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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/282,369	10/26/2011	Richard Marks	SONYP022C	4535

16051 7590 11/23/2016

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ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
11/23/2016	ELECTRONIC

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICHARD MARKS

Appeal 2015-003782
Application 13/282,369
Technology Center 2600

Before: CARLA M. KRIVAK, CARL W. WHITEHEAD JR., and JOHN R KENNY, *Administrative Patent Judges*.

KENNY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a rejection of claims 1–18, which constitute all pending claims in the application. Final Act. 1; App. Br. 14. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED INVENTION

The claimed invention relates to a real-time interactive computer environment using a three-dimensional camera. Spec. 1. Claim 1 is illustrative and, with its disputed limitations italicized, reads:

> 1. A computer implemented method having access to memory, the method providing a real-time three-dimensional interactive environment, comprising the operations of:
>
> obtaining depth values indicating distances from one or more physical objects in a physical scene to a depth sensing device,
>
> *the depth sensing device being adjustable to extend or reduce a setting of a particular depth range defined by a plane so that objects between the particular depth range and the depth sensing device are processed by the depth sensing device,* and
>
> objects beyond the particular depth range are not processed by the depth sensing device, wherein the particular depth range establishes active detection capabilities of the depth sensing device, as depth values of objects placed through the particular depth range and toward the depth sensing device are detected and
>
> *depth values of objects placed beyond the particular depth range are not detected, wherein the objects placed beyond the particular depth range are not physically detected by the depth sensing device when configured for the particular depth range,* and
>
> the objects placed through the particular depth range are rendered and displayed in a virtual scene based on geometric characteristics of the object itself.

REFERENCES

Nguyen	US 6,072,494	June 6, 2000
Woodfill	US 6,215,898 B1	Apr. 10, 2001
Williamson	US 2002/0158873 A1	Oct. 31, 2002
Wilson	US 2004/0189720 A1	Sep. 30, 2004
Ono	US 7,570,281 B1	Aug. 4, 2009

REJECTIONS

Claims 1–4, 7–10, and 13–16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Wilson, Ono, and Nguyen. Final Act. 2.

Claims 5, 11, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Wilson, Ono, Nguyen, and Woodfill. Final Act. 7.

Claims 6, 12, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Wilson, Ono, Nguyen, and Williamson. Final Act. 8.

ANALYSIS

Claims 1–4, 7–10, and 13–16

The Examiner relies on Ono in combination with Wilson as teaching or suggesting the disputed limitations in claim 1. Final Act. 4–5. Appellant argues that these references fail to teach or suggest the disputed limitations because (i) Wilson detects objects inside and outside of an engagement volume, (ii) Ono's data processing method captures all depths in an image and, therefore, fails to not detect depths beyond a particular depth range, (iii) Ono does not physically detect depths, and (iv) Ono changes the depth

length of its partial searching range until a main subject is found. App. Br. 8–14. We are not persuaded by these arguments.

First, as Appellant acknowledges, the Examiner does not rely on Wilson for teaching or suggesting the claimed depth range. App. Br. 8; Ans. 2. Therefore, whether Wilson detects objects inside and outside of an engagement volume is of no consequence for the involved rejections.

Second, claim 1's disputed limitation of "depth values of objects placed beyond the particular depth range are not detected" does not exclude data processing methods that capture all depths in an image. As the Examiner finds, the Specification discloses a method of capturing a depth for every pixel within an image. Spec. 12 ("a z-value is captured for each pixel of the scene;" "depth values are often referred to as z-values."), 16. The disclosed method excludes depths that exceed the disclosed maximum depth range, and gives the pixels with such depths the maximum depth value. *Id.* at 12. The Specification further describes this method as not detecting depth values beyond the maximum depth value. *Id* ("a maximum detecting range is defined beyond which depth values will not be detected."). Therefore, in light of the Specification, claim 1's disputed limitation of "depth values of objects placed beyond the particular depth range are not detected" encompasses methods that capture all depths in an image and then exclude depths that exceed a maximum. As the Examiner finds, Ono, with its partial searching range, excludes depths that exceed a set range. Final Act. 4; Ono 8:42–65 ("sliding excludes objects at different depths from a searching target.") Accordingly, the disputed limitation encompasses Ono's method.

In addressing the disputed limitation, Appellant argues that limitations from the Specification cannot be imported into the claims. Reply Br. 2–4. The argument is not persuasive because the Specification is used to construe the claim limitation "depth values of objects placed beyond the particular depth range are not detected," rather than import a limitation from the Specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) ("the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'"), quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Third, we are not persuaded by Appellant's argument that Ono does not disclose the limitation of "wherein the objects placed beyond the particular depth range are not physically detected by the depth sensing device when configured for the particular depth range" because Ono does not perform physical detection. App. Br. 12; Reply Br. 6. The Examiner does not rely upon Ono for expressly teaching physical detection. Ans. 5–6. The Examiner combines Ono with Wilson, which discloses physical detection, to satisfy the disputed limitation. *Id.* at 2–3, 5–6, citing Wilson ¶¶ 47, 61, 81. In other words, Wilson teaches the physical capture of depth values and Ono teaches the requisite exclusion of values beyond a maximum depth; the combination, therefore, teaches or suggests the disputed limitation. *Id.*; Ono 8:42–65.

Fourth, we are not persuaded by Appellant's argument that Ono does not disclose the depth range limitation of claim 1 because Ono changes the depth length of its partial searching range until a main subject is found. App. Br. 12–14; Reply Br. 6–7. Similarly, we are not persuaded by

Appellant's contention that the disputed limitations require the maximum depth range is not adjusted based on the contents of an image. Reply Br. 6–7. Claim 1 recites no limitations requiring the maximum depth range never changes nor that it is not change based on the content of the image. Performing a partial search with a particular maximum depth would satisfy the plain meaning of the involved limitations even if a subsequent partial search at another maximum depth were to occur.

Therefore, we sustain the rejection of claim 1 and of claims 2–4, 7–10, and 13–16, not separately argued. App. Br. 8–14.

Claims 5, 6, 11, 12, 17, and 18

Appellant presents the same arguments for claims 5, 6, 11, 12, 17, and 18 as for claim 1. App. Br. 14. Therefore, we sustain the rejections of claims 5, 6, 11, 12, 17, and 18.

DECISION

We affirm the Examiner's rejections of claims 1–18.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED