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D E C I S I O N
of 2 June 2006

Case Number: T 0928/03 - 3.5.01

Application Number: 97120468.0

Publication Number: 0844580

IPC: G06F 19/00, A63F 9/22

Language of the proceedings: EN

Title of invention:
Video game system and storage medium for storing program for use in the video game system

Applicant:
KONAMI CO., LTD.

Opponent:
-

Headword:
Video game/KONAMI

Relevant legal provisions:
EPC Art. 52(1)(2)(3), 54, 56

Keyword:
"Visualisation of a possibly concealed graphic indicator in an interactive video game - exclusively addressing a mental process (no)"
"Shape of graphic indicator - merely aesthetic creation (yes)"
"Specific implementation of game rule requirements - technical contribution (yes)"
"Inventive step (yes)"

Decisions cited:
T 0333/95, T 0244/00, T 0641/00, T 0643/00, T 0258/03, T 0049/04, T 0125/04

Catchword:
I. Making a possibly concealed indicator clearly visible on a display screen to the user of an interactive video game does not exclusively address a human mental process but contributes an objective technical function to the display. The functional quality is not cancelled by the fact that the visualised information will also enter into a decision of the user interacting with the video game displayed on the screen (point 4.1.1 of the reasons).

II. Applying the approach of T 641/00-*Two identities/COMVIK* (i.e. treating non-technical aspects as constraints in the formulation of the technical problem) in a fair manner must bear in mind its purpose: on the one hand, the approach is to make sure that non-technical aspects do not support a finding of inventiveness; on the other hand, actual contributions to the technical character by any feature of an invention must be taken into account when assessing inventive step (point 5.3.3 of the reasons).

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Case Number: T 0928/03 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 2 June 2006

Appellant: Konami Co., Ltd.
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Chuo-ku
Kobe-shi,
Hyogo-ken (JP)

Representative: Müller-Boré & Partner
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 22 April 2003 refusing European application No. 97120468.0 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: S. Steinbrener
Members: K. Bumes
G. Weiss

Summary of Facts and Submissions

I. The appeal lies from the Examining Division's decision to refuse European application No. 97 120 468.0 for lack of inventive step over

D7: WO-A-96/34364

in the light of

D4: EP-A-0 700 010.

More precisely, the Examining Division referred to

D7': EP-A-0 773 515,

for language reasons, D7' being a family member to D7 but not published before the priority date of the present application.

II. The appellant requests that the decision under appeal be set aside and a patent be granted on the basis of claims 1 to 8 submitted at oral proceedings before the Board.

(a) Device claim 1 reads (with two obvious typing errors corrected, and with labels [a] to [c] added for reference by the Board):

"1. A guide display device for use in a video game system of the type in which a couple of teams, each having a plurality of player characters (P1, P2, P3) displayed on a monitor screen (13), compete with each other on a single game medium (B), at least one of said teams being under the control of a game player through a controller (8) said guide display device comprising:

monitoring means for identifying the player character (P1) which keeps said game medium (B), and

guide displaying means for displaying a guide mark(G1, G2) which accompanies the player character (P1, P2, P3) identified by said monitoring means and which indicates that said game medium (B) is kept by said player character (P1) identified by said monitoring means,

characterized in that

[a] said guide mark (G1, G2) is ring-shaped and displayed on the image of the field plane (F) around the player character (P1, P2, P3) at a location near a [indefinite article reinserted by the Board] foot of said player character (P1, P2, P3),

[b] said guide displaying means further displays a pass guide mark (G3) accompanying another player character (P2) which belongs to the same team as said player character (P1) keeping said game medium (B) and to which said game medium (B) can most easily be passed from said player character (P1) keeping said game medium (B), and

[c] said guide displaying means displays said pass guide mark (G3) accompanying another player character (P2) such that [corrected from "said"] a portion of the pass guide mark (G3) is displayed on the end of the display area even when said another player character (P2) and said pass guide mark (G3) come out of the display area of the monitor screen so as to properly indicate the direction in which the game medium (B) is to be passed by the player character (P1)."

