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**Datasheet for the decision  
of 9 September 2021**

**Case Number:** T 2551/18 - 3.4.03

**Application Number:** 15188672.8

**Publication Number:** 3010011

**IPC:** G09G5/36, G09G5/14

**Language of the proceedings:** EN

**Title of invention:**  
DYNAMIC RENDERING OF GRAPHICS

**Applicant:**  
Rightware Oy

**Relevant legal provisions:**  
EPC Art. 54(1), 54(2), 56

**Keyword:**  
Inventive step - main request, first to third auxiliary  
requests (no)



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**Case Number: T 2551/18 - 3.4.03**

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.03**  
**of 9 September 2021**

**Appellant:** Rightware Oy  
(Applicant) Itämerenkatu 1  
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**Representative:** Laine IP Oy  
Porkkalankatu 24  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 16 May 2018  
refusing European patent application No.  
15188672.8 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** M. Stenger  
**Members:** M. Ley  
C. Heath

## **Summary of Facts and Submissions**

- I. The appeal lies from the decision of the examining division to refuse European patent application No. 15 188 672.8 pursuant to Article 97(2) EPC.

The following documents were cited:

D1 US 2009/109229 A1  
D2 JP 2008/189211 A

The examining division decided that claims 1 and 7 according to a main request lacked clarity (Article 84 EPC), that the application did not disclose the invention in a manner sufficiently clear and complete to be carried out by a person skilled in the art (Article 83 EPC) and that the subject-matter of claims 1 and 7 was known from D2 (Articles 52(1), 54(1) and (2) EPC). The examining division came to the same conclusions with respect to a first auxiliary request.

- II. The appellant requested that the decision be set aside and a European patent be granted based on a main request or on one of first to third auxiliary requests filed with the statement of grounds of appeal.

The appellant also submitted the following documents  
D2\* machine translation of D2  
D2\*\* human translation of parts of D2

The main request and the second auxiliary request correspond to the requests underlying the contested decision.

Oral proceedings were requested in case the Board envisaged not allowing the appeal on the basis of the main request or one of the auxiliary requests.

III. In a communication pursuant to Article 15(1) RPBA 2020, the Board informed the appellant about its preliminary view that claims 1, 3 and 7 according to the main request and according to the first auxiliary request lacked clarity (Article 84 EPC), that the requirements of Article 83 EPC were not met and that the subject-matter of claims 1 and 7 was novel (Articles 52(1), 54(1) and (2) EPC) over D2, but that it lacked an inventive step (Article 56 EPC) over a combination of D2 with D1. Regarding the second and the third auxiliary requests, the requirements of Article 83 EPC were found to be fulfilled; the requirements of Article 84 EPC and 56 EPC were found not to be met.

IV. In a short letter dated 28 June 2021, the appellant withdrew its request for oral proceedings. No further arguments were provided, no further requests were made.

The Board cancelled the oral proceeding.

V. Claim 1 according to the main request has the following wording (labelling **(a)** to **(f)** added by the Board):

*An apparatus (300) comprising:*

**(a)** *means for rendering (310) a dynamic graphical output, the graphical output comprising at least a first subsection and a second subsection;*

**(b)** *means for ranking (310) the first subsection relative to the second subsection based on at least one criterion, wherein the criterion is relevance to safety, and*

**(c)** means for providing (330) information defining the graphical output, wherein the graphical output comprises information concerning a current state of at least one of: an automobile system, an aircraft system, an industrial machine and a power generation plant, characterized by

**(d)** means for determining (310) a scarcity of computational resources available for rendering the dynamic graphical output,

**(e)** and responsively, based on the ranking, reducing an update frequency of the second subsection,

**(f)** wherein the means for determining are configured to determine the scarcity of computational resources based on at least one of a thermal limit, a determined lag and a quantity of interrupts.

Claim 1 according to the first auxiliary request corresponds to claim 1 of the main request, wherein the following amendments (underlined by the Board) were made to features (b), (d) and (e):

**(b')** means for ranking (310) the first subsection relative to the second subsection based on at least one criterion, wherein the criterion is relevance to safety of an automobile, an aircraft or an industrial machine, and

**(d')** means for determining (310) a scarcity of computational resources of the means for rendering available for rendering the dynamic graphical output,

**(e')** and responsively, based on the ranking, reducing an update frequency of the second subsection while keeping an update frequency of the first subsection unchanged,

Claim 1 according to the second and third auxiliary requests corresponds to claim 1 according to the main request and to the first auxiliary request, respectively, with the expression ", a determined lag" being deleted from feature (f).

