Andrew P. Bridges (SBN: 122761)
Jennifer A. Golinveaux (SBN: 203056)
WINSTON & STRAWN LLP
101 California Street, 39th Floor
San Francisco, CA 94111-5894
Telephone: 415-591-1000
Facsimile: 415-591-1400

Attorneys for Defendant
GOOGLE INC.

Winston & Strawn LLP
101 California Street
San Francisco, CA 94111-5894

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

PERFECT 10, INC., a California Corporation Plaintiff, vs. GOOGLE INC., a corporation; and DOES 1 through 100, inclusive Defendant.	Case No. CV04-9484 AHM (SHx) **DECLARATION OF JOHN R. LEVINE IN SUPPORT OF GOOGLE'S OPPOSITION TO PERFECT 10'S MOTION FOR PRELIMINARY INJUNCTION** Date: November 7, 2005 Time: 10:00 a.m. Courtroom: 14 Hon. A. Howard Matz

I, John R. Levine, hereby declare pursuant to 28 U.S.C. § 1746 as follows:

BACKGROUND AND QUALIFICATIONS

1. I was awarded a BA in Computer Science in 1975 and a PhD in Computer Science in 1984, both from Yale University. The topic of my thesis was *A Data Base System for Small Interactive Computers*.

2. From 1981 to 1987 I worked as a professional computer developer, writing a variety of software including personal computer applications, computer operating system and development software, and data base applications. Since 1987 I have been a self-employed writer and consultant, formerly doing business under the name I.E.C.C. and now under the name Taughannock Networks (pronounced ta-

GONN-ick). My curriculum vitae is attached as Exhibit A to this report.

3. I have written or co-authored many books on the Internet and other topics. These include ten editions of *The Internet for Dummies*, first published by IDG Books in 1993, and now published by Wiley Publishing. With over seven million copies in print in over a dozen languages, it has for many years been the world's best selling book on the Internet. Other general interest books I have authored include *Internet Privacy for Dummies, E-mail for Dummies, Poor Richard's Building Online Communities*, and *Windows XP: the Complete Reference*.

4. I have also written or co-authored a variety of technical computer books. These include Graphics File Formats, 2nd edition published by TAB/McGraw-Hill in 1994, and Programming for Graphics Files in C and C++ published by Wiley in 1994. Both of these books feature coverage of the JPEG (Joint Photographic Experts Group) image format used for most photographic images on the Internet, including the ones at issue in this case.

5. Since early 2005 I have been a member of the At Large Advisory Committee (ALAC) of ICANN, the Internet Corporation for Assigned Names and Numbers. ICANN is the organization to which the United States Department of Commerce has delegated the oversight of Internet domain names. The ALAC consists of ten members from around the world charged with representing the interests of Internet users in ICANN's deliberations and processes. I am one of three members from North America.

SCOPE OF WORK

6. I was asked by counsel for Google Inc. to describe the operation of search engines such as Google and to comment on the declaration of Norman Zada dated August 19, 2005. I am being paid $400/hour for my services in this case.

THE WORLD WIDE WEB AND WEB SEARCH ENGINES

7. The World Wide Web is an open, network service that operates over the Internet by means of the hypertext transfer protocol ("HTTP"), which enables the

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linking of a vast number of documents across the Internet. "Browser" software programs such as Internet Explorer and Netscape enable the transfer and display, across the web, of pages that are formatted using Hypertext Markup Language ("HTML") as well as images, word processing documents, and other files. The web operates through a massive collection of links that connect resources and users in countless ways. The web is not under the control of any individual or entity. It operates through the collaboration of many interests. No single person or entity can control access to, or conduct on, the web, unlike closed systems such as AOL or Napster.

8. The development of web search engines has been a key part of the development of the Internet. In the 1993 first edition of *The Internet for Dummies* I wrote:

> [T]he Internet is real big. So big, that finding all of the swell stuff that's available for the taking is itself a daunting task. (Imagine a very large library with no card catalog, and each shelf arranged independently by the person who brought in the books on that shelf.)