(b) Method claim 6 reads (with two obvious typing errors corrected, and with labels [a] to [c] added for reference by the Board):

"6. A guide displaying method for use in a video game system of the type in which a couple of teams, each having a plurality of player characters (P1, P2, P3) displayed on a monitor screen (13), compete with each other on a single game medium (B), at least one of said teams being under the control of a game player through a controller (8), said guide displaying method comprising:

identifying the player character (P1), which keeps that game medium (B); and

displaying a guide mark (G1, G2), which accompanies the identified player character (P1) and which indicates that said game medium (B) is kept by said identified player character,

characterized in that

[a] said guide mark (G1, G2) is ring-shaped and displayed on the image of the field plane (F) around the player character (P1, P2, P3) at a location near a [indefinite article reinserted by the Board] foot of said player character (P1, P2, P3),

[b] wherein the displaying step further displays a pass guide mark (G3) accompanying another player character (P2), which belongs to the same team as said player character (P1) keeping said game medium (B) and to which said game medium (B) can most easily be passed from

said player character (P1) keeping said game medium (B), and

[c] wherein said guide displaying means displays said pass guide mark (G3) accompanying another player character (P2) such that [corrected from "said"] a portion of the pass guide mark (G3) is displayed on the end of the display area even when said another player character (P2) and said pass guide mark (G3) come out of the display area of the monitor screen so as to properly indicate the direction in which the game medium (B) is to be passed by the player character (P1)."

III. The Examining Division's argumentation in relation to claim 1 (corresponding to claim 1 of the second auxiliary request before it) is summarised as follows.

(a) Claim 1 relates to a mixture of technical and non-technical features for implementing a graphic user interface [GUI] for a video game. Therefore, the skilled person is considered to be a computer expert who has knowledge of the game rules as part of the task information given to him. Starting from document D7('), a "ring-shaped guide mark" is an obvious alternative known from D4, and the implementation of the remaining features is driven by the game rules and thus does not provide any non-obvious technical effect or non-obvious solution to a technical problem.

More specifically, the game rules suggest that team mates interact by passing the game medium (i.e. ball) and, therefore, have to know each other's position even when one of them is located

outside the current display area. When seeking a solution to this problem, the skilled person would consider a situation from everyday life in which a person tries to reach a destination without seeing it. A common solution to this problem is to provide traffic signs that guide the person toward the destination.

A technical implementation of that concept in a graphic user interface is straightforward because information on the current positions of the player characters is available to the game processing system irrespective of whether or not the characters are currently displayed.

(b) Generally, the application aims to improve the visual perception of different states of the game by its user. User acceptance is influenced by a combination of graphical design, interaction style and computational power. Psychologists, graphic designers and programmers usually team up to design an interface. The graphical design is selected according to human factors. Visual feedback is important because it helps the user to better perceive certain situations of an interactive game. While the graphical design visible to the user is creative work and influences user attractiveness, its protection is not a matter of patent law.

IV. The Board summoned the appellant to oral proceedings, as requested on an auxiliary basis, and pointed out that the discussion with respect to Article 56 EPC would have to focus on features contributing to the

technical character of the display device and method as claimed. A correct formulation of the problem was critical; a formulation in terms of a navigation problem might direct the skilled person to graphic user interfaces commonly known from car navigators exemplified by

D8: DE-A-40 33 832.

Such interfaces might prompt the skilled person to display (road) symbols pointing to objects situated beyond the current display horizon.

V. The appellant disagrees with the Examining Division's formulation of the problem. Setting out from a video game according to D7 and considering the characterising features of the application, the problem cannot be reduced to providing an alternative identification means for a player character and giving the user visual feedback of a player character to whom the ball can be passed. The fact that a conventional player character's guide mark (D7, Figure 8: triangular control mark "m" above a player's head) might be concealed by a neighbouring player character limits the usability of the GUI. Expanding the usability contributes to the technical character of the device and method, as confirmed by the bulk of technical prior art existing in the field of video games. Hence, the problem has to be formulated as how to enhance the operability of the display system and to make the man-machine interface more efficient, which is a technical problem in line with decision T 643/00-*Searching image data/CANON*.

Even the ring-shape of the guide mark improves the visibility of a player character, and thus the function of the GUI, by concentrating the user's attention on

the designated player character. The appellant refers to the Board's decision T 333/95-*Interactive animation/IBM* in support of his argument that a technical contribution can be achieved by a graphical interface which "appears to decrease both the necessary mental and physical effort of the operator". Therefore, the shape and location of a guide mark have to be taken into account when assessing inventive step.

The appellant regards a ring-shape of the guide mark as non-obvious because it represents a selection from a variety of shapes which are conceivable but have not been used or suggested before, at least not at a player character's foot. The question is not whether the skilled person *could* use a ring-shape but whether he *would* use it. Prior art D7, for example, teaches away from modifying the shape of its guide mark (m) since D7 explicitly proposes to modify the appearance of the player character (by refining the resolution of the graphic representation thereof) in order to catch the user's eye.

