

Paper No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDIVIS, INC.
Petitioner

v.

NOVARAD CORP.
Patent Owner

US Patent No. 11,004,271

Inter Partes Review No. IPR2023-00042

**REPLY IN SUPPORT OF
PETITIONER'S MOTION TO EXCLUDE**

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TABLE OF MEDIVIS EXHIBITS

Number	Description
1001	US Patent No. 11,004,271, claiming priority to March 30, 2017 (the ‘271 Patent)
1002	Excerpts of File history of Application No. 16/574,524, now the ‘271 Patent
1003	Excerpts of File history of Application No. 15/894,595, now U.S. Patent No. 10,475,244, through which the ‘271 Patent claims priority
1004	Excerpts of File history of Application No. 15/474,702, filed on March 30, 2017, and now U.S. Patent No. 9,892,564, through which the ‘271 Patent claims priority
1005	Excerpt of Amira 5 User’s Guide title through Chapter 2 (Visual Imaging 2009) (“ <i>Amira</i> ”)
1006	US Patent Application Publication No. US 2016/0191887 A1 to Casas, published on June 30, 2016 (“ <i>Casas</i> ”)
1007	S. Pujol, Ph.D. et al., 3D Visualization of DICOM Images for Radiological Applications (Surgical Planning Laboratory, Brigham and Women’s Hospital, Boston, Massachusetts 2014) (“ <i>3D Slicer-Visualization</i> ” aka “ <i>3D Visualization</i> ”)
1008	International Publication No. WO 2015/164402 A1 to Doo et al., published on October 29, 2015 (“ <i>Doo</i> ”)
1009	X. Chen et al., “Development of a Surgical Navigation System Based On Augmented Reality Using an Optical See-Through Head-Mounted Display,” 55 JOURNAL OF BIOMEDICAL INFORMATICS 124-131 (2015) (“ <i>Chen</i> ”)
1010	Main Application GUI for 3D Slicer < https://www.slicer.org/wiki/Documentation/4.6/Slicer/Application/MainApplicationGUI > (last edited 7 November 2016) (“ <i>3D Slicer GUI</i> ” aka “ <i>3D Slicer</i> ”)
1011	E. Azimi et al., “Augmented Reality Goggles with an Integrated Tracking System for Navigations in Neurosurgery,” IEEE VIRTUAL REALITY 123-124, 123 (IEEE 2012) (“ <i>AR Goggle for Neurosurgery</i> ”).
1012	Declaration of Peter Kazanzides Ph.D.
1013	Curriculum Vitae of Peter Kazanzides Ph.D.

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Number	Description
1014	Email message entitled “Novarad v. Medivis” and dated August 3, 2022, from counsel for Novarad, Brett Davis, to counsel for Medivis, Brian Lemon and others.
1015	Declaration of Christopher Fraiser (May 22, 2023) [served May 22, 2023]
1016	Page Vault capture of Slicer.org Main Applications GUI [served May 22, 2023]
1017	Page Vault capture of Slicer.org Acknowledgements [served May 22, 2023]
1018	Page Vault capture of Slicer.org Release Details Slicer 4.6.0 [served May 22, 2023]
1019	Page Vault capture of Google Search Results 3D Visualization and Training [served May 22, 2023]
1020	A. Federov et al., “3D Slicer as an image Computing Platform for the Quantitative Imaging Network,” 30 MAGNETIC RESONANCE IMAGING 1323-1341 (2012) [served May 22, 2023]
1021	Supplemental Declaration of Peter Kazanzides Ph.D. (May 22, 2023) [served May 22, 2023]
1022	Transcript of the Deposition of Mahesh S. Mulumudi, M.D. (September 19, 2023) g
1023	Declaration of Page Vault Representative Todd W. Price (May 19, 2023) (including publicly-accessible complete copies of Exhibit 1007, <i>3D Slicer-Visualization</i> , and of Exhibit 1005, <i>Amira</i>) [served May 22, 2023]
1024	Declaration of Internet Archive Representative Nathaniel E Frank-White (May 16, 2023) (including publicly-accessible complete copy of Exhibit 1005, <i>Amira</i>) [served May 22, 2023]
1025	The Britannica Dictionary Definition of “Confine” from < https://www.britannica.com/dictionary/confine > (downloaded 9/7/23).
1026	Merriam-Webster Dictionary Definition & Meaning of “Confined” from < https://www.merriam-webster.com/dictionary/confined > (downloaded 9/7/23).
1027	Cambridge English Dictionary Definition of “Confine” from < https://dictionary.cambridge.org/us/dictionary/english/confine > (downloaded 9/7/23).

