

I, Roman Chertov, declare and state as follows:

1. I have been retained as an expert witness for the *Inter Partes* Review (“IPR”) of both U.S. Patent No. 7,391,791 (the “‘791 Patent”) (Ex.1001) and U.S. Patent No. 8,942,252 (the “‘252 Patent”), which have been initiated by Sonos, Inc. (“Sonos”) against Implicit, LLC (“Implicit”).

2. I previously submitted two Declarations dated March 9, 2018 (referred to herein as my “Opening Declarations”) in connection with Sonos’s Petitions for IPR of the ‘791 and ‘252 Patents.

3. I understand that, on September 19, 2018, the Patent Trial and Appeal Board (or “the Board” for short) instituted IPRs of both the ‘791 Patent and the ‘252 Patent.

4. I further understand that, on December 18, 2019, Implicit filed its Patent Owner’s Responses (or “PORs” for short) in the IPRs of both the ‘791 Patent and the ‘252 Patent along with a common set of Exhibits, which include source code produced by Implicit and an Expert Declaration of Atif Hashmi, Ph.D (Ex. 2080-2082) in which Dr. Hashmi expressed his opinion that the source code produced by Implicit practices the Challenged Claims of both the ‘791 Patent and the ‘252 Patent.

5. I have now been asked to review the source code produced by Implicit and the Expert Declaration of Dr. Hashmi and then respond to Dr. Hashmi’s

opinion that the source code produced by Implicit practices the Challenged Claims of the '791 and '252 Patents. For the reasons set forth below, I disagree with Dr. Hashmi's opinion that the source code produced by Implicit practices the Challenged Claims of the '791 and '252 Patents.

I. BACKGROUND & QUALIFICATIONS

6. My background and qualifications are set forth in my Opening Declarations.

II. COMPENSATION

7. As set forth in my Opening Declarations, I am being compensated for the time that I spend consulting on this IPR at a rate of \$270 per hour, and my compensation does not depend on the outcome of these IPR proceedings.

III. MATERIALS CONSIDERED

8. In addition to the material identified in my Opening Declarations, I have now reviewed the source code and associated documentation (including Ex. 2021) produced by Implicit, as well as the Expert Declaration of Dr. Hashmi (Ex. 2080-2082).

IV. LEGAL STANDARDS

9. As I explained in my Opening Declarations, I am not an attorney and will not offer any opinions on the law. That said, I have been informed of various

principles concerning invalidity of a patent, as well as other patent-related legal issues.

V. LEVEL OF ORDINARY SKILL IN THE ART

10. As set forth in my Opening Declarations, it is my opinion that, at the time of the alleged invention, a person having ordinary skill in the art (“PHOSITA”) in the technology area that is relevant to the ‘791 and ‘252 Patents would have had the equivalent of a four-year degree from an accredited institution (typically denoted as a B.S. degree) in computer science, computer engineering, electrical engineering, or an equivalent thereof, and approximately 2-4 years of professional experience in the fields of networked systems and networked-based applications, or an equivalent level of skill, knowledge, and experience.

11. I applied this same level of ordinary skill in the art when formulating the opinions set forth herein.

VI. CLAIM CONSTRUCTION

12. As set forth in my Opening Declarations, I used the “broadest reasonable constructions” proposed in Sonos’s Petitions for IPR of the ‘791 and ‘252 Patent, and to the extent that a claim construction was not provided for a particular claim term or phrase, I used the ordinary and customary meaning of the word(s), as would be understood by a PHOSITA in the context of the field of the invention, at the time of the invention, to construe such a claim term or phrase.

13. I interpreted the claims in the same way when formulating my opinions set forth herein.

VII. BRIEF INTRODUCTION TO DR. HASHMI'S OPINIONS

14. According to Dr. Hashmi, the source code produced by Implicit (which Dr. Hashmi refers to as the “Implicit Source Code”) “specifies a distributed system” in which devices execute “a method for synchronizing rendering of content provided by a source” between a “master rendering device” and a “slave rendering device.” *See, e.g.*, Ex. 2081 at p. 1-4.

15. Dr. Hashmi contends that the “master rendering device” (or the “master device” for short) is a particular rendering device in the “distributed system” specified by the Implicit Source Code that functions to receive media content from a source, render the received media content, and then encode and send the received media content along with corresponding “master rendering times” to one or more other rendering devices in the “distributed system.” *See, e.g.*, Ex. 2080 at ¶¶ 35-36, 51-54; Ex. 2081 at p. 1-10.

16. In turn, Dr. Hashmi contends that a “slave rendering device” (or a “slave device” for short) is a rendering device in the “distributed system” specified by the Implicit Source Code that functions to receive the encoded “master rendering times” and the encoded media content from the “master rendering device” and then adjust the received media content to “render synchronized

[media] with the master device.” *See, e.g.*, Ex. 2080 at ¶¶ 35-36, 55; Ex. 2081 at p. 4-7, 10-12, 14-18.

17. In my discussion of the Implicit Source code below, I have used the labels “master” and “slave” in the same way used by Dr. Hashmi in order to make it clear which device I am referring to when responding to Dr. Hashmi’s opinions. However, my use of these labels should not be taken to mean that I consider the devices specified in the Implicit Source Code to be “master” and “slave” rendering devices as those terms are used in the Challenged Claims of the ‘791 and ‘252 Patents.

18. Further, in my discussion of the Implicit Source Code below, I do not intend any of my descriptions of the functionality to suggest that the Implicit Source Code was actually able to be compiled or run either in 2001 or since that time. Rather, my discussion below is merely intended to articulate my understanding of how the Implicit Source Code was designed to function, without regard to whether that Implicit Source code was ever compiled or run.

VIII. IMPLICIT SOURCE CODE DOES NOT PRACTICE ‘791 PATENT

19. I respectfully disagree with Dr. Hashmi’s opinion that the Implicit Source Code practices the Challenged Claims of the ‘791 Patent for at least the following reasons, which apply to all Challenged Claims.

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