UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/987,828	11/15/2022	Danillo Graziosi	SONY-75200	6471

102824 7590 01/13/2025

HAVERSTOCK & OWENS
A LAW CORPORATION
162 N. WOLFE ROAD
SUNNYVALE, CA 94086

EXAMINER
CHEN, BIAO

ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
01/13/2025	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jowens@hollp.com
us_docketing@hollp.com

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

Office Action Summary	**Application No.** 17/987,828	**Applicant(s)** Graziosi et al.	
	Examiner BIAO CHEN	**Art Unit** 2611	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 11/15/2022.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-21 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-2,5-9,12-16 and 19-21 is/are rejected.

8) ☑ Claim(s) 3-4,10-11 and 17-18 is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 11/15/2022 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DOCKET ALARM

Find authenticated court documents without watermarks at docketalarm.com.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Specification

2. The disclosure is objected to because of the following informalities:

- In page 3, lines 4-5, "from the pixels' surfaces" should read "from the surface's pixels".
- In page 5, line 13, "from the pixels' surfaces" should read "from the surface's pixels".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

4. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4-7, 8-9, and 12-14 are rejected under 35 U.S.C. 103 as being unpatentable over Graziosi et al. ([V-PCC] [specification] Depth range adjustment, ISO/IEC JTC 1/SC 29//WG 11 m51170, Geneva, CH, October 2019, hereinafter "Graziosi_VPCC"), and in view of:

- Schwalb et al. (Fast Motion Estimation on Graphics Hardware for H.264 Video Encoding IEEE Transactions on Multimedia (Volume: 11, Issue: 1, 2009, Page(s): 1-10), thereinafter "Schwalb")
- Wei et al. (Bi-Normal Filtering for Mesh Denoising, IEEE Transactions on Visualization and Computer, Vol. 21, No. 1, January 2015, hereinafter "Wei").
- Nakagawa et al. (Estimating Surface Normals with Depth Image Gradients for Fast and Accurate Registration, 2015 International Conference on 3D Vision (2015, Page(s): 640-647), hereinafter "Nakagawa")

Regarding claim 1, Graziosi_VPCC teaches A method of mesh geometry coding comprising: (section 1, "the luminance values carry the depth value")

mapping depth information to a luma channel using fewer than all available bits; (section 1, "the luminance values carry the depth value. The decoded bit depth is adjusted according to the 2D nominal bit depth value (indicated by the syntax element gi~geometry_nominaf_2d_bitdepth_minusl). The adjustment will either only clip the values … or scale them by a power of two"). Note that the luma channel with the

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

luminance values contains depth information, and the "clipping" or "scaling" indicates that the least significant bits or most significant bits are ignored/unused.

generating a depth scaling factor which is ~~incorporated into a bilinear interpolation algorithm used during rasterization; and~~ (section 1, "The decoded bit depth is adjusted according to the 2D nominal bit depth value … scale them by a power of two (in case the MSBs are to be aligned)").

However, Graziosi_VPCC does not disclose **incorporated into a bilinear interpolation algorithm used during rasterization.**

In the same art of video coding, Schwalb discloses **incorporated into a bilinear interpolation algorithm used during rasterization** (Schwalb, page 3, section 3, "to generate so called "fragments" for all output pixels that the currently rendered triangle covers. A fragment is a data structure analog to the structure of a vertex and is calculated by the Rasterizer by interpolating position coordinates"; page 5, section 4, "Supersampling to a factor of 4 with bilinear interpolation"). Note that during rasterization the bilinear interpolation gets the scaling factor involved for calculations to have the depth values scaled to the bit-depth.

Graziosi_VPCC and Schwalb are in the same field of endeavor, namely computer graphics. Before the effective filing date of the claimed invention, it would have been obvious to apply the bilinear interpolation during rasterization, as taught by Schwalb into Graziosi_VPCC. The motivation would have been "calculated by the Rasterizer by interpolating position coordinates" (Schwalb, page 3, section 3). The suggestion for doing so would allow to perform rasterization with a bilinear interpolation

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.