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Number	Description
1028	Declaration of Pamela Keyl (October 10, 2023)

I. INTRODUCTION

Contrary to Novarad’s arguments, opinions on the perspective of a POSA are admissible only when offered *by a POSA*. Having waived the right to challenge Medivis’s definition of a POSA, Novarad argues for the first time in its opposition that Mulumudi and Rosenberg each qualify as a POSA—without explaining how either satisfies the undisputed definition. Novarad has never argued any definition of a POSA in this matter, and neither of its experts qualifies as a POSA under the other’s *post hoc* definitions in their supplemental declarations.

Neither Mulumudi’s “perspective of an actual medical doctor” nor Rosenberg’s alleged “understanding of augmented reality” (Opp., 1) is sufficient to qualify them as a POSA. Novarad does not argue that either proposed expert has the required AR device experience. Because neither expert qualifies as a POSA, their opinions regarding the perspective of a POSA must be excluded. The Board must, therefore, exercise its gatekeeping role and exclude both Mulumudi’s and Rosenberg’s opinions (as declared in Exhibits 2002, 2004, 2008, and 2009) because they lack the relevance and reliability required for admission.

II. NOVARAD ADMITTED ALL OF MEDIVIS’S MATERIAL FACTS

Rule 42.23(a) **requires** that any opposition to a motion that contains a statement of material facts (SOMF) include “a listing of facts that are admitted, denied, or cannot be admitted or denied” and provides that “[a]ny material fact not

specifically denied may be considered admitted.” Even though, in its motion to exclude (MTE), Medivis specifically notified Novarad that “[a]ny material facts not specifically denied should be deemed admitted” (MTE, 15), Novarad did not specifically deny *any* of the facts in Medivis’s SOMF and therefore all of the facts in Medivis’s SOMF should be deemed admitted.

III. ADMISSIBILITY OF EXPERT TESTIMONY IS GOVERNED BY THE FEDERAL RULES AND CASELAW

The Federal Rules require the Board to address admissibility of expert testimony *before* any consideration of the weight of that evidence. *See* MTE, 7-9. Novarad admits that Rule 702 applies in an IPR. *Opp.*, 4 (citing FRE 702). The Federal Circuit further requires that to opine on the perspective of a POSA, “an expert must ... possess ordinary skill in the art.” *Kyocera Senco Industrial Tools Inc. v. ITC*, 22 F.4th 1369, 1377 (Fed. Cir. 2022). The cases that Novarad cites, for the incorrect proposition that challenges to an expert’s qualifications go to weight not admissibility, conflict with the controlling Federal Circuit precedent and Rule 702, as clarified in the recent amendment.

IV. MEDIVIS’S DEFINITION OF A POSA IS UNDISPUTED

Novarad has never disputed Medivis’s POSA definition and has not proposed a specific definition of its own, likely because no reasonable definition would qualify both of its proffered experts. Mulumudi’s and Rosenberg’s proposed definitions conflict with each other. *See* Ex. 2009, ¶ 5; Ex. 2008, ¶ 5.

Mulumudi does not qualify under Rosenberg’s definition (Ex. 2008 ¶ 5, requiring academic degrees that Mulumudi does not have), and Rosenberg does not qualify under Mulumudi’s (Ex. 2009 ¶ 5, requiring familiarity with “conventional medical imaging data and visualization of that data for use during a medical procedure,” which Rosenberg never claimed). This conflict confirms that Novarad’s experts did not apply consistent or correct standards when opining on the perspective of a POSA. And as discussed below, neither qualifies under Medivis’s definition, the only definition either party actually proffered in this case.

