

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDIVIS, INC.
Petitioner

v.

NOVARAD CORP.
Patent Owner

Inter Partes Review No. IPR2023-00042
US Patent No. 11,004,271

Inter Partes Review No. IPR2023-00045
US Patent No. 10,945,807

SUPPLEMENTAL DECLARATION OF PETER KAZANZIDES, Ph.D.

1. I, Peter Kazanzides, Ph.D., have been working with the 3D Slicer platform for almost two decades. During that time, I have personally taken advantage of 3D Slicer training and documents.

3D Slicer Background

2. In 2012, several people involved in the development of 3D Slicer wrote an article “to serve as a brief summary and introduction to 3D Slicer capabilities.” Exhibit 1020, A. Federov et al., “3D Slicer as an image Computing Platform for the Quantitative Imaging Network,” 30 MAGNETIC RESONANCE IMAGING 1323-1341 (2012). The 2012 article notes that “Over the years, 3D Slicer has gained broad acceptance in the medical imaging research community.” Exhibit 1020 at 1339 col. 2.

3. The 2012 article explained that “3D Slicer is a free open-source extensible software application for medical image computing and visualization. Slicer emerged as a culmination of several independent projections that focused separately on image visualization, surgical navigation and graphical user interface (GUI).” Exhibit 1020 at 1324 col. 1.

4. The 2012 article includes a 3D Slicer trademark. Exhibit 1020 at FIGS. 2, 4, and 5.

5. The 2012 article explained that “Documentation, training and user support are high priorities for the Slicer community. Hands-on training sessions are organized regularly as part of ongoing outreach initiatives at major conferences, such as the annual Radiological Society of North American (RSNA), Medical Image Computing and Computer Assisted Interventions (MICCAI) and International Society for Optics and Photonics (SPIE) meetings, or in response to request by host institutions at both national and international venues. ... Remote learning of 3D Slicer is supported by online resources and community mailing lists. Focused training materials that include sample data sets and step-by-step instruction are available for basic Slicer operation as well as advanced workflows.” Exhibit 1020 at 1327 col. 2.

6. As to how to learn more about 3D Slicer, the 2012 article explained that “Various training and support resources are available to the users and developers to ease the learning curve. ... The interested reader is encouraged to explore the various resources available from the home page of the 3D Slicer project: <http://slicer.org>.” Exhibit 1020 at 1327 col. 2.

7. The version 4.x Acknowledgements on the 3D Slicer website requests that users cite both “the Slicer web site (<http://slicer.org>) and [the 2012 article]” to acknowledge 3D Slicer as a platform. Exhibit 1017, “Documentation/4.x/Acknowledgements,” available at <www.slicer.org/wiki/Documentation/4.x/Acknowledgements>, 2.

8. By 2015, 3D Slicer was recognized as a “well-known, free and open-sourced software package ... for visualization and medical image computing.” Exhibit 1009 at 131 col. 1. Any written discussion of 3D Slicer typically included the “<http://www.slicer.org>” website address as a source for information on 3D Slicer. See, e.g., Exhibit 1009 at 131 col. 1.

9. According to Exhibit 1009 (in both IPR2023-0042 and IPR2023-00045), in the “several years [before 2015], many research groups ha[d] developed loadable extension modules based on 3D Slicer, for example, DicomRtExport module enables basic DICOM RT studies to local storage” Exhibit 1009 at 8.

Exhibit 1007 in IPR2023-00042 — 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) (“3D Visualization”)

10. Exhibit 1007 in IPR2023-0042 is entitled “3D Visualization of DICOM Images for Radiological Applications.” (All references to Exhibit 1007 hereinafter refer to Exhibit 1007 in IPR2023-00042). Part II of Exhibit 1007

describes “3D Data Loading and visualization of DICOM images.” Exhibit 1007, 1st Slide 3. Exhibit 1007 references the use of four “DICOM” datasets. Exhibit 1007, 2d Slide 3.

11. Exhibit 1007 is the PDF available from the 3D Slicer website at https://www.slicer.org/w/img_auth.php/3/3a/3DVisualizationDICOM_SoniaPujol.pdf. Exhibit 1007 directs users back to “www.slicer.org.” Exhibit 1007, at Slide 126.

12. Exhibit 1007 identifies itself as a “tutorial.” Exhibit 1007 at Slides 2, 58, 60-78. Exhibit 1007 includes the 3D Slicer trademark on many pages. See, e.g., Exhibit 1007 at Slides 6, 7, 10, 17, 18, 19, 22-30, 32-36, 121.