Knowledge of navigator GUIs does not inspire the skilled person to provide the edge of a display with a guide mark toward an object which is moving outside the displayed area. Moreover, the road mapped on a navigator display may bend behind the display horizon so that the road symbol does not consistently point to the destination.

When an interactive display screen is no longer able to show an interesting detail of a large map because the user zooms into a picture or shifts the viewing angle of a virtual camera, conventional remedies consist in

(i) zooming out or (ii) shifting the camera back so as to make the point of interest visible again or (iii) displaying a small-scale overview map on the same screen. Neither the documented prior art nor common knowledge suggests displaying an edge indicator toward an object which is being outside the screen.

VI. The chairman pronounced the Board's decision at the end of the oral proceedings.

Reasons for the decision

1. *Article 123(2) EPC - Admissibility of amendments*

The Board is satisfied that the amended claim set is based on original disclosure notably in relation to original Figures 6 and 7. Claim 1 is based on original claims 5, 7 and 8 and column 24, line 32 to column 25, line 19 of the application as published,

A2: EP-A2-0 844 580.

Claim 2 is based on original claim 6. Claim 3 is based on original claim 9. Claim 4 is based on original claim 10. Claim 5 adds features from columns 24/25 of A2. Claim 6 is based on original claims 11, 13 and 14 and column 25, paragraph 2 of A2. Claim 7 is based on original claim 12, and claim 8 is based on original claim 15.

2. *Article 52(1)(2)(3) EPC - Eligibility for patent protection*

Eligibility for patent protection has not been called into question by the Examining Division. The guide display device according to claim 1 indeed represents a

physical entity in particular comprising displaying means which have a technical character by their nature.

The displaying steps of the independent method claim imply the use of displaying means which provides a technical character to the method (T 258/03-*Auction method/HITACHI*, OJ EPO 2004, 575).

3. *Article 54 EPC - Novelty*

3.1 The application relates to an interactive video game (e.g. a virtual soccer game) in which a user controls at least one player character displayed on a screen. Broadly speaking, the application features a graphical user interface (GUI).

The Board concurs with the Examining Division and the appellant in considering D7(') as the closest available prior art document, reflected in the preambles of the independent claims 1 and 6.

Figure 8 of D7(') shows a triangular control mark "m" above a player character's head to indicate which player has obtained control of the ball (D7', column 17, lines 49 to 55).

3.2 It is common ground that D7' does not disclose the characterising features [a] to [c] of the independent claims.

The extent to which the characterising features contribute to the technical character of the claimed device and method will be elaborated below in relation to the effects achieved by those features. The Board

judges that at least the implementation of the characterising features assures technical novelty.

4. *Effects achieved and problems solved*

For brevity, the player character which keeps the game medium (e.g. ball) and is controlled by the user of the video game will be designated as the active player character.

4.1 While the closest prior art indicates the active player character by displaying a small triangle (m) above its head (D7, Figure 8), characterising feature [a] of claim 1 requires the guide mark (G1 in Figures 6 and 7 of A2) to be ring-shaped and displayed around a foot of the active player character (P1).

4.1.1 The aforementioned difference implies an enlarged size of the guide mark which avoids any risk of the mark being concealed by a neighbouring player character. Making a possibly concealed indicator clearly visible on a display screen to the user of an interactive video game does not exclusively address a human mental process (i.e. it is not exclusively determined by the cognitive meaning of the information presented) but contributes an objective technical function to the display. The functional quality is not cancelled by the fact that the visualised information will also enter into a decision of the user interacting with the video game displayed on the screen.

As to the arrangement of images on a screen, decision T 643/00-*Searching image data/CANON* likewise accepts a combination of functional and mental tasks as technical

where the graphic interface aims at a more efficient or faster interaction with the image processing apparatus (point 16 of the Reasons).

Decision T 125/04-*Assessment system/COMPARATIVE VISUAL ASSESSMENTS* comes to a negative finding in relation to a vectorial presentation of information on the screen because the overall effect is exclusively an intellectual effect on a human being (simply to inform a customer of the properties of a product; point 4.5 of the Reasons). The present case is different since the guide mark is enlarged to serve a technical purpose (visibility) and is not just displayed for the sake of viewing but for enabling a continued man-machine interaction.