V. THE MULUMUDI DECLARATION SHOULD BE EXCLUDED

The undisputed definition of a POSA requires “a bachelor’s degree in computer science, electrical engineering, or a related field.” But “Mulumudi is not a computer science or electrical engineering major.” Opp., 7. Mulumudi’s medical degree does not qualify as a degree “related” to computer science or electrical engineering, and Novarad’s speculation that “the [required] undergraduate degrees would not alter [Mulumudi’s] opinion” (*id.*) is irrelevant and further demonstrates the unreliability of those opinions.

Another requirement for a POSA is “several years of experience in the design, development, and study of augmented reality devices.” Novarad makes much of Mulumudi’s experience with “augmented reality with biofeedback.” Opp., 2, 7. But while Mulumudi’s CV uses the words “augmented reality” in two

headings, the underlying descriptions of his actual experience include only VR. *See* Ex. 2003, 1, 3 (discussing only VR experience). According to Novarad, “VR solutions are not solutions to the challenges of projecting medical imaging onto a real patient in an AR environment.” Sur-reply, 20, 22 (citing Ex. 2004, ¶ 119). Novarad cannot now conflate AR and VR to qualify Mulumudi.

Mulumudi claims that he qualifies as a POSA because “the ’271 Patent does not disclose new hardware, but new software.” Opp., 8. But, unlike the degree required by the undisputed POSA definition, Mulumudi’s medical degree does not prove an understanding of AR device software. Mulumudi, therefore, does not qualify as a POSA because he lacks necessary qualifications and experience.

Additionally, Mulumudi was not familiar with the *3D Slicer* software application. Ex. 1022, 130:6-8, 131:3-6, 131:7-10. As even Novarad admits, a POSA is “presumed to have known the relevant art at the time of the invention.” Opp., 3. Medivis’s petition stated “[a] POSA would have been familiar with the 3D Slicer application and its ability to load and display data for a user.” Pet., 17 (citing Ex. 1012, ¶ 41). Contrary to Novarad’s argument, this is not a new addition to the POSA definition. Rather, Mulumudi’s lack of familiarity with this widely-known application shows that he is not a POSA because he is unfamiliar with all of the relevant art. And even if Mulumudi qualified as a POSA, to reliably opine on obviousness, he would at least need to be familiar with the cited references. He

was not. Ex. 1022, 150:10-21. His declaration should be excluded.

VI. THE ROSENBERG DECLARATION SHOULD BE EXCLUDED

Novarad admits that Rosenberg lacks experience with “augmented reality devices.” Opp., 12 (citing Ex. 2008, ¶ 5). Rosenberg admitted that he is “not an expert in the specifics of medical imaging.” Opp., 14 (citing Ex. 2004, ¶ 79). Contrary to Novarad’s suggestion (Opp., 13-14), Rosenberg’s work in “application areas, including ... healthcare,” and his corporate experience related to digital stethoscopes and medical records—which are not AR devices—do not demonstrate a familiarity with conventional medical imaging data and visualization. For example, a stethoscope collects audio—not imaging—data. *See, e.g.*, Opp., 6 (“acoustic collection system [e.g., stethoscope]”). He is not a POSA and his declaration should be excluded.

VII. CONCLUSION

Because neither of Novarad’s experts qualifies as a POSA here, the Board should exclude Novarad’s proffered opinions (as stated in Exhibits 2002 and 2004, as well as their supplemental declarations, Exhibits 2008 and 2009). If admitted, each opinion should be given no weight. All of the material facts in Medivis’s motion should be deemed admitted.

Respectfully submitted,

Dated: January 16, 2024

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Patent No. 11,004,271

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CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the foregoing Reply in Support of Petitioner's Motion to Exclude—excluding the Table of Contents, the Table of Authorities, the Table of Exhibits, this Certificate, and the Certificate of Service (which are excluded from the word count by 37 CFR 42.24(c))—includes 5 pages or less in accordance with 37 CFR 42.24(c)(2).

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Reply in Support of Petitioner's Motion to Exclude (including the Certificate of Compliance) was served on January 16, 2024 by transmitting a copy by e-mail to the email addresses of the patent owner's attorneys of record in the patent owner's latest mandatory notice:

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