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**Datasheet for the decision
of 11 January 2011**

Case Number: T 1225/10 - 3.2.04

Application Number: 07106962.9

Publication Number: 1854520

IPC: A63F 13/10

Language of the proceedings: EN

Title of invention:
Game program and game apparatus

Applicant:
Nintendo Co., Ltd.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 52(1), 56, 113(1)
EPC R. 137(3), 103(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (yes)"
"Reimbursement of the appeal fee (no)"

Decisions cited:
T 0931/95, T 0258/03, T 1543/06, T 0641/00

Catchword:
-



Case Number: T 1225/10 - 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 11 January 2011

Appellant:

Nintendo Co., Ltd.
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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 20 January 2010
refusing European application No. 07106962.9
pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: A. de Vries
Members: M. Poock
T. Bokor

Summary of Facts and Submissions

I. The Appellant lodged an appeal, received 19 March 2010, against the decision of the Examining Division posted 20 January 2010, refusing the European patent application No. 07 106 962.9 and simultaneously paid the required fee. The grounds of appeal were received 21 May 2010.

In its decision the Examining Division held that the application did not meet the requirements of Articles 52(1) and 54 EPC for lack of inventive step having regard to the following documents:

D1: US-A-6 128 018

D2: US-A-6 102 801

D3: JP-A-6337918

D4: J. Amato: "Collision Detection", Internet, 1999, retrieved 19 July 2007 from www.gamedev.net/reference/articles/article735.asp

D5: J. Harbour: "Game Programming, All in One", 2nd edition, Boston: Thomson Course Technology, 2004, pp.21,22, 245-248

II. Oral proceedings before the Board were held 11 January 2011.

III. The Appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the following documents:

Description: Page 1 as filed on 16 April 2008
Page 1a as filed on 10 March 2009
Pages 2,5 filed during the oral
proceedings before the Board
Pages 3,4,6 filed on 20 May 2010
Pages 9 to 34 as originally filed

Claims: No.: 1 to 8 as filed during the oral
proceedings before the Board

Figures: No.: 1 to 18 as originally filed

Additionally, he requests the reimbursement of the
appeal fee.

IV. The wording of the independent claims is as follows:

1. "A storage medium (40) storing a game program
executed by a computer of a game apparatus that
displays on a display device (12) a field formed by a
plurality of objects (1,2,3,4,5,6) in which a player
character capable of being operated by a player is
placed, the game program comprising program
instructions for performing:

a first display step (S1) of placing said player
character within a first field (F1) formed by a first
plurality of objects and displaying on said display
device (12) the first field (F1) containing at least
the player character; and

a rotation display process step (S13) of rotating
said first field (F1) through a predetermined angle
when a predetermined requirement is satisfied and of
displaying the result of the rotation on said display
device (12), characterized in that:

said game apparatus further comprises: a means for storing a first background object (3,5) having a first object image to be displayed in a block-shaped rendering area by the first display step (S1) and for storing attributes each one of which is associated with a respective side of the block-shaped rendering area, and for storing a second background object (4,6) having a second object image to be displayed in a block-shaped rendering area and attributes each one of which is associated with a respective side of the block-shaped rendering area, wherein the second object image is identical to the first object image rotated through said predetermined angle;

said first plurality of objects includes said first background object (3,5);

said player character is provided with a plurality of contact determination points (A1,A2,A3,A4,A5);

said game program further comprises program instructions for performing a second display step (S65) of placing the player character within a second field (F2) formed by a second plurality of objects including said second background object (4,6), such that said second field (F2) is identical to said first field (F1) rotated through said predetermined angle when said rotation display process step has completed;

a contact determination step (S7) of making a determination of contact between the first or second background object (3,5;4,6) and said player character, said contact determination step (S7) determining contact through determining whether an overlap exists between the block-shaped rendering area of the first or second object images and any of said contact determination points (A1,A2,A3,A4,A5), and said contact determination step (S7) including a contact direction

calculation step for determining the side of the block-shaped rendering area with which the player character has made contact based on which of the contact determination points (A1,A2,A3,A4,A5) overlap with the block-shaped rendering area of the background object; and

a process step (S35) of executing a process when contact has been determined between the first or second background object and the player character by the contact determination step (S7), the process step (S35) selecting and executing a process based on the attribute associated with the side of the block-shaped rendering area of the background object with which the player character has made contact."

