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Datasheet for the decision of 15 March 2018

Case Number: T 2002/12 - 3.5.04

Application Number: 02701608.8

Publication Number: 1298594

IPC: G06T15/00, G06F19/00

Language of the proceedings: EN

Title of invention:
SIMULATOR HAVING VIDEO GENERATING FUCNTION AND SIMULATION METHOD INCLUDING VIDEO GENERATING STEP

Applicants:
National Institute of Advanced Industrial Science and Technology
Koshiba, Yoko
MITSUBISHI PRECISION CO., LTD.

Headword:

Relevant legal provisions:
EPC 1973 Art. 84

Keyword:
Claims - clarity (no)

Decisions cited:

Catchword:

Europäisches Patentamt
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Case Number: T 2002/12 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 15 March 2018

Appellant: (Applicant 1)	National Institute of Advanced Industrial Science and Technology 3-1, Kasumigaseki 1-chome, Chiyoda-ku Tokyo 100-8921 (JP)
Appellant: (Applicant 2)	Koshiba, Yoko 9, Yaraicho, Shinjuku-ku, Tokyo (JP)
Appellant: (Applicant 3)	MITSUBISHI PRECISION CO., LTD. 13-16, Mita-chome, Minato-ku Tokyo 108-0073 (JP)
Representative:	Parzy, Benjamin Alain Cabinet Boettcher 16, rue Médéric 75017 Paris (FR)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 2 May 2012 refusing European patent application No. 02701608.8 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	C. Kunzelmann
Members:	M. Paci
	B. Müller

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division refusing European patent application No. 02701608.8, published (in accordance with Article 158(3) EPC 1973) as EP 1 298 594 A1.

II. The documents cited in the decision under appeal include:

D1: EP 1 054 353 A2 and

D2: K. Sano et al., "Parallel processing of the shear-warp factorization with the binary-swap method on a distributed-memory multiprocessor system", Proceedings of the 1997 Parallel Rendering Symposium, October 20-21, 1997, Phoenix, Arizona, USA, pages 87-94, XP010251400.

III. The decision under appeal was based on the grounds that independent claims 1 and 9 of the sole request did not meet the requirements of Article 123(2) EPC and that the subject-matter of these independent claims did not involve an inventive step (Article 56 EPC) in view of prior-art document D1.

IV. With the statement of grounds of appeal the appellants filed two sets of amended claims according to a main request and an auxiliary request, replacing all claims previously on file.

V. In a letter dated 15 September 2015, the appellants requested accelerated processing of the appeal.

VI. In a communication dated 21 September 2015, the board informed the appellants that the request for

accelerated processing could not be granted because they had given no reason for the urgency.

VII. In a communication under Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA, OJ EPO 2007, 536) annexed to the summons to oral proceedings, the board informed the appellants of its provisional opinion on the claims filed with the statement of grounds of appeal. It raised objections as to lack of clarity (Article 84 EPC 1973), added subject-matter (Article 123(2) EPC) and lack of inventive step against the claims of the main and auxiliary requests filed with the statement of grounds of appeal.

VIII. The appellants did not reply to the objections in the board's communication. However, on 7 March 2018 they informed the board's registrar by telephone that they would not be represented at the oral proceedings.

IX. Oral proceedings were held on 15 March 2018. As announced, the duly summoned appellants did not attend.

At the oral proceedings, the chairman noted that it appeared from the file that the appellants had requested that the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main or auxiliary request, both filed with the statement of grounds of appeal.

At the end of the oral proceedings, the chairman announced the board's decision.

X. Claim 1 according to the appellants' **main request** reads as follows:

"A simulation method for simulating the behavior of an object of analysis, comprising:

a plurality of subspace simulating steps (182) for respectively simulating the behaviors of said object of ansysis [*sic*] in every prescribed time interval in a plurality of subspaces (B1-B8), which are created by dividing a three-dimensional space in which a mathematical model for said object of analyss [*sic*] is constructed, in parallel;

a plurality of subspace image generating steps (184) for respectively generating and outputting subspace images (I1-I8) within said prescribed time intervall [*sic*], in parallel;

an entire image generating step for receiving said subspace images in parallel and generating an entire image by blending together said subspace images (I1-I8) generated in said plurality of subspace image generating steps (184), said entire image representing the result of the simulation of the entire object of analysis; and

a displaying step for displaying said entire image generated in said entire image generating step,

wherein each of said subspace simulating steps (182) calculates voxel values for a plurality of voxels created by dividing a corresponding one of said subspaces (B1-B8),

wherein each of said subspace image generating steps (184) generates said subspace image (I1-I5) by blending together, in accordance with a multiple shared composition method, voxel values resulting from a simulation for a plurality of voxles [*sic*] which are created by dividing a corresponding one of said subspaces (B1-B8)."

