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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/076,599	03/20/2008	Mari Shirakawa	723-4206	6253

27562 7590 02/21/2018

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ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
02/21/2018	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARI SHIRAKAWA and GILES GODDARD

Appeal 2017-001580
Application 12/076,599[1]
Technology Center 2600

Before MARC S. HOFF, JAMES W. DEJMEK, and
ALEX S. YAP, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1–18. Claims 19–27 have been withdrawn from consideration. Final Act. 13. We have jurisdiction over the remaining pending claims under 35 U.S.C. § 6(b).

We reverse.

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[1] Appellants identify Nintendo Co., Ltd. as the real party in interest. App. Br. 3.

STATEMENT OF THE CASE

Introduction

Appellants' disclosed and claimed invention is directed to "controlling a movement of an object displayed on a screen on the basis of an input from a pointing device." Spec. (i):13–14.[2] Figure 5 is illustrative and is reproduced below:

FIG. 5

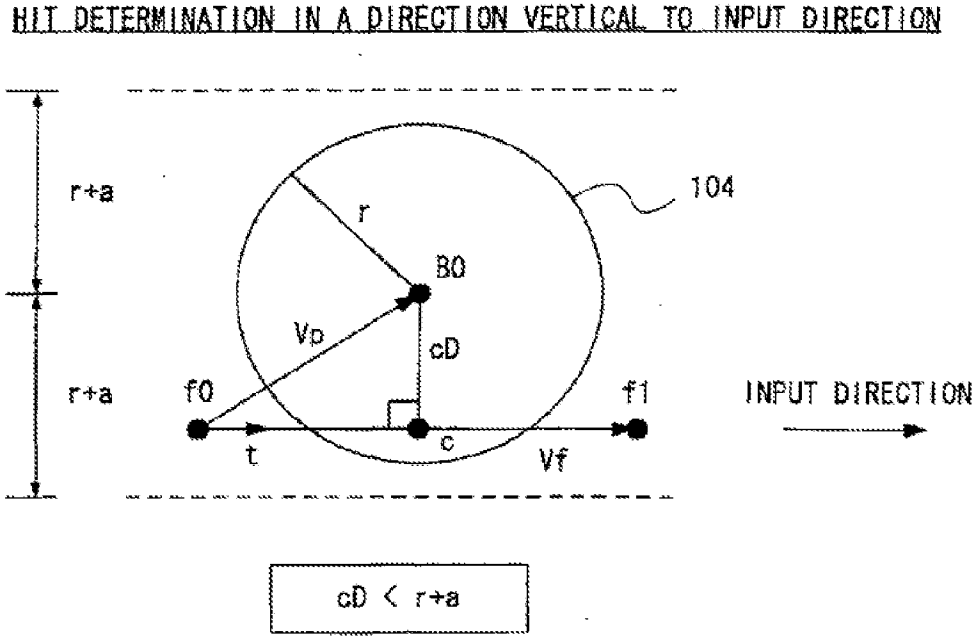

Figure 5 from Appellants' Specification illustrates a hit determination of a virtual object (104) in response to user input, but also identifies several claimed elements. Spec. 8:10–11; 21:5–25. As shown, f0 indicates a first detected touched position and f1 indicates a second detected touched position. Spec. 21:7–9. B0 is a reference point of the virtual object (104)

[2] We refer to the substitute Specification, filed April 29, 2011. We note what has been labeled as page 1 begins on the second page of the Specification. For ease of reference, we will use the page numbers on the Specification as filed. We assign "(i)" to the first page of the Specification.

and cD represents a distance between the reference point of the virtual object and a point (c) located between the first and second detected positions (f0, f1). Spec. 21:11–25. In the Specification, Appellants provide an equation wherein, after the user input, the resulting velocity of the virtual object may be calculated based at least in part on the calculated distance (cD). Spec. 22:19. According to the Specification, the shorter the distance (cD), the greater the influence of the input is on the resulting movement velocity. Spec. 22:22–23.

Claim 1 is illustrative of the subject matter on appeal and is reproduced with the disputed limitations emphasized in *italics*:

> 1. A non-transitory storage medium storing computer-readable instructions for controlling a virtual object that is processed by a computing system that includes a display for displaying the virtual object and a user input device configured to receive input from a user to control the virtual object, the stored computer-readable instructions comprising instructions configured to cause said computing system to:
>
> detect a first input provided to the user input device;
>
> detect a second input provided to the user input device;
>
> determine a first position based on the detected first input;
>
> determine a second position based on the detected second input;
>
> *calculate a distance between a reference point of the virtual object and an intersection point that is located between the determined first position and the determined second position*;
>
> *calculate a movement velocity of said virtual object based at least in part on the calculated distance*; and
>
> move said virtual object based at least in part on the calculated movement velocity.

The Examiner's Rejection

Claims 1–18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Orr et al. (US 6,722,987 B2; Apr. 20, 2004) ("Orr"). Final Act. 13–23.

ANALYSIS[3]

The Examiner finds Orr anticipates each of independent claims 1, 6, 11, and 16. Final Act. 13–17, 19–23. We being our analysis with a brief review of Orr.

Orr is generally directed to processing collisions between mobile objects and "electronic ink." Orr, col. 1, ll. 8–12. Orr discloses that by using a stylus (or other pen digitizer), a user may enter a free-form stroke on a user input device. Orr, col. 5, ll. 45–61. The term "electronic ink" is used to refer to a sequence or set of strokes entered by the user to the input device (e.g., a touch-sensitive display). Orr, col. 5, ll. 62–65. Orr describes an exemplary game wherein a plurality of multi-colored balls move about a game space defined by walls and electronic ink, as entered by the user. Orr, col. 6, ll. 23–30. Throughout the game, the balls may collide with (or bounce off) other balls, walls, or electronic ink. Orr, col. 6, ll. 23–30. As a ball collides with another object (i.e., another ball, a wall, or electronic ink), the ball's direction of travel (i.e., trajectory) will be altered. Orr, col. 6, ll. 50–53 ("[t]he angle of incidence of this collision equals the collision's

[3] Throughout this Decision, we have considered the Appeal Brief, filed February 2, 2016 ("App. Br."); the Reply Brief, filed November 8, 2016 ("Reply Br."); the Examiner's Answer, mailed September 8, 2016 ("Ans."); and the Final Office Action, mailed September 2, 2015 ("Final Act."), from which this Appeal is taken.

angle of reflection"). Regarding the electronic ink, Orr describes that colored ink may change the color of a ball that hits the colored ink, whereas the speed of a ball that hits translucent ink may slow down or speed up. Orr, col. 7, ll. 17–20.

Orr further discloses the underlying program is aware of the location of mobile objects (i.e., balls) and electronic ink. Orr, col. 7, ll. 35–40. "If ink and a mobile object occupy the same location, then the mobile object has collided with ink." Orr, col. 7, ll. 38–40. Orr notes that "other suitable collision-checking techniques" could also be used and that ball-to-ball or ball-to-wall collision detection techniques are well known in the art. Orr, col. 9, ll. 45–46, col. 10, ll. 3–10. In a disclosed embodiment, Orr describes a data structure may maintain the x and y coordinates of data points along the periphery of a mobile object (i.e., ball). Orr, col. 8, ll. 40–45. As a plurality (e.g., two) of periphery points collide with free-form electronic ink, an angle of collision may be determined such that the angle at which the ball should leave (i.e., bounce) the electronic ink may be determined. Orr, col. 8, ll. 31–39.

Appellants argue that Orr does not (i) calculate a distance between a reference point of the object and an intersection point between a first and second position (determined from a first and second input, respectively) or (ii) calculate a movement velocity of the object based at least in part on the calculated distance. App. Br. 14–15. Rather, Appellants assert Orr describes the velocity of the object is determined by running into different environment types, such as translucent ink. App. Br. 14. Additionally, Appellants contend "there does not seem to be any disclosure in Orr of

calculating a distance from [a reference] point to an intersection point." App. Br. 15.