VI. The appellant's arguments will be discussed below.

### **Reasons for the Decision**

1. The appeal is admissible.

2. Procedural matters

In preparation for the oral proceedings the Board issued its preliminary opinion on the case raising objections against all requests.

As the appellant chose not to comment on the preliminary opinion issued by the Board in preparation of the oral proceedings and withdrew its request for oral proceedings, the Board does not see any reasons to deviate from its preliminary opinion and concludes that the case is ready for decision.

3. The invention

The present invention relates to dynamically controlling rendering of graphics.

An apparatus according to the invention comprises means for rendering a dynamic graphical output, the graphical output comprising at least a first subsection and a second subsection. The first subsection is ranked relative to the second subsection based on its relevance to safety of e.g. an automobile. In the

example of a car, a visual representation of a speedometer may be described as related to safety, while a visual representation of a media player, such as a mp3 player, would not be relevant to safety.

Information defining the graphical output are provided e.g. to a display, wherein the graphical output comprises information concerning a current state of said automobile.

An apparatus according to the invention further comprises means for determining a scarcity of computational resources available for rendering the dynamic graphical output. If said scarcity is determined, the apparatus reduces the update frequency of the second subsection on the display, i.e. of the subsection related to information less relevant for the safety of said automobile.

#### **Main request**

- 4. Novelty - Articles 52(1), 54(1) and (2) EPC
- 4.1 The examining division argued that the subject-matter of claim 1 was known from D2, see the impugned decision, section 1.3.
- 4.2 The appellant disagreed and argued that D2 did not disclose the characterizing portion of the independent claims. Furthermore, the appellant argued that paragraphs [0023] and [0028] of D2 stated that the criterion used to define the priorities in figure 3 related to how rapidly the information was expected to change.

- 4.3 The Board shares the examining division's view that D2 discloses the preamble of claim 1.

In the wording of claim 1, D2 discloses an apparatus comprising:

means for rendering a dynamic graphical output (figure 1, graphic controller 13, microcomputer 11, [0014], [0017], [0024]), the graphical output comprising at least a first subsection and a second subsection (figures 2 and 3, speed indicator 31, navigation display 33, warning indicator 34, multi information display 35, background display 36, [0020]);  
means for ranking (figure 3) the first subsection relative to the second subsection based on at least one criterion (table 3, second column, ranked based on the safety of the automobile as the speed indicator 31 has a higher "priority" and a higher update frequency than e.g. the navigation display 33, [0020], [0023]), wherein the criterion is relevance to safety (of the automobile, which is an "industrial machine"), and  
means (microcomputer 11, graphic controller 13) for providing information defining the graphical output (to a display (2, figure 2)), wherein the graphical output comprises information concerning a current state of at least one of: an automobile system, an aircraft system, an industrial machine and a power generation plant (figure 2).

In D2, the update frequency (see third column in figure 3 indicating the "plotting period") of each subsection of the graphical output as shown in figure 2 is predetermined according to a priority given for each subsection (see second column in figure 3). A skilled person would understand that the information highly relevant for the safety of the automobile and its driver have a higher priority (see e.g. figure 3, row



2, priority 5 for the speed indicators 31, 32 in figure 2) and thus a higher update frequency (or a lower "plotting period" of 30 ms). The information less relevant for the safety (e.g. the fuel amount) is given a lower priority (third row in figure 3) and thus a lower update frequency (or a higher "plotting period" of 50 ms). A skilled person would understand that the ranking according to the second column of figure 3 of D2 is also based on safety.

According to D2, the "priorities" and "plotting periods" are pre-determined or "set beforehand" (see D2\*\*, [0023]) so as to reduce "a load in the plotting processing by the control means", "high frequency noises" and "power consumption" (see D2\*\*, [0026], [0027]). Contrary to the examining division, the Board is thus of the opinion that D2 does not disclose any "means for determining a scarcity of computational resources available for rendering the dynamic graphical output" and does not disclose a step of reducing the update frequency of a second subsection in response to the determination of a scarcity. In other words, D2 does not disclose features (d) to (f) of claim 1.

The subject-matter of claim 1 is therefore novel (Articles 52(1), 54(1) and (2) EPC) over D2.

## 5. Inventive step - Article 56 EPC

- 5.1 The decision does not address the issue of inventive step. During the oral proceedings before the examining division, it was discussed whether a combination of D2 with D1 would render obvious the subject-matter of the main request underlying the decision, see the minutes, points 3.6 and 3.16 to 3.19. Apparently, the examining

division was of the opinion that this was the case, see point 3.34 of the minutes.

5.2 The appellant disagreed and argued that D1 and D2 related to different computing technologies and that D1 was not concerned with enhancing the safety of a vehicle or a machine, see point 3.17 of the minutes and the statement setting out the grounds of appeal, page 11.

