

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

Case IPR2016-01372
Patent No. 8,659,571

DECLARATION OF YON VISELL, PH.D.
IN SUPPORT OF IMMERSION CORPORATION'S
PATENT OWNER PRELIMINARY RESPONSE

1. I, Yon Visell, declare as follows:

I. INTRODUCTION

2. My name is Yon Visell. I am an Assistant Professor in the Department of Electrical and Computer Engineering and Media Arts and Technology Graduate Program at the University of California, Santa Barbara (“UCSB”).

3. I have been engaged by Immersion Corporation (“Immersion”) as an expert in connection with matters raised in the Petition for *Inter Partes* Review (“Petition”) of U.S. Patent No. 8,659,571 (the “’571 patent”) filed by Apple Inc. (“Apple” or “Petitioner”).

4. This declaration is based on the information currently available to me. To the extent that additional information becomes available, I reserve the right to continue my investigation and study, which may include a review of documents and information that may be produced, as well as testimony from depositions that have not yet been taken.

II. SUMMARY OF OPINIONS

5. The ’571 patent is entitled “Interactivity Model for Shared Feedback on Mobile Devices.” The ’571 patent is directed to a novel way of producing haptic effects in electronic devices. The fundamental insight that is described and claimed in the ’571 patent is that the user’s gesture interactions with the device

need to be tracked and analyzed in order to properly synchronize haptic feedback with a user's input. Reflecting this focus, the claims specify that both a first *and* a second gesture signal (each based on a user's gestural inputs) are used to generate something called a "dynamic interaction parameter." The petition challenges claims 1-7, 12-18, and 23-29 of the '571 patent.

6. The petition raises three grounds, each based on obviousness under pre-AIA 35 U.S.C. § 103(a). Ground 1 argues that claims 1-7, 12-18, and 23-29 of the '571 are obvious in light of U.S. Patent Application Publication No. US 2010/0156818 ("Burrough"), Ex. 1005. Based on studying the petition and the exhibits cited in the petition as well as other documents, it is my opinion that claims 1-7, 12-18, and 23-29 are not rendered obvious by Burrough.

7. Ground 2 argues that claims 1, 2, 4-6, 12, 13, 15-18, 23, 24, and 26-29 are obvious in light of U.S. Patent No. 5,734,373 ("Rosenberg '373"), Ex. 1004. Based on studying the petition and the exhibits cited in the petition as well as other documents, it is my opinion that claims 1, 2, 4-6, 12, 13, 15-18, 23, 24, and 26-29 are not rendered obvious by Rosenberg '373.

8. Finally, ground 3 argues that claims 3, 14, and 25, which concern an "on-screen signal," are obvious under the combination of Rosenberg '373 and U.S. Patent No. 6,429,846 ("Rosenberg '846"), Ex. 1006. Based on studying the petition and the exhibits cited in the petition as well as other documents, it is my

opinion that claims 3, 14, and 25 are not rendered obvious by the combination of Rosenberg '373 and Rosenberg '846.

III. QUALIFICATIONS AND EXPERIENCE

9. I obtained my Ph.D. degree in Electrical and Computer Engineering from McGill University in 2011. Before that, I received my MA in Physics from the University of Texas at Austin in 1999, and my BA in Physics from Wesleyan University in 1995.

10. Since 2015, I have worked as an Assistant Professor at UCSB. From 2013 to 2015, I worked as an Assistant Professor in the Department of Electrical and Computer Engineering at Drexel University.

11. At UCSB, I lead the RE Touch Lab as its Director and Principal Investigator. The RE Touch Lab includes six Ph.D. students and numerous affiliated researchers and undergraduate students. Some of the topics that my teams at the RE Touch Lab have explored include computational perception, such as how the mechanical signatures of contact elicit conscious perception of touch, and the creation of novel haptic devices for simulating the feel of touched objects.

12. My personal research focuses on haptic engineering, robotics, and the mechanics and neuroscience of touch. My work is motivated by creative applications in haptic human-computer interaction, sensorimotor augmentation, and interaction in virtual reality.

13. In addition to my research at the RE Touch Lab, I also teach classes, including linear and nonlinear control systems, haptics, human-computer interaction, interactive arts, artificial intelligence, and robotics.

14. I am the author of over 60 articles in journals and conference proceedings. I hold one issued patent, U.S. Patent No. 9,041,521 (“Floor-Based Haptic Communication System”), and one pending patent application (“Stretchable Tactile Sensing Array”), both pertaining to haptic technology. I am the editor of two books on virtual reality, including *Human Walking in Virtual Reality*. I have received several awards and honors, including the Google Faculty Research Award in 2016, and several best paper awards at haptics symposia. I have chaired and edited several conferences and symposia.

15. I also have experience working in industry. Before receiving my Ph.D., I worked for several years as the Principal DSP developer, audio at Ableton, a renowned music software company. Before that I worked for several years as a Research Scientist investigating speech recognition at Loquendo Inc., which is now part of Nuance.

16. My *curriculum vitae* is attached as Exhibit 2007.

17. I am being compensated by Immersion for my time spent in developing this declaration at a rate of \$400 per hour, and for any time spent testifying in connection with this declaration at a rate of \$500 per hour. My

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