UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC. AND APPLE INC.

Petitioners

v.

CONTENTGUARD HOLDINGS, LLC

Patent Owner

U.S. Patent No. 7,774,280

Case CBM: CBM2015-00040[1]

DECLARATION OF BENJAMIN GOLDBERG, PH.D. IN SUPPORT OF PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE AND OPPOSITION TO PATENT OWNER'S CONTINGENT MOTION TO AMEND

[1] Case No. CBM2015-00160

OVERVIEW

1. I have been retained as an expert witness on behalf of Google Inc. for the above-captioned covered business method review. I am competent to make this declaration. I submitted a declaration in support of the Petition originally filed for this case (Exhibit 1014).
2. I am being compensated for my time in connection with this covered business method review at my standard consulting rate, which is $450 per hour. My compensation is not dependent on the substance of my opinions, my testimony, or the outcome of this covered business method patent review.
3. In preparing this Declaration, I have reviewed the '280 patent and the '012 Stefik patent, Patent Owner's Response, Patent Owner's Contingent Motion to Amend, Dr. Martin's declaration and the transcript of Dr. Martin's deposition.
4. In formulating my opinions, I have relied upon my experience in the relevant art. I have also considered, in formulating my opinions, the viewpoint of a person of ordinary skill in the art in early 2001. I am familiar with the level of skill of a person of ordinary skill in the art with respect to the technology at issue in June, 2001, which I understand is the earliest possible priority date for the '280 patent.

BACKGROUND AND QUALIFICATIONS

5. I am a tenured Associate Professor in the Department of Computer Science of the Courant Institute of Mathematical Sciences, New York University ("NYU"), in New York, NY. I have held this position since September 1994. From 1987 to 1994, I was an Assistant Professor in the Department of Computer Science at NYU. Since September 2014, I have been the Director of Graduate Studies for the MS programs in the Department of Computer Science, having previously served in that role from September 2009 through August 2012. I served as the Director of Undergraduate Studies for the Department of Computer Science from September 1995 through August 1998 and from September 2003 through August 2006. In addition, I held a one-year visiting professorship at the *Institut National de Recherche en informatique et en Automatique (INRIA)*, a national laboratory in France, and was twice appointed to a month-long position as an invited professor at the *Ecole Normale Supérieur*, a University in Paris.

6. I received my Doctoral degree in Computer Science from Yale University, New Haven, Connecticut in 1988, having previously received Master of Science and Master of Philosophy degrees in Computer Science from Yale in 1984. My undergraduate degree from Williams College in 1982 was a Bachelor of Arts degree with highest honors in Mathematical Sciences.

7. I have taught courses at the undergraduate and graduate level in, among other things, software development, programming languages, embedded systems (including mobile devices and media devices), operating systems, object-oriented programming, hardware design, and other areas related to the technology of the '280 patent. The content of these courses (e.g. operating systems, embedded systems, etc.) includes computer security and digital content distribution.

8. In sum, I have over 30 years of experience in research and development in the areas of computer science as a professor, researcher and consultant. I consider myself to be at least a person of ordinary skill in the art, as described below.

The Next-Set-of-Rights (NSOR) Grammar Element Controls Usage Rights Creation

9. The following example illustrates how the NSOR element, as described in the U.S. Patent No. 5,634,012 (the "Stefik '012 patent" or "'012 patent"), can be used to grant the right to add, delete, or replace certain usage rights for a work after it is transported. Consider two digital works with the following rights:

Work 1	Work 2
[Play] [Copy] [Loan]	[Play] [Copy] [Loan] [Next-Set-of-Rights: (**Delete**: Copy Loan) (**Add**: Print)]

10. If the Loan right for either work is exercised, the repository will make a copy of the content and then will create usage rights for that copy either according to

the default rules (Work 1) or as specified in the Next-Set-of-Rights (Work 2). Thus, for Work 1, the repository will create Play, Copy, and Loan usage rights for the new copy of the work. This is because there is no NSOR element that modifies the default rules. *See* Ex. 1002 at 21:50-52. For Work 2, the repository will create for the new copy of the work a different set of usage rights: (i) it will create a Play usage right (same as the original copy), (ii) it will not create a Copy or Loan usage right for that copy (i.e., it will "delete" those usage rights in the copy) and (iii) it will add a "Print" usage right (not present in original copy). The different set of usage rights in the copy relative to the usage rights for the original digital work is directly attributable to actions taken by the repository when using the NSOR. In other words, the data in the NSOR directs the repository to: (i) delete the Copy and Loan usage rights from the copy (i.e., by specifying "Delete: Copy Loan") and (ii) add the Print usage right to the copy (i.e., "Add: Print").

11. The "Loan" usage right therefore specifies certain actions that can be taken on the content; namely, making a copy of the content and transferring it to another repository. For both Work 1 and Work 2, exercising the Loan right causes the same action to the content: a copy is made and loaned to another repository. But the usage rights that are created in the loaned copies are different because only one of the works has a Next-Set-of-Rights meta-right.

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