8. "A game apparatus that displays on a display device (12) a field formed by a plurality of objects (1,2,3,4, 5) and in which a player character capable of being operated by a player is placed, comprising:

a first display means for placing said player character within a first field (F1) formed by a first plurality of objects and displaying on said display device (12) the first field (F1) containing at least the player character; and

a rotation display process means for rotating said first field (F1) through a predetermined angle when a predetermined requirement is satisfied and displaying the result of the rotation on said display device (12), characterized in that

said player character is provided with a plurality of contact determination points (A1,A2,A3,A4,A5); and said game apparatus further comprises:

a means for storing a first background object (3, 5) having a first object image to be displayed in a

block-shaped rendering area by said display device (12) and attributes each one of which is associated with a respective side of the block-shaped rendering area, said first plurality of objects including said first background object (3,5) and for storing a second background object (4,6) having a second object image to be displayed in a block-shaped rendering area and attributes each one of which is associated with a respective side of the block-shaped rendering area, wherein the second object image is identical to the first object image rotated through said predetermined angle; and

a second display means for placing the player character within a second field (F2) formed by a second plurality of objects including said second background object (4,6), such that said second field (F2) is identical to the first field (F1) rotated through said predetermined angle when said rotation of said first field (F1) by said rotation display process means is completed;

a contact determining means for making a determination of contact between the first or second background object (3,5;4,6) and said player character, said contact determining means determining contact through determining whether an overlap exists between the block-shaped rendering area of the first or second object images and any of said contact determination points (A1,A2,A3,A4,A5), and said contact determining means including contact direction calculating means for determining the side of the block-shaped rendering area with which the player character has made contact based on which of the contact determination points (A1,A2,A3,A4,A5) overlap with the block-shaped rendering area of the background object; and

a processing means for executing a process when contact has been determined between the first or second background object and the player character by the contact determining means, the processing means selecting and executing a process based on the attribute associated with the side of the block-shaped rendering area of the background object with which the player character has made contact."

Reasons for the Decision

1. The appeal is admissible.
2. *Background*
 - 2.1 The application concerns what is essentially a computer game in which a player character is to be moved on a display through a field of background objects, and in which collisions with certain ones elicit a game response that depends on collision direction. Under certain conditions the field may rotate, with game play continuing as before in the rotated field. The claimed invention is concerned not so much with these underlying game rules, but rather with the way they are implemented in various display, process and determination steps of the game program stored on a storage medium (claim 1) or by corresponding means of the game apparatus (claim 8). The main focus is on the particular way the fields are generated and displayed, and the way the system detects collisions. Effectively, the field is formed using an image of a background object stored with associated attributes for the different sides of its rendering block, both for the

first and the second rotated field. Collisions are detected from the overlap of character and objects, with the side of the object hit by the player character being determined from particular points on the player character that overlap with the object.

3. *Allowability of Amendments*

Claim 1 incorporates into claim 1 as filed the subject-matter of originally filed claims 2 to 5, but reorganized, clarified and using terminology consistent with that used in the description.

In more detail, the features of claims 2 and 4 are combined in the last feature but one of claim 1. This clarifies that contact and contact direction are determined from overlap, as described on description pages 28 and 29 in conjunction with figures 13 and 14.

The features of as filed claims 3 and 5 are reformulated as the first and final features of the characterizing part of claim 1 ("means for storing ...", "a process step ...") but using the same terms as the description and clarified: for example, "attributes" associated with the respective "sides", see e.g. description pages 21 to 23 and the tables discussed there, replaces "definition of a process to be performed" "with respect to each of the contact directions". The "sides" are those of "block-shaped rendering areas", see figure 5 and also page 28, line 4. Attributes are "stored" in appropriate means, replacing "previously defined" to give it fuller technical meaning, see also the tables on pages 22, 23; the block shaped areas are also stored there, see figure 3.

Independent claim 8 to the game apparatus is based on originally filed claims 12 to 16 directed at the same material as originally filed claims 1 to 5, but reformulated in terms of corresponding means of the game apparatus. Claim 8 is amended in the same way as claim 1.

The amendments to claim 1 and claim 8, which have also been redrafted in two part form, have a clear basis in the application as filed. Likewise, the dependent claims find a basis in the originally filed dependent claims.

The Board concludes that the amendments to the claims do not add subject-matter extending beyond the content of the application as filed, Article 123(2) EPC. It draws the same conclusion as regards the amendments to the description, which comprise citation and summary of the relevant prior art (Rule 42(1)(b) EPC) and an adaptation to the new claims (Article 84 EPC).