In conclusion, the enlarged size of the guide mark will enter into the appraisal of the display device and method with respect to inventive step (T 641/00-*Two identities/COMVIK*, Headnote I, OJ EPO 2003, 352).

4.1.2 On the other hand, the Board is not convinced that the precise geometrical (ring-)shape of the guide mark achieves any effect other than an aesthetic impression. The shape of the guide mark relates to mere artwork in the menu design which the Board considers as non-technical (see T 244/00-*Remote control/MATSUSHITA*, point 12 of the Reasons).

According to decision T 49/04-*Text processor/WALKER*, the presentation of natural language text on a display in a manner which improves readability, enabling the user to perform their task more efficiently, relates to *how*, i.e. by what physical arrangement of the text,

cognitive content is conveyed to the reader and can thus be considered as contributing to a technical solution to a technical problem (points 4.5 to 4.7 of the Reasons).

Hence this decision proposes a wide interpretation of a technical contribution which does not require any interaction with the graphically interfaced system once the GUI has displayed readable information in an intellectually convenient manner. However, even if that interpretation is followed, the Board would not be convinced that in the present case the shape (as opposed to the size) of the guide mark improves its readability or perceptibility so as to go beyond a purely aesthetic effect ruled out from patentability also by T 49/04 (point 4.8 of the Reasons).

Decision T 333/95-*Interactive animation/IBM* holds that a technical contribution can be achieved by a graphical interface which decreases the mental and physical effort of the operator (point 5 of the Reasons). The application underlying that decision relates to a programming tool and input device to facilitate a programmer's work of establishing an animation, whereas the video system underlying the current application deals with the arrangement and visibility of images on the resulting user surface.

Even if that decision was applicable to the present case (despite their factual difference), the Board would not be convinced that a ring-shape of the guide mark decreases the mental or physical effort of the user.

Consequently, the ring-shape of the guide mark is merely an aesthetic creation and, thus, cannot constitute an inventive step within the meaning of Article 56 EPC.

The same goes for the precise (foot-related) location of the guide mark (G1) with respect to the player character to be marked. In view of the preferred embodiment of the video game (soccer), it may be added that - in accordance with the Examining Division's finding - marking the foot zone of a player character may also be driven by the non-technical rules of the game, which confirms the non-technical character of that contribution.

To make sure that non-technical aspects of the guide mark do not support any finding of inventiveness, aesthetic aspects may be included in the formulation of the technical problem (T 641/00, Headnote II).

4.2 Characterising feature [b] specifies that a team mate ("other player character P2 which belongs to the same team") of the active player character (P1) is accompanied by a pass guide mark (G3) so that the active player character can easily pass the game medium (e.g. ball) to the team mate.

When the non-technical, game-rule-driven aspects of this feature are stripped off, the underlying technical contribution relates to the highlighting of a second point of interest, in addition to the active player character, on the display screen in order to draw the user's attention to the second point on the screen. That is a technical contribution to be considered in

the inventive step discussion.

4.3 Characterising feature [c] specifies that the pass guide mark (G3) is displayed on the end of the display area even when the other player character (P2) and the pass guide mark (G3) come out of the display area of the monitor screen so as to properly indicate the direction in which the game medium (e.g. ball B) is to be passed by the player character (P1).

The technical problem underlying this feature relates to conflicting technical requirements: On the one hand, a portion of an image is desired to be displayed on a relatively large scale (e.g. zoom in); on the other hand, the display area of the screen may then be too small to show a complete zone of interest. Resolving that conflict by technical means implies a technical contribution which has to be considered in the inventive step discussion.

5. *Article 56 EPC - Inventive step of the technical contributions*

5.1 The first problem pointed out by the appellant (concealed guide mark "m" of D7') occurs inevitably in practical use of the video game of D7'. Thus, identifying that problem is obvious. At the same time, when a mark turns out to be too small, the skilled person (GUI programmer) will naturally think of enlarging the size of the guide mark to maintain its visibility in the presence of a neighbouring and potentially overlapping player character. Therefore, the technical contribution by feature [a] does not involve an inventive step.

5.2 Highlighting a second point of interest (team mate P2), in addition to a first point of interest (active player character P1), on the display screen in order to draw the user's attention to plural points of interest is obvious as soon as the second interest arises. In view of the rules of playing team games such as soccer, obvious points of additional interest are those team mates to whom the active player can pass the ball most easily in the framework of the game and goal to be achieved. The fact that the various points of interest represent player characters is due to the non-technical rules of the game and, thus, cannot support any finding of non-obviousness. Therefore, the technical contribution by feature [b] does not involve an inventive step.