13. Exhibit 1007 identifies the Surgical Planning Laboratory (SPL) of Brigham and Women’s Hospital, Boston, Massachusetts as its publisher. The version 4.x Acknowledgements on the 3D Slicer project website identify “SPL” as a group “Contributing to the Core Engineering of Slicer in a Major Way.” Exhibit 1017, at 2. Exhibit 1007 includes the “SPL” trademark on every page. Exhibit 1007 includes “©2012-2014 Surgical Planning Laboratory, ARR” on almost every page.

14. Exhibit 1007 states that “Slicer started as a research project between the Surgical Planning Lab [(SPL)] (Harvard) and CSAIL (MIT).” Exhibit 1007, Slides 9, 10. According to the 2012 article introducing 3D Slicer, “Since 1999,

Slicer ha[d] been under continuous development at the SPL” Exhibit 1020 at 1324 col. 1.

15. Exhibit 1007 discloses that, as of 2014, 3D Slicer is a “Multi-institution effort to share the latest advances in image analysis with the clinical and scientific community.” Exhibit 1007, Slide 10.

16. Exhibit 1007 identifies its authors as S. Pujol, Ph.D., Kitt Shaffer, MD, Ph.D., and Ron Kikinis, MD. Exhibit 1007 at Slide 2.

17. Exhibit 1007 author Sonia Pujol, PhD, is also one of the authors of the 2012 article. Exhibit 1020. The version 4.x Acknowledgements on the 3D Slicer project website identify Sonia Pujol as the “Director of Training.” Exhibit 1017, at 2. Exhibit 1007 directs “Questions and comments [to] spujol@bwh.harvard.edu.” Exhibit 1007, at Slide 126.

18. Exhibit 1007 author Ron Kikinis, MD, is also one of the authors of the 2012 article. Exhibit 1020. According to the 2012 article introducing 3D Slicer, “Since 1999, Slicer ha[d] been under continuous development ... under the leadership of Ron Kikinis.” Exhibit 1020 at 1324 col. 1. The version 4.x Acknowledgements on the 3D Slicer project website identify Ron Kikinis as the “Principal Investigator.” Exhibit 1017, at 1. Exhibit 1007 references “PI: Ron Kikinis, M.D.” Exhibit 1007, at Slide 11.

19. The 2012 article states: “Since its inception in the late 1990s, 3D Slicer has been evolving, with major architectural, functional and GUI redesigns occurring every 4-5 years. The current (fourth) generation of Slicer was released in November 2011.” Exhibit 1020 at 1327 col. 1.

20. Exhibit 1007 discloses “Slicer Training events” at three major international conferences in 2014: RSNA, MICCAI, and SPIE. Exhibit 1007 at Slide 14. Exhibit 1007 discloses that a hands-on refresher course at RSNA included “3D Visualization of DICOM Images for Radiological Applications,” which is the title of the tutorial itself. Exhibit 1007, at Slide 15. Exhibit 1007 references a 2014 RSNA directory: “c:\3DSlicerData_RSAN2014\3DVisualizationDICOM_Monday_Dec1.” Exhibit 1007, at Slide 107.

21. Exhibit 1007 introduces the user to “3DSlicer version 4.3.” Exhibit 1007 at Slide 7. Exhibit 1007 welcomes the user to “Slicer4,” and more particularly to “Slicer4.3.1” and “Slicer4.3.1.1.” Exhibit 1007 at Slides 17, 19, 20. Exhibit 1007 discloses Slicer4 download stats up to September 2014. Exhibit 1007 at Slide 10.

22. The 2012 article explained that “Wiki-based Web pages accompany every module of the 3D Slicer, providing reference documentation of functionality and usage examples.” Exhibit 1020 at 1327 col. 2.

23. The Release Details available on the 3D Slicer website confirms the 2012 article's statement that the fourth generation of Slicer was released in November 2011. Exhibit 1018, "Release Details – Slicer Wiki" available at <https://www.slicer.org/wiki/Release_Details#Slicer_4.6.0>, at 8 (version 4.0.0 released 2011/11/27). The Release Details disclose that 3D Slicer version 4.3 was released in 2013, and 3D Slicer version 4.4 was released in November of 2014. Exhibit 1018 at 4-5.

24. Additionally, I have reviewed pages 1-6 and 408-531 of Exhibit 1023. I have compared pages 408-531 of Exhibit 1023 to Exhibit 1007 in IPR2023-00042. Based on that comparison, I can confirm that this authenticated Page Vault capture at pages 408-531 of Exhibit 1023 is the same as Exhibit 1007 except for what appears to be added exhibit markings.