4. *Technical Nature*

Implementation of the previously mentioned game rules - inherently non-technical subject-matter excluded under Article 52(2)(c) EPC - is in the form of a storage medium storing a game program that controls display and game data processing (claim 1) on the one hand, and by corresponding means of the game apparatus (claim 8) on the other. In either case implementation involves technical means so that, following the approach of T 931/95 (OJ EPO 2001, 441) and T 258/03 (OJ EPO 2004,

575), the claimed storage medium and game apparatus are technical, Article 52(1) EPC.

5. *Novelty*

5.1 Gaming systems with display, controls, and storage and processing capability for executing gaming software are commonly known. D1 to D5 all provide examples of such systems where game play involves moving a player character across a field of background objects with which it can collide. Description page 1, second paragraph and third paragraphs, provides a further example in the form of a Gameboy Advance handheld video game device programmed (with an appropriate game cartridge) to play "Super Ghouls 'n Ghosts" ("Chou Makaimura R" on page 1). In this prior art game the player collides with background objects, which may lead to a game response that depends on collision direction. During game play the game field can also rotate.

5.2 None of these prior art gaming systems, however, provide precise detail as to how to display the rotated (second) field or how to determine collision direction. The relevant features of claim 1 and 8, that is the steps respectively means pertaining to *display of the second rotated field formed from objects including the second background object that is stored in game apparatus storing means and is identical to a first background object in the first field but rotated*, on the one hand, and *contact direction determination in which the side of contact between player character and the stored background objects is determined based on player character determination points* on the other, render the subject-matter of these claims novel over

the prior art, Article 52(1) with Article 54 EPC.
Novelty has in fact not been at issue.

6. *Inventive Step*

6.1 The invention of claims 1 and 8 is "mixed" as it has both non-technical aspects (relating to the game rules) and technical aspects (relating to their implementation). In assessing inventive step of such a "mixed" invention the Board adopts the approach as set out in T 1543/06 (Gameaccount), reasons 2, which is based foremost on T 641/00 (OJ EPO 2003, 352). Thus, only those features that contribute to technical character are to be taken into account when assessing inventive step. However, the mere technical implementation of something excluded (game rules as in the present case, for example) cannot form the basis for inventive step. Decisive is *how* excluded subject-matter is technically implemented, and whether that implementation is obvious in the light of the prior art. As explained in reasons 2.7 to 2.9 of T 1543/06, such a consideration focuses on any *further* technical effects of the implementation of the excluded subject-matter over and above those inherent in the excluded subject-matter itself.

6.2 Starting from, say, the Super Ghouls 'n Ghosts game cartridge or the Gameboy Advance device with the inserted cartridge mentioned above as closest prior art, the storage medium of claim 1, respectively the game apparatus of claim 8 differs among others in the features indicated in the previous section 4.

6.2.1 Forming the rotated display field from an individual, stored rotated image realizes the display field rotation in a memory and cpu efficient manner. This is a technical effect that results from technical features (pertaining to storage and display of data) and that goes beyond those inherent in programming the above game rules.

6.2.2 Similarly, using points on the *player* character that overlap with a target object is a computationally effective and efficient approach to determining the collision side on a target object for a variety of such objects. That effect is not the inevitable result of programming the above game rules per se. It is rather the direct technical consequence of the particular technical way selected data is used to determine a display state.

6.2.3 The above further technical effects are unrelated. Though collision direction detection ultimately serves to identify the particular game process of that side as encoded in an associated attribute, which is in turn stored together with the rotated image, it is evident that how collision direction is detected is entirely independent of whether or not the field is rotated, as it is the same in both. The two differing features can therefore be considered separately.

6.2.4 On the basis of the above effects the two differences over the prior art are seen to address the following separate objective technical problems: *how to efficiently realize a rotated display field and how to determine collision direction in a gaming system such as that of a Gameboy Advance playing "Super Ghouls 'n*

Ghosts". The skilled person, a software engineer specializing in the development of gaming software must address these problems when set the task of realizing game play as described previously on such a gaming device.

6.3 The skilled person would as a matter of course draw on notorious memory efficient graphic display techniques in the field of game design such as "tiling" and "sprites", see e.g. D5. Both are pre-rendering techniques, i.e. involving storage of image elements in advance. "Tiling" builds the display background from pre-rendered image blocks. This the skilled person would obviously apply to *all* display fields, including a rotated one. He would thus also generate the rotated field using pre-stored elements as a matter of obviousness. The Board therefore agrees with the decision under appeal, that inventive step cannot be based on this feature.

6.4 In the Board's view, the added feature of collision direction determination, however, does, require an inventive insight on the part of the skilled person. Though collision detection per se is known, see any of D1 to D4, none of these documents suggests detecting the collision direction using points on the player character.