In this context, it should be added that the technical implementation of features [a] and [b] by suitable programming has neither been asserted nor disclosed as requiring the exercise of inventive skill.

5.3 The technical contribution by feature [c] addresses the conflicting technical requirements of displaying an enlarged portion of an image (into which the user may have zoomed) and keeping an overview of a zone of interest which is larger than the display area. Conventional video game GUIs (as acknowledged by the appellant, see point V, last paragraph *supra*) compromise by superimposing a down-scaled map of the zone of interest on the enlarged portion of the image (covering a considerable part of that portion), or by zooming out (losing detail), or by shifting the viewing perspective (losing focus).

Feature [c] allows an enlarged portion of the image to be displayed and overview information to be provided to the user without sacrificing surface, detail or focus of the enlarged image portion.

In the Board's judgment, the first and second instance discussions have not revealed any obvious pointer to a display device displaying a guide mark on the end of the display area in order to indicate a second point of interest which is being outside the display area of the monitor screen.

5.3.1 None of the prior art documents on file suggests a graphic user interface displaying a guide mark on the end or edge of the display area. The car navigator screen according to document D8, Figure 10 for example, displays road symbols extending across the screen, whereas feature [c] implies that only a portion of the pass guide mark (G3) is displayed on the end of the display area when said other player character (P2) and said pass guide mark (G3) come out of the display area of the monitor screen.

Moreover, a road section does not always point in the direction of the destination. That difference may not exist in sea navigation but in the Board's judgment sea navigators do not form part of the common general knowledge to be combined with virtual ball games.

5.3.2 Real-life playing grounds for team ball games do not require geographic navigation tools. Hence, it would appear artificial to allege that experience from everyday navigation translates readily into

corresponding solutions in video game GUIs. Setting out from D7', there is no obvious reason to assume that static or dynamic navigation assistance (traffic signs; GPS) might be desirable in a video game. While it may be possible to deduce a navigation problem from the present application and to trace a logical chain of arguments back to D7', the same chain starting from D7' lacks motivation.

5.3.3 It is true that the general desire to pass the ball from the active player character to a team mate is driven by the (non-technical) rules of the game, although passing is not necessarily an intention of the user who has zoomed into the image: In close-up views of the active player character, the user may want the player to perform dribbling (see D7', column 15, lines 24 to 30).

Nevertheless, if on a general basis it were assumed that in a team game (such as soccer) the game rules impose interactions (such as passing a ball) between the players of one team so that knowledge of the nearest team mates' locations is of fundamental importance, this rule constraint has to be distinguished carefully from its technical implementation by which such locations are indicated to the user of the video game. In other words, while the fact *that* the team mates' locations should be known by the user may be regarded as a direct consequence of the game rules, the technical realisation of *how* such locations are made known is not related to the game rules.

The Board would like to add that applying the *Comvik* approach (i.e. treating non-technical aspects as constraints in the formulation of the technical problem) in a fair manner must bear in mind its purpose: on the one hand, the approach is to make sure that non-technical aspects do not support a finding of inventiveness; on the other hand, actual contributions to the technical character by any feature of an invention must be taken into account when assessing inventive step.

5.3.4 While various compromises of handling the conflicting display requirements are known (see point 5.3 *supra*), the solution offered by feature [c] of the present application expands the display functionality with the help of a simple guide mark on the end of the display area which occupies minimum peripheral display surface and still enables the user to maintain orientation when viewing an enlarged portion of an image.

5.3.5 Therefore, in the light of the prior art available to it, the Board judges that the display device and method according to claims 1 and 6, respectively, involve an inventive step.

The dependent claims likewise involve an inventive step by virtue of their references to claims 1 and 6, respectively.

6. *Remittal*

The application (claiming five priorities) comprises an extensive description of aspects no longer covered by the amended claims. Therefore, the description

(including its title) and drawings need to be adapted to the amended claim set (Article 84, Rule 27 EPC). To this end, the Board makes use of its discretion pursuant to Article 111(1) EPC and remits 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 department of first instance with the order to grant a patent on the basis of claims 1 to 8 filed at the oral proceedings and a description and drawings to be adapted thereto.

The Registrar: The Chairman:

P. Guidi S. Steinbrener