In response, the Examiner explains that in order to recognize a collision (such as between a ball and electronic ink), Orr "*must necessarily* determine or ascertain (i.e., the definition of 'calculate') that the distance between the ball perimeter point and the hand-drawn ink touch stroke is zero." Ans. 18 (emphasis altered). Thus, the Examiner finds that Orr's collision module reasonably reads on Appellants' claimed invention that a virtual object's movement is based on the distance between two points. Ans. 18–19. Further, the Examiner finds the disclosed ball perimeter points may be considered the claimed "reference point[s]." Ans. 20. Alternately, the Examiner finds the center point of the ball can also be considered the claimed "reference point." Ans. 21. Additionally, the Examiner explains "[i]f you know two elements have collided, then you also inherently know there is zero distance between them." Ans. 22. According to the Examiner, because the velocity of Orr's object depends on whether it has collided with the electronic ink, the velocity of the ball "necessarily depends on its distance from hand-drawn ink touch strokes." Ans. 22.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Additionally, to anticipate, a prior art reference must disclose more than "multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention." *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008); *see also In re Arkley*, 455 F.2d 586, 587 (CCPA 1972) ("[T]he [prior art] reference must clearly

and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.").

Further, the principle of "inherency" requires that any information not expressly disclosed within a prior art reference would nonetheless be known to be present in the subject matter of the reference, when viewed by persons experienced in the field of the invention. However, "anticipation by inherent disclosure is appropriate only when the reference discloses prior art that must *necessarily* include the unstated limitation [or the reference] cannot inherently anticipate the claims." *Transclean Corp. v. Bridgewood Servs., Inc.*, 290 F.3d 1364, 1373 (Fed. Cir. 2002) (internal citation omitted); *Hitzeman v. Rutter*, 243 F.3d 1345, 1355 (Fed. Cir. 2001) ("consistent with the law of inherent anticipation, an inherent property must necessarily be present in the invention described by the count, and it must be so recognized by persons of ordinary skill in the art") (citations omitted). It is not sufficient if a material element or limitation is "merely probably or possibly present" in the prior art. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002) (citations omitted); *see W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983) (anticipation "cannot be predicated on mere conjecture respecting the characteristics of products that might result from the practice of processes disclosed in references") (citation omitted). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference.'" *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (quotation omitted).

Appellants dispute the Examiner's finding that Orr's collision detection necessarily requires the calculation of a distance as set forth in Appellants' claims. Reply Br. 3. Appellants provide two examples of approaches for detecting a collision without calculating a distance (a logical operation based on position data, and use of a tracking frame buffer). Reply Br. 3–4.

Appellants' examples make clear that the velocity of the ball does not *necessarily* depend on its distance from hand-drawn ink touch strokes, as the Examiner finds, but is merely one possible approach to collision detection. *See* Ans. 22. To the extent that a person of ordinary skill in the art would understand that a collision of the ball with the electronic ink of Orr suggests a distance of zero between the periphery of a virtual object and a point located within the stroke of electronic ink (i.e., the claimed intersection point), we agree with Appellants that such a suggestion falls short of inherently disclosing the calculation of a distance between a reference point of a virtual object and an intersection point, as set as recited in independent claim 1. Independent claims 6, 11, and 16 recite commensurate limitations.[4]

For the reasons discussed *supra*, and constrained by the record before us, we do not sustain the Examiner's rejection under 35 U.S.C. § 102(b) of independent claims 1, 6, 11, and 16. Additionally, we do not sustain the Examiner's rejection of claims 2–5, 7–10, 12–15, 17, and 18, which depend therefrom.

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[4] We note that rather than calculating a "movement velocity" of the virtual object based at least in part on the calculated distance, claim 11 recites calculating a "speed value" of the virtual object based at least in part on the calculated distance.

DECISION

We reverse the Examiner's decision rejecting claim 1–18 under 35 U.S.C. § 102(b).

REVERSED