility such as a nuclear reactor. On a display screen the different steps (see reference numerals 20 and 22 in Figure 2) of a portion of a procedure for operating the complex facility are displayed as text information (24 and 34). According to the description of the application (see page 3, lines 12 to 21 of originally filed application) the main object is to provide a system which, in addition to this text information also displays equipment data related to various parts of the procedure.
- 3.2 In the known system according to D1 (cf. Figure 2 and the corresponding text passages) text data describing the different steps (75, 73 and part of 71) of a portion of a procedure are displayed. In addition (cf. column 7, lines 1 to 11) equipment data is captured and stored. Moreover, since D1 states (in column 9, lines 7 to 10) that "the system also informs the user of the status of the parameters or components", it is understood that equipment data may also be displayed.

D1, in fact, shows (Figure 2, box 71, line 2) that the "component of process parameter status" should be displayed. D1 also shows an example of displaying additional equipment data, namely whether pumps are running (cf. Figure 3, step 07 in box 71 and column 12, lines 50 to 58). D1, therefore, discloses that, at least for one part of the procedure there is a fixed related set of equipment data items which is displayed simultaneously with the text corresponding to the step.

3.3 The Board, thus, comes to the same conclusion as the examining division that the subject-matter of claim 1 is distinguished from the disclosure of D1 in that

- equipment data related to all displayed steps of the procedure is displayed simultaneously; whereas in D1 only equipment data related to the current step of the procedure (within box 71 in Figure 2) and not to the previous (73) and the following (75) steps is displayed,
- the method does not use artificial intelligence.

3.4 The appellants suggest (see under VI above) that the problem to be solved at the time of the priority date of the present invention was to create a cheaper method for surveillance of a complex system than that of D1 by using human judgement rather than artificial intelligence. It appears that the last part of the statement of the problem, "by using human judgement rather than artificial intelligence", could already be considered to be part of the solution. Nevertheless, even considering the more general problem of trying to simplify the complex system of D1 the Board considers that the skilled person would immediately recognize the

possibility of using the simpler and cheaper method of utilising the judgement ability of man just by giving him the minimum necessary tools for performing the method (the necessary equipment data).

This conclusion is in line with the broad ratio expressed in T 61/88 in which the Board found that, in face of an optimal but sophisticated solution to a technical problem, in that case an automatically movable ultrasonic probe, the skilled person could not be denied the capacity to envisage less complicated alternatives, a manually movable probe in that case. Thus, simplifying complicated technology in situations in which advantages of decreased complexity could reasonably be expected to outweigh the resulting loss of performance must be considered to be part of the normal work of the skilled person.

Furthermore, the Board fully agrees with the examining division's finding that once the skilled person is aware that equipment data can be displayed together with text data, albeit only for a part of the displayed procedure, it is obvious to consider displaying equipment data for all displayed steps.

Thus the skilled person would arrive at the claimed fixed set of data items without exercising any inventive skill.

- 3.5 In the grounds of appeal the appellants allege that the examining division has not sufficiently taken into account the fact that the method of the invention will permit the operator to operate safely a complex plant based only on the information displayed without being overwhelmed by information. The Board, however, in a communication (see under IV above) expressed its opinion that the skilled person creating a "layout for

the information" on a screen for a purpose such as in the present application would naturally take into account said safety aspect mentioned by the appellant. Taking into account such aspects belongs to the normal design work of the skilled person.

In response to that communication the appellants in their letter received 5 August 1998 argued that the Board had stated the goal, not the method of reaching the goal. Moreover, they held that the Board did "not demonstrate exactly what information should be presented, and when and how should it be presented to the human operator for his evaluation and execution".

Neither in the Board's opinion, however, does the subject-matter of claim 1 "demonstrate exactly what information should be presented", since the claim does not in detail identify the "predefined, fixed, related set of equipment data items". This is also understandable, since for each step or steps of the procedure a different set of data items is a candidate for display. The claim therefore only concerns selecting the relevant data items. In the Board's opinion, however, the mere statement of selecting data to be displayed on the screen cannot contribute to an inventive step.

The appellants in their letter received on 5 August 1998, in particular, make much of the connection between the data in the scrolling operation and the FOLDOUT data (see Figure 2, reference 44) which is continually displayed, i.e. as long as the operator is scrolling through all the steps of the procedure (cf. VI above). It appears that claim 1 does, indeed, cover the case that data, which is related to the entire procedure (e.g. FOLDOUT data), may be displayed during all the steps of the entire procedure (cf. the

published application, lines 20 to 29). That is to say claim 1 may be interpreted in the way that data which remains critical during the entire procedure may be included in the "predefined fixed related set of equipment data items" for all "portions of the procedure" and therefore, may be contained in "the entire set of equipment data items" being displayed for each portion. However, the Board considers that claim 1 does not identify the selection of the continually displayed data and is, therefore, not limited to this feature. The Board is, moreover, of the opinion that even if the connection between the data in the scrolling operation and the FOLDOUT data were to be defined in detail in claim 1, this would not add inventive matter, since it is obvious to a skilled person to display very critical data during all steps of the procedure.

- 3.6 The subject-matter of claim 1 accordingly does not involve an inventive step and claim 1, therefore, does not meet the requirements of Articles 56 and 52(1) 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