5.3 The Board observes that claim 1 merely requires that the update frequency of the second subsection is reduced. The wording of claim 1 does neither exclude that the update frequency of the first subsection is reduced as well (possibly at even a higher degree than the one of the second subsection) nor that displaying the first subsection is completely stopped after a scarcity of computational resources is found. In these cases, it cannot be said that the safety of the automobile mentioned in D2 would be improved. Thus, it is not accurate to formulate the objective technical problem as how to increase the safety of a car, as argued by the appellant during the first instance oral proceedings, see the minutes, point 3.17 and the statement of grounds of appeal, page 11.

The distinguishing features (d) to (f) allow the apparatus to display the information shown in figure 2 of D2 even if the availability of computational resources becomes low. The objective technical problem can then be formulated as how to achieve this effect.

D1 concerns the problem of providing the significant computational resources required when different types information are displayed in a dynamic graphical output, see [0021], [0022], "demand large amounts of

computing resources". D1 discloses means to detect the scarcity of computational resources of means for rendering a dynamical graphical output, see e.g. paragraphs [0023], [0024], figure 1, "memory usage monitor 118", "processor usage monitor 119". A "virtual resource conserver 102" detects an "indicator" that indicates that resources are experiencing "busy times, poor performance, usage maximization, etc." (see [0023], [0073], [0083]) or are "near a maximum usage level" or "overused" (see [0024], [0073]), i.e. that a scarcity of computational resources is present. In general, a processor is "overused" when its working temperature is above a threshold temperature ("thermal limit") so that it can be said that the indicator in D1 will detect an overusage (i.e. a "scarcity of computational resources") based on a "thermal limit". After said scarcity is determined, the "display quality" of some displayed objects is reduced e.g. by lowering the corresponding refresh rates, i.e. by reducing the frequency or rate at which consecutive images appear on the display or the "update frequency", see D1, [0027], [0044], [0047], [0049].

In other words, D1 discloses means for determining a scarcity of computational resources (of the means for rendering a dynamical graphical output) available for rendering the dynamic graphical output (based on at least one of a thermal limit and a quantity of interrupts) and, responsively, based on a ranking, reducing an update frequency of a subsection of the graphical output. D1 thus discloses features (d) to (f).

Both documents D2 and D1 concern devices for providing a graphical output including different types of

information to a display, so that it cannot be said that they relate to "different computing technologies".

Starting from D2 as the closest prior art, the skilled person wishing to solve the objective technical problem would consult D1 and find therein a way of allowing an apparatus to display information even if the availability of computational resources becomes low.

Using the teaching of D1, the skilled person would implement means for determining a scarcity of the computational resources available for rendering the dynamic graphical output based on a thermal limit in the apparatus of D2. It would be obvious to configure these means such that they reduce an update frequency of a subsection of the graphical output related to less important information, e.g. the navigation display 33, and keep unchanged the update frequency of a subsection of more important information, e.g. the speed indicator 31. In other words, it would be obvious to provide means for reducing the update frequency of the second subsection, while keeping the update frequency of the first subsection unchanged.

Hence, the subject-matter of claim 1 lacks an inventive step in the sense of Article 56 EPC.

#### **First auxiliary request**

6. The Board is satisfied that the amendments made to features (b'), (d') and (e') have a basis in paragraphs [0058], [0059], [0035], [0037] as originally filed.

The appellant did not specifically comment on an inventive step of the subject-matter according to the first auxiliary request.

As already stated before, lowering the update frequency of one subsection while keeping unchanged the update frequency of a more important subsection (in the sense of feature (e')) is rendered obvious by a combination of D2 with D1.

Hence, the subject-matter of claim 1 according to the first auxiliary request lacks an inventive step in the sense of Article 56 EPC.

### **Second and third auxiliary request**

7. The amendments made to the second and third auxiliary request only address the examining division's objections under Articles 84 and 83 EPC. The Board's conclusions regarding a lack of inventive step of the main request and of the first auxiliary request still hold for the second and third auxiliary requests.

Thus, for the reasons given in sections 5.3 and 6. above, the subject-matter of claim 1 according to both requests does not involve an inventive step (Article 56 EPC) in view of a combination of D2 with D1.

8. As no request fulfilling the requirements of Article 56 EPC is on file, the appeal must fail. It is therefore not necessary to elaborate on the other issues (e.g. relating to Articles 84 and 83 EPC) discussed in the Board's communication preparing the oral proceedings.

## Order

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



S. Sánchez Chiquero

M. Stenger

Decision electronically authenticated