9. In that 1993 book I devoted four chapters to the tools then available to locate material on the Internet. By comparison to today's standards, the tools in 1993 were primitive. Moreover, the web was just then becoming known to the public, and the first popular web browser was released that year to take advantage of the broad linking functions of the web.

10. In the ensuing years the web emerged as powerful system for making information accessible via the Internet. A variety of search engines such as Lycos, AltaVista, Yahoo, and Google were developed to provide the function of a card catalog for the Internet, to enable users to find the resources already available online.

11. Search engines have traditionally fallen into two categories, (1) manually maintained directories and (2) automatically maintained indexes.

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12. The first approach to Internet search was via directories, of which the best known is Yahoo's directory. Directories resemble physical card catalogs in that they are organized into categories, and human editors manually create the entries and assign them to the categories. Whether a directory is maintained by professionals, as Yahoo's is, or by volunteers, as is the Open Directory Project (ODP) (located online at www.dmoz.org), the size and timeliness are limited by the ability of the editors to locate sites and update the directory. The largest directory, ODP, has only about five million entries, meaning that it lists far less than one percent of the available web pages. I edit a few ODP categories, and only update the listings once a week, a schedule that I believe to be typical of directory updates.

13. The second approach to Internet search was via web indexes which are more like the index in the back of a book, listing all of the places a given term appears. Early indexes included Lycos, HotBot, and AltaVista. Unlike directories, web indexes are created and maintained by automated software. A specialized web program known as a spider fetches web pages, notes the contents of the pages for the index, and follows the links in the web pages it finds to locate more pages to visit. An effective spider, such as Google's Googlebot, can visit far more web pages than any group of human editors could, to collect the raw material for the index. Search engine software takes the web pages found by its spider, extracts the textual material (as opposed to formatting codes) from them, and uses that material to compile the index. The entire process is automated, so that indexes are constantly expanded and updated as the spider visits web pages. This allows indexes to be far more comprehensive and detailed than manually maintained directories. For example, I maintain a web site at compilers.iecc.com that includes an archive of an online discussion group, with over 28,000 messages in the archive. The ODP has only a single entry for the site, but Google's index includes each archived message. Users of Google's search engine can find individual relevant messages in my archive by searching for terms in the messages themselves.

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14. Google's search engine systematically and comprehensively explores the World Wide Web, retrieves and stores information (web pages and other files) located across the entire web, indexes those pages and files, and delivers to users search results based on the likely relevance of those pages and files to search terms entered by users. Google's has become the best known search engine, due to a combination of the size of its index and its proprietary PageRank system returns the most relevant pages for a search. Google says that it indexes more than eight billion pages, making it more than a thousand times larger than ODP. In my experience, Google's index is the largest and most usable one available, and is the one I prefer to use for online research. The variety of its research uses is immense and Google is a staple educational resource.

15. Google's search engine is fast and can detect changes on the web remarkably quickly. I have observed the Googlebot fetch a page from my web server within a few minutes of publishing a link to the page, and then found the page in the Google search engine less than a minute after that.

WEB PAGES AND THE GOOGLE WEB PAGE CACHE

16. Web sites are collections of web pages. Web pages in turn typically are not unitary documents but consist of multiple elements. The primary file for a web page (the one whose URL is displayed in the address bar of the browser) consists of the text portion of the web page, interspersed with instructions in the HTML (Hypertext Markup Language) programming language that control the layout of the displayed page, including the locations of any displayed images. Each image that appears on a web page is in a separate file fetched from a web server. Each image has a URL of its own, and it need not be on the same server as the main web page.

17. A web browser such as Internet Explorer or Netscape fetches the page and the referenced elements from various locations combines the elements to produce the displayed page. Each element has a URL (Uniform Resource Locator), a name that uniquely identifies the location of the element on the Internet and can be used by

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browsers to locate and fetch the element. For example, I can locate my personal home page by typing http://www.johnlevine.com/index.phtml into a browser's address field. The first part, http://, means that the page can be fetched using HTTP (Hypertext Transport Protocol), the standard method used on the web. The second part, www.johnlevine.com, is the name of the server that contains the page, and the third, index.phtml, identifies the location of the page on that server. Another element in that page is a small photograph of myself; which is stored separately at the URL http://www.johnlevine.com/jrl-tiny.jpeg.

18. Early web indexes fetched web pages, extracted information for the index, and then discarded the contents of the web pages. As web indexes became more sophisticated, this simple approach became unworkable. For example, as new pages are added to the index, the page ranking scheme may need to refer to the contents of previously indexed pages to determine the relative positions to assign in the index. One possibility would be to refetch a page each time its contents were needed, but that would be extremely time-consuming. Rather than refetch every page each time an index is updated, Google keeps copies of fetched pages on its own servers, a technique known as caching the pages, and the collection of page copies is known as a cache.

19. Web caches of various sorts have long been part of web technology. Caches both lessen the load on web servers and speed up web applications. Browsers that run on user PCs have an internal cache that saves copies of recently fetched web pages and images on the user's own computer. This cache allows the browser to display cached elements immediately in the not uncommon case that the user revisits a recently fetched page or visits another page that includes a recently viewed image. Internet providers frequently keep a web cache for the benefit of their users, since fetching pages from the cache on the provider's own network is faster than fetching them from the original web server.

20. Google's web page cache serves a variety of purposes, including (among others) to document the basis on which the page is referenced in the index, to provide

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information needed by Google's search engine to assign positions in their index as mentioned above, and to identify with highlighting the search terms found in the page when the cached page is displayed to a user.

21. Since Google's web page index is based entirely on the textual part of web pages and not the images, their web page cache contains only the text pages, and not the images that those pages include when displayed. I verified this fact by examining the cached versions of some web pages with which I am familiar. Exhibit B shows Google's cached copy of page from one of my own web sites at http://net.gurus.com. At the top of the page is Google's descriptive text, and below that is my page, with a variety of pictures visible along the left side. In order to determine the provenance of those pictures, I used a feature called PageInfo of my web browser, the popular Mozilla Firefox, that displays the names of the elements that comprise the displayed page. The Page Info is shown in Exhibit C, and shows a list of the URLs of all of the images referred to by the page in Exhibit B. As can easily be seen, the images that are used in the page are the original images on http://net.gurus.com, along with one image from an online bookstore at http://www.qksrv.net which is also in the original page. If Google were showing copies of the images from a cache of its own, these addresses would refer to Google rather than to the original location.

GOOGLE IMAGE SEARCH AND THE IMAGE CACHE

22. Google provides an image search as a companion to its web page search engine. The user enters a few search words, and Google provides a page of reduced size thumbnail images. To guess what the subject of each image is, Google uses text on web pages that link to the images and the URLs of the image files. There is no image recognition technology that would allow Google to create an index or search effectively using characteristics of the images themselves.

23. Text-based image searching is an extremely inexact process. For example, when I did a Google image search for the term "honey," the search results

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included some pictures of honeycomb, some pictures of bees or beehives, some pictures of liquid honey, some ads for DVDs of a movie called Honey, and some pictures of people who are presumably named Honey. The thumbnail image index of search results let me find the images I want far more effectively than text descriptions could and it is necessary for efficient usage of the search engine.

24. Google's image search also provides an annotation bar with a slightly different technology from the one I described in the paragraph 21. If I click on any of the images in the image search results, Google links to a combined page with the thumbnail image and the URL of the page where it was found at the top, and the original page at the bottom.[1] Links in the Google area let me view the original image file alone, the original page alone, or return to the Google image search results to continue research and investigate other images. Since the images found in the index are often grouped in the original page with other related images not in the index, the combination of the indexed thumbnails, and the ability to quickly investigate the pages where the images were found make Google's image search engine a very effective research tool.

25. The Zada declaration states in paragraphs 29 through 35 that Google is

[1] To do this Google triggers a technique known somewhat misleadingly as "framing" that causes web browsers to combine multiple web pages in a single window so that different content can be viewed simultaneously, typically so that one "frame" can be used to annotate the other content or to maintain a link with an earlier web page.

When a web browser displays a page that uses frames, the browser at the top of the window usually displays the URL of the outermost web page, the one that tells the browser to divide the window into subareas and to include the pages displayed in the subareas. To illustrate this, I give an example of a web page I located using about.com, a popular research site, in searching for information about a Chinese tea ceremony. In Exhibit D, my browser displays a URL starting with http://coffeetea.about.com/, since that is the URL of the outermost page. If I were to click the link marked "Turn Off This Top Frame," the URL of the page that about.com is annotating, http://desires.com/1.4/Food/Docs/tea.html, appears. It is evident to me, and I believe that it is evident to a typical web user, that the annotation provided by about.com is independent of the main web page that they annotate.

In Google's Image Search, Google allows a user to click on a thumbnail image in its index of search results, which will cause the browser to open a frame with the underlying Web page below while Google displays information about that image above with a link to return to the index of search results.

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keeping full quality copies of images, including those purported to be in violation of Perfect 10's copyrights, in its cache, and is providing full quality images to Google users. I can find no evidence to support that claim, and I believe it to be mistaken.

26. As detailed above, the Google web page cache only contains text web pages, not images. To verify that this is true for the images at issue in this case, I attempted to find the cached pages shown in the Zada complaint, but was unable to do so, so I located a similar cached web page that displays one of the images that Perfect 10 has alleged has been stolen, shown in Exhibit E. As the text at the top of the page says, this page was a cached copy of an original page at www.eroticaland.net. Exhibit F shows the Page Info for that page, and it clearly shows that the image displayed in the cached page is located at a URL starting http://www.eroticaland.net/Stars/Photos/Sexy/monika_zsibri..., not at Google. Indeed, there are no Google images in that page at all. Even if Google were to delete the cached page, the image would remain available to web users since the image displayed in the cached page is neither on Google's servers nor under its control.

27. The Zada Declaration and the animation CD accompanying it as to Exhibit 8 make extensive references to annotated or "framed" pages. In paragraphs 29 through 31, corresponding to 1:10 to 2:26 of the animation (a player interface showing the time will be displayed if one clicks the "Esc" key during the animation), Dr. Zada describes such a page from the web site at www.3thehardway.nl. I was able to locate this page, following the procedure in paragraph 29 of the Zada Declaration, and it is clear that the page is an annotation of www.3thehardway.nl/, at the URL shown in the annotation area. It is evident to me, and I believe evident to a typical web user, that only the annotations are from Google, and the web page shown in the "frame" is from www.3thehardway.nl.

28. Dr. Zada claims in paragraph 31 that the user is viewing the image in the annotated page "without ever having to leave google.com." I find this claim extremely disingenuous. The web page displaying the image that appeared in the

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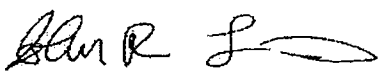
lower frame was not from google.com but was served directly from ww.3thehardway.nl, and one could navigate in the lower frame entirely independently of google.com.

29. As for the statement that one could view that frame "without ever having to leave google.com," when I viewed the page in question in my web browser, I could equally claim that I viewed the image without ever having to leave the Mozilla Firefox browser, or without ever having to leave my office in upstate New York. The actual provenance of the annotated material being displayed in the browser is clearly the underlying web site, not Google, even though the information in the top frame visible in the web browser is from Google. I have cited merely one example of where the Zada declaration and the accompanying animation are misleading, but the declaration and the animation continue in similar fashion with respect to the other "framed" pages discussed in the declaration or demonstrated in the animation.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 24, 2005.



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101 California Street
San Francisco, CA 94111-5894