25. Additionally, I performed a google search for the phrase "3D Visualization of DICOM images for Radiological applications" which is the title on the face of Exhibit 1007.

26. I then limited the date range of this search to January 1, 2012 – December 31, 2014 and reviewed the first page of the results. I can confirm that Exhibit 1019 is consistent with the first page of results for that search, and that the first result is the same.

27. I note that the first search result on Exhibit 1019 is the URL for Exhibit 1007 and for pages 408-531 of Exhibit 1023. See, e.g. Exhibit 1023, at 2. I visited this URL and confirmed that it directs to the same document as Exhibit 1007 and pages 408-531 of Exhibit 1023.

28. I note that the first search result displayed in Ex. 1019 shows the date September 30, 2014 for the URL that directs to Exhibit 1007 and pages 408-531 of Exhibit 1023. It is my understanding from Google development documents that dates for Google search results are determined “using a variety of factors, including but not limited to: any prominent date listed on the page itself or dates provided by the publisher through structured markup.” See <<https://developers.google.com/search/blog/2019/03/help-google-search-know-best-date-for>>.

29. Because the document that appears at this URL, Exhibits 1007 and pages 408-531 of Exhibit 1023, does not include the date “September 30, 2014” on the face of the document, it is my conclusion that this date was provided by the publisher through structured markup at the time it was published and therefore that this document became publically available on or around that date, September 30, 2014.

30. Based on all of the foregoing, in my opinion, Exhibit 1007 in IPR2023-00042 is a 3D Slicer tutorial that was made available to interested people in 2014.

Exhibit 1004 in IPR2023-00045 — 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) (“3D Visualization”)

31. I have compared Exhibit 1004 in IPR2023-00045 with Exhibit 1007 in IPR2023-00042. Based on my comparison, I conclude that Exhibit 1004 in IPR2023-00045 is the same as Exhibit 1007 in IPR2023-00042 except for what appear to be added exhibit numbers. Accordingly, all of the statements above regarding Exhibit 1007 in IPR2023-00042 also apply to Exhibit 1004 in IPR2023-00045.

32. I have compared pages 408-531 of Exhibit 1023 to Exhibit 1004 in IPR2023-00045. Based on that comparison, I can confirm that this authenticated Page Vault capture at pages 408-531 of Exhibit 1023 is the same as Exhibit 1004 in IPR2023-00045 except for what appears to be added exhibit markings.

33. Based on all of the foregoing, in my opinion, Exhibit 1004 in IPR2023-00045 is a 3D Slicer tutorial that was made available to interested people in 2014.

**Exhibit 1010 in IPR2023-00045 — Main Application GUI for 3D Slicer
<<https://www.slicer.org/wiki/Documentation/4.6/Slicer/Application/MainApplicationGUI>> (last edited 7 November 2016) (“3D Slicer”)**

34. Exhibit 1010 in IPR2023-00042 is a print out of a Slicer Wiki webpage available from the 3D Slicer website at <https://www.slicer.org/wiki/Documentation/4.6/SlicerApplication/MainApplicationGUI>. (All references to Exhibit 1010 hereinafter refer to Exhibit 1010 in IPR2023-00042). Exhibit 1010 includes the 3D Slicer trademark. Exhibit 1010, at 1.

35. Exhibit 1010 refers the reader to a different website address “[f]or the latest Slicer documentation” Exhibit 1010, at 1.

36. Exhibit 1010 is entitled “Documentation/4.6/SlicerApplication/MainApplicationGUI.” Exhibit 1010, at 1. Based on the title, I understand that it was written about the Main Application GUI for 3D Slicer version 4.6.

37. Exhibit 1010 discloses that it “was last edited on 7 November 2016, at 8:06.” Exhibit 1010, at 7.

38. The Release Details disclose that 3D Slicer version 4.6 was last released on November 8, 2016. Exhibit 1018 at 3. It makes sense that documentation of 3D Slicer version 4.6 was last edited before that version was released.

39. Furthermore, I have reviewed Exhibit 1016 and compared it to Exhibit 1010. Based on that comparison, I can confirm that the authenticated Page Vault capture is identical in all material respects to Exhibit 1010.

40. Based on all of the foregoing, in my opinion, Exhibit 1010 is documentation for a version of 3D Slicer that was made available to interested people on November 8, 2016.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code.

Date: May 22, 2023

A handwritten signature in black ink, appearing to read "P. Kazantzides", is written over a horizontal line.

Peter Kazantzides, Ph.D.