XI. Claim 1 according to the appellants' **auxiliary request** reads as follows:

"A simulation method and system for simulating in real time the behavior of an object of analysis, comprising:

a plurality of subspace simulating steps and means (182) for respectively simulating the behaviors of said object of analysis in every prescribed time interval in a plurality of subspaces (B1-B8), which are created by dividing a three-dimensional space in which a mathematical model for said object of analysis is constructed;

a plurality of subspace image generating steps and means (184) for respectively generating and outputting subspace images (I1-I8) within said prescribed time interval, in parallel;

an entire image generating step and means fo [*sic*] receiving said subspace images in parallel and generating an entire image by blending together said subspace images (I1-I8) generated in said plurality of subspace image generaing [*sic*] steps and means (184), said image representing the result of the simulation of the entire object of analysis;

a displaying step and means for displaying said entire image generated in said entire image generating step and means,

wherein each of said subspace simulating steps and means (182) calculates voxel values for a plurality of voxels created by dividing a corresponding one of said subspaces (Bl-B8),

wherein each of said subspace image generating steps and means (184) generates said subspace images (I1-I8) by blending together, in accordance with a multiple shared composition method, voxel values resulting from a simulation for a plurality of voxels

which are created by dividing a corresponding one of said suspaces [*sic*] (B1-B8)."

Reasons for the Decision

1. The appeal is admissible.

Main and auxiliary requests - clarity (Article 84 EPC 1973)

2. In its communication under Article 15(1) RPBA annexed to the summons to oral proceedings, the board informed the appellants of its provisional opinion on the claims filed with the statement of grounds of appeal. It raised, *inter alia*, the following objections under Article 84 EPC 1973 against claim 1 of the main request (see point 5(b) of the communication):

> "the expression 'multiple shared composition method' used in claims 1, 2, 7 and 8 neither has a well-known meaning in the technical field of the invention, nor is it defined in the claims. The description and drawings of the application do not provide a clear definition of this expression either for the following reasons: first, it should be noted that this composition method is referred to as 'multiple **shared** composition method' on page 5, line 8, but as 'multiple **sheared** composition method' or in short 'MS method' (bold added by the board) on page 9, line 22, which does not contribute to clarity; second, the only definition of the MS method is to be found on page 9 of the description where the following is stated:

> 'Figure 8 is a diagram for explaining the MS method; part (A) shows the case in which the RC method shown in Figure 7 is applied, while part (B) shows the case in which the MS method is applied.
>
> That is, in the MS method, the subspace is distorted, and an image is generated on a reference plane by projecting the voxels in the distorted subspace onto the reference plane by using parallel light rays perpendicular thereto; by so doing, pixel values on the reference plane can be calculated by simple addition.'

However, in the board's provisional view, the above statement, even when read in conjunction with figure 8, does not clearly explain how the subspace is distorted and why the pixel values can be calculated by simple addition.

Hence the board considers that the expression 'multiple shared composition method' used in claims 1, 2, 7 and 8 is unclear (Article 84 EPC 1973), even in the light of the description and drawings.

For the sake of completeness, the board adds that it is aware that the MS method as defined in the above quoted statement bears some resemblance to the known 'Shear-Warp factorisation' method mentioned for instance in prior-art documents D1 [read: D2] (see section 2.1) and D2 [read: D1] (see paragraph [0005]). However, there is too little information disclosed in the application as filed to establish whether the 'multiple shared

composition method' of claims 1, 2, 7 and 8 refers to that method or to another one."

In point 18 of the communication under Article 15(1) RPBA, the board indicated that the above objections also applied to the claims of the auxiliary request.

3. The appellants did not reply in substance to the above objections, either by providing arguments or by way of amendments to the claims.

4. After deliberation on the case in the oral proceedings of 15 March 2018, the board affirms the view that it expressed in the communication under Article 15(1) RPBA that the expression "multiple shared composition method" renders claim 1 of each of the main and auxiliary requests unclear.

5. For the above reasons, claim 1 according to each of the main and auxiliary requests does not meet the requirements of Article 84 EPC 1973. Accordingly, these requests are not allowable.

Conclusion

6. Since neither of the appellants' requests is allowable, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke C. Kunzelmann

Decision electronically authenticated