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D E C I S I O N
of 22 June 2004

Case Number: T 0028/02 - 3.5.2

Application Number: 95930305.8

Publication Number: 0782521

IPC: B61L 27/00

Language of the proceedings: EN

Title of invention:
Scheduling system and method

Applicant:
HARRIS CORPORATION

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 84, 123(2)

Keyword:
"Admissibility of amendments (yes)"

Decisions cited:
G 0002/95

Catchword:
-



Case Number: T 0028/02 - 3.5.2

D E C I S I O N
of the Technical Board of Appeal 3.5.2.
of 22 June 2004

Appellant:

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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 30 July 2001
refusing European application No. 95930305.8
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: W. J. L. Wheeler
Members: J.-M. Cannard
B. J. Schachenmann

Summary of Facts and Submissions

I. The appellant contests the decision of the examining division to refuse European patent application No. 95 930 305.8. The reason given for the refusal was that claim 1 according to the auxiliary request filed with the letter dated 24 November 2000 and amended on 6 June 2001 during the oral proceedings before the examining division did not meet the requirements of Article 84 EPC.

II. Claim 1 according to the main request filed on 22 June 2004 during the oral proceedings before the Board of appeal reads as follows:

"System for planning and controlling the movement of plural trains in a freight railway system using a rule based inference engine to provide constraints for a constraint based inference engine to obtain a schedule for railway operation comprising

a rule based inference engine including an extent of planning determiner (304), an activity identifier and sequencer (310), a candidate resource determiner (314), a train action effect calculator (318), and a time interval converter (320); and

a constraint based inference engine including an interval grouper (324), and a resource scheduler (330); wherein

the extent of planning determiner (304) receives a new order for rail service and data as to the available

resources as well as schedule exceptions and provides orders to the activity identifier and sequencer (310);

the activity identifier and sequencer (310) provides an activity list to the candidate resource determiner (314);

the candidate resource determiner (314) provides a list of candidate resources to the train action effects calculator (318) and the time interval converter (320);

the train action effects calculator (318) provides an input representative of the effect on train action associated with the candidate resources to the time interval converter (320);

the time interval converter (320) translates the candidate resources associated with the activity list to a sequence of time intervals and provides the time intervals to the interval grouper (324), wherein the interval grouper (324) also receives the orders for the extent of planning determiner (304);

the resource scheduler (330) receives an output signal from the interval grouper (324) as a group of time intervals and a signal from the extent of planning determiner (304) indicative of the resources available for the scheduling process;

the output signal from the resource scheduler (330) is a movement plan which is fed back to the extent of planning determiner (304), wherein the movement plan is communicated to a train controller (208) to automatically determine throttle and brake settings and

control the train in accordance with said settings, wherein said settings are displayed to a train operator or control actuators which automatically make the respective adjustments."

Claims 2 to 13 are dependent on claim 1.

III. The arguments of the appellant can be summarized as follows:

The subject-matter of the claims according to the present main request did not extend beyond the content of the application as filed. The features specified in the claims were disclosed in Figure 4 of the application as filed. The terms and technical features which were considered to be unclear in the decision under appeal had been removed from the claims. Claim 1 was clear and supported by the description of the application. The technical features of the rule based inference engine and the constraint based inference engine of the claimed system were identified by the result achieved. The terms used in the claim were generally defined in the description of the application. Modules for implementing the various functional blocks shown in Figure 4 were known to persons skilled in the art.

IV. The appellant requested that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution.

Reasons for the Decision

1. The appeal is admissible.
2. The Board is satisfied that the claims according to the present main request do not contravene Article 123(2) EPC because their subject-matter does not extend beyond the content of the application as filed, which is established with the description, claims and drawings of the application as filed (G 2/95, OJ 1996, 555, point 4 of the reasons). More specifically:
 3. The system for planning and controlling the movement of plural trains in a freight railway system according to claim 1, which comprises a rule based inference engine and a constraint based inference engine communicating with a train controller, is disclosed in Figures 3, 4 and 10 and in the passages in the description of the application as filed which refer to those figures.
 - 3.1 Figure 3 of the application as filed shows a train scheduling and control system to be used in a freight railway system which includes an order scheduler (200), a planner/dispatcher (204) and a train controller (208) (see also the description, pages 18 and 19, the bridging paragraph; page 19, lines 4 to 7). In an embodiment of the invention, the order scheduler and a movement planner of the planner/dispatcher, which are described in detail with reference to Figure 4, generate a movement plan which is sent to the train controller (208) shown in Figure 10 (see the description, page 21, lines 5 to 14; page 23, lines 14 to 19).

3.2 Figure 4 shows a block diagram of a system which comprises a rule based inference engine "including an extent of planning determiner (304), an activity identifier and sequencer (310), a candidate resource determiner (314), a train action effect calculator (318), and a time interval converter (320)" and a constraint based inference engine "including an interval grouper (324), and a resource scheduler (330)" as recited in claim 1. The links between the various blocks of the inference engines and the functions of these blocks, as they are recited in claim 1, are derivable directly and unambiguously from Figure 4 and from the description (page 24, line 1 to page 27, line 2) of the application as filed.

3.3 According to Figure 10 and the related description (pages 53 and 54, the bridging paragraph), the train controller receives the movement plan to automatically determine throttle and brake settings and control the train in accordance with said settings, wherein said settings are displayed to a train operator or control actuators which automatically make the respective adjustments as recited in the last paragraph of claim 1.

4. The movement planner initializer according to dependent claim 8 is disclosed in Figure 6 and in the description (page 36, line 22 to page 38, line 18) of the application as filed.

5. The features of claim 1 which were found unclear by the examining division in the decision under appeal are not recited in the present claim 1. The claims are now clear enough for an examination to be made in respect of the other requirements of the EPC. The claims

according to the main request are supported by the description (see points 2 to 4 above).

6. The Board notes that, according to decision under appeal, the only ground for the refusal was lack of clarity of claim 1 then on file. No examination of claim 1 has been made by the examining division having regard the requirements of the EPC other than those of Article 84 EPC and no arguments in support of novelty and inventive step of the subject-matter of claim 1 of the main request have been given in the statement of grounds of appeal by the appellant. In such circumstances, the Board finds it appropriate to remit the case to the department of first instance.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of claims 1 to 13 of the main request filed in the oral proceedings before the Board.

The Registrar:

The Chairman:

D. Sauter

W. J. L. Wheeler