UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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CAPITOL RECORDS, LLC,   :   12 Civ. 0095 (RJS)

                                    Plaintiff,   :

-against-   :   **DECLARATION**
                                                                 OF DOUG JACOBSON
REDIGI INC.,   :
                                                                 [FILED UNDER SEAL]
                                    Defendant.   :

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DOUG JACOBSON, pursuant to 28 U.S.C. § 1746, declares as follows:

1.   I am employed as a Professor of Electrical and Computer Engineering at Iowa

State University and as the Director of the Iowa State University Information Assurance Center.

In addition, I am the founder of Palisade Systems, a high-tech computer security company, and

served as Chief Technical Officer for that company until 2010. I submit this declaration on

behalf of Plaintiff Capitol Records, LLC ("Capitol") in opposition to the motion for summary

judgment by Defendant ReDigi, Inc. ("ReDigi").

Qualifications and Background

2.   My employment with Iowa State University began in 1982 as a computer

programmer. I completed my Ph.D. in Computer Engineering with a focus in computer

networking in December 1985. In January 1986, I was hired by the Department of Electrical and

Computer Engineering as an Assistant Professor to teach and research in the area of computer

networks. Since that time, I have taught over 25 classes in computer networks at both the

undergraduate and graduate level.

3.   I have received over $5 million in funding for my research, and have written

several articles and made more than 50 presentations on computer security and networks at

conferences, workshops and various meetings.

4.   I hold two patents in the area of computer network security and have won two R&D 100 awards for technologies I developed at Palisade Systems. In the early 1980's, I wrote software, which was used by ISU for several years, to transfer data from personal computers to mainframe computers.

5.   A copy of my CV is attached hereto as Exhibit A.

Analysis of ReDigi Technology

6.   I have reviewed the Declarations of Larry Rudolph, Jonathan Lin and Colin Worth submitted by ReDigi in support of its summary judgment motion. These declarations contain technical descriptions of ReDigi's process of "data migration," which is a familiar term in computer programming and which by its very nature results in copying. Although ReDigi has chosen one among many available methods of migrating (i.e., copying) data from a personal computer to a cloud server, the programming steps described in these declarations are consistent with the general processes and steps of data migration and copying known to computer programmers.

7.   The process of "migrating" data from a user's hard drive to a cloud service generally involves several steps, each of which can be performed using different methods. These general steps are as follows:

(1)   The first step is reading the source data from the user's hard drive. This step involves opening the file and then copying the data from the user's hard drive using the "file read" function, provided by the computer's operating system, into computer memory. The file is typically copied into memory one part (block) at a time.

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(2) Once the data block is in memory, the format of the data or even the data itself (for example, if it needs to be encrypted) can be modified. This step is optional and depends on the method of copying the data to the cloud.

(3) The next step is to copy the data across the network. There are many different ways this can be accomplished, including using the HTTP POST request referenced in paragraph 20 of Mr. Lin's declaration and paragraph 21 of Mr. Worth's declaration. During this step, data is copied from the computer memory onto the network. Once the data is in the network, it is transferred to the cloud server and copied from the network into the cloud server memory.

(4) When the data arrives at the cloud server, the data may require translation to convert the data to the cloud storage format (for example, storing the data into a database) or to reverse the translation performed during step 2 of the process

(5) The final step is to write the data to the cloud service hard drive. In this step, the data is copied to the cloud server storage from the cloud server's memory using the "file write" function.

8. The process of data migration necessarily produces a copy of the user's file on the cloud server. Indeed, it is common for computer experts to use the terms "data migration" and "data copying" interchangeably. Often data copying does not involve steps 2 and 4, or these steps are very simple. It should also be noted that steps 4 and 5 can be performed after steps 1 through 3 have been completed and all of the data blocks have been copied across the network. This is common if step 4 requires the contents of the entire file before the file can be translated.

9. The declarations submitted in this case by ReDigi outline a process that is fully consistent with the general steps of data migration described above. Paragraphs 16, 17 and the

first two sentences of 19 of the Lin declaration, and paragraphs 17, 18 and the first two sentences of paragraph 20 of the Worth declaration, describe a process corresponding to step 1 in which a file is selected, opened and copied into memory.

10.   Paragraph 18 of the Lin declaration and paragraph 19 of the Worth declaration match step 2 of the data migration process outlined above. The format of the data has been modified by reading the "Eligible File" into memory in reverse order.

11.   Paragraph 20 of the Lin declaration and paragraph 21 of the Worth declaration correspond to step 3 of the data migration process, in this case using the HTTP POST command.

12.   The second sentence in paragraph 23 of the Lin declaration and paragraph 24 of the Worth declaration describe a process that matches steps 4 and 5 of the general data migration process outlined above. The Eligible File is converted back into its original format and copied to the cloud service hard drive.

13.   The process described in ReDigi's declarations results in a copy of the user's "Eligible File" on the ReDigi cloud. The specific method in which this is accomplished – sending blocks of data in reverse order – does not change the basic operations described above in any meaningful way, but rather reflects one particular means of accomplishing the general task.

14.   The declarations of Mr. Lin and Mr. Worth also describe an extra step that ReDigi takes after the data has been read into computer memory. This step involves using the "SetEndOfFile" command (in the Windows operating system) or truncating the file (in the MAC operating system). This extra step is nothing more than a method to delete the file on the user's hard drive one block at a time. After ReDigi has read the final block of data into memory, thereby ensuring the copying of the entire file, the last "SetEndOfFile" command deletes the last remaining block of the file from which a copy has been made. If ReDigi did not truncate the file

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using the commands described in paragraph 19 of the Lin declaration and paragraph 20 of the Worth declaration, the user's "Eligible File" would remain on the user's hard drive after the copy of that file had been delivered to the ReDigi cloud.

15.   While ReDigi's declarations state that the process of migration has been accomplished without copying and without deletion of the Eligible File, these assertions are contrary to the very process the declarations describe and to the industry standard terminology. The "Eligible File" has been copied from the user's hard drive during the data migration process as described in the declarations. The process of "data migration" described by ReDigi constitutes data copying the "Eligible File" from the user's hard drive, and the act of truncating the file a block at a time deletes the file from which the copy has been made from the user's hard drive.

16.   In fact, if the electronic file had somehow been "moved" as ReDigi claims, there would be no need for the deletion operation at all. However, inasmuch as it is not technologically possible to transport magnetic data physically from one server to another (and I understand ReDigi concedes it has not invented some new method of transport or uploading), ReDigi apparently deletes the "Eligible File" from the user's hard drive.

17.   In short, while ReDigi uses technical synonyms to describe its migration process, the realities and limitations of data transfer and the Internet establish that ReDigi's process involves both copying and deletion of music files.

I DECLARE UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT. EXECUTED ON AUGUST 9 , 2012 AT AMES, IOWA.

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DR. DOUG JACOBSON