6.4.1 Decision points do figure in D1, see figures 17A to C in conjunction with column 13, lines 8 to 67, but serve a different purpose. These serve merely to "efficiently" detect and "so as not to lose realism" that a collision has occurred, column 13, lines 15 to 20, not its direction. A collision is decided if one or

more decision points are found to lie within positive "hit boxes" forming the target object, column 13, lines 40 to 67. Though in theory the collision direction could be inferred from *which* particular decision point lies within a hit box, there is no suggestion in D1 to do so. D1's sole interest, see column 1, lines 35 to 46, is to accurately detect collisions in all directions, meaning that "forward, backward, leftward, rightward, upward and downward" collisions should be detected with the same accuracy, and to do so efficiently using as little data as possible, column 1, lines 47 to 60. In the embodiment of figure 17 the points are therefore "set as efficiently as possible", meaning with regard to computation, and "so as not to lose realism", that is so that the system detects a collision when the player perceives a collision, irrespective of object and player shape, and of direction.

- 6.4.2 Nor does the Board believe that the skilled person might recognize from general considerations that he could use the decision points of D1 to also tell him the collision side on the *background* object. Even if he were to recognize that the points offer directional information (the Board believes that he would not), he would then be inclined to place the points on the *background* objects to detect which of their sides is hit. That he places them on the *player character* requires the further insight that the collision side on the background object can be inferred from the side of the *player* that hits the object, but that this has the advantage of requiring only a single set of points, on the player character, and not multiple sets, on each of the background objects.

6.5 The Board concludes that the solution proposed in claims 1 and 8 is neither known nor obvious from any of the cited prior art, nor obvious per se. It therefore finds that the subject-matter of these claims involves an inventive step, Article 52(1) with Article 56 EPC.

7. The application meets the requirements of Articles 52(1) in combination with Articles 54 and 56 EPC, and of Article 123(2). As all other requirements of the EPC appear to be met, the Board concludes that the application is now ready for grant pursuant to Article 97(1) EPC.

8. *Reimbursement of the Appeal Fee*

8.1 The Appellant requests reimbursement as, in its opinion, it was not given an opportunity at the oral proceedings before the examining division to present arguments on inventive step for an auxiliary request which was submitted at the oral proceedings but that the division then did not admit for lack of inventive step.

8.2 The discussion of the auxiliary request is recorded in points 18 to 23 of the minutes. Point 20.3 records the Appellant's comments on technical benefits of contact determination using collision points of the player, which is contrasted, point 20.4, with the prior art points on object. The division was not convinced, point 22, finding claim 1 (of the auxiliary request) "prima facie not inventive". The minutes, which are uncontested, thus record that the Appellant was heard on the ground on which the division then used its

discretion under Rule 137(3) EPC not to admit the auxiliary request.

8.3 That the division may not have fully appreciated the Appellant's comments regarding inventive step when it exercised its discretion does not mean it did not hear and consider them. Nor should they have heard the Appellant exhaustively on the issue: in using its discretion under Rule 137(3) EPC to admit or not a further request for amendment filed at the oral proceedings the division must hear the party to a degree commensurate with the purpose of Rule 137(3) to allow further amendments only if these are sufficiently promising to further the procedure. It thus needed to hear the Appellant only to the extent that it could establish whether the auxiliary request had a chance of success within the remaining time of the oral proceedings.

8.4 It is of little relevance that the auxiliary request in question was prepared early on in the oral proceedings: the division was able to consider it only after it had dealt with the main request. It makes no difference at what stage in the oral proceedings the auxiliary request was filed, or whether the division was advised of its impending filing: such a request remains late filed. Late filing at this final stage of the proceedings justifies a cursory assessment of inventive step when deciding admissibility, as explained above. That the division then considered only the features added with respect to the main request seems reasonable within the context of such a cursory assessment.

8.5 On the basis of the minutes the Board is satisfied that the division did hear the Appellant to the necessary extent, and that therefore there was no violation of the right to be heard. It therefore sees no justification for a reimbursement of the appeal fee, Rule 103(1)(a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent on the basis of the following documents:

Description: Page 1 as filed on 16 April 2008
Page 1a as filed on 10 March 2009
Pages 2,5 filed during the oral proceedings before the Board
Pages 3,4,6 filed on 20 May 2010
Pages 9 to 34 as originally filed

Claims: 1 to 8 as filed during the oral proceedings before the Board

Drawings: Figures 1 to 18 as originally filed

3. The request for reimbursement of the appeal fee is refused.

The Registrar

The Chairman

G. Magouliotis

A. de Vries