**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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SERVICENOW, INCORPORATED,

Petitioner,

v.

INQUISIENT INCORPORATED

Patent Owner.

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IPR2023-01073

U.S. Patent No. 8,224,855

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**DECLARATION OF SYLVIA D. HALL-ELLIS, Ph.D.**

Dated: June 21, 2023

By:

Sylvia D. Hall-Ellis, Ph.D.

I, Sylvia D. Hall-Ellis, declare as follows:

## I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by [client], the Petitioner, in the above-captioned *inter parte* review.

2. I have written this Declaration at the request of the Petitioner to provide my expert opinion regarding the authenticity and public availability of two publications. My Declaration sets forth my opinions in detail and provides the basis for my opinions regarding the authenticity and public availability of these publications. If called to testify in the above-captioned proceeding, I will testify regarding the opinions and bases set forth below.

3. I reserve the right to supplement or amend my opinions, and bases for them, in response to any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this Declaration.

4. I am being compensated for my time spent working on this matter at my normal consulting rate of $350 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this Declaration, the substance of my opinions, or the outcome of this proceeding. I have no other interests in this proceeding or with any of the parties.

5. All the materials that I considered and relied upon are discussed explicitly in this Declaration.

## II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University in San José, California. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library and Information Science from the University of Pittsburgh in 1985. Over the last fifty years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

7. I am a member of the American Library Association (ALA) and its Association for Library Collections & Technical Services (ALCTS) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the founding Chair of the ALCTS Division's Task Force on Competencies and Education for a Career in Cataloging. Additionally, I have served as the Chair for the ALA Office of Diversity's Committee on Diversity, as a member of the REFORMA National Board of Directors, as a member of the Editorial Board for the ALCTS premier cataloging

journal, *Library Resources and Technical Services,* and as a Co-Chair of the Membership Committee for the Library Research Round Table (LRRT) of the American Library Association. Currently I serve as a member of the LRRT Nominating Committee.

8. I have also given over one hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging ("MARC") standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

9. I have been deposed twenty-eight times: (1) *Symantec Corp. v. Finjan, Inc.,* Petition for *Inter Partes Review* of U.S. Patent No. 7,613,926, May 26, 2016, on behalf of Symantec Corp.; (2) *Symantec Corp. v. Finjan, Inc.,* 14-cv-299-HSG (N.D. Cal.), on behalf of Symantec Corp., September 14, 2017; (3) one deposition for ten matters: *Intellectual Ventures I LLC v. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 12-193 (LPS); *Intellectual Ventures II LLC v. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 13-1631 (LPS); *Intellectual Ventures I LLC v. T-Mobile USA, Inc. and T-Mobile US, Inc.,* C.A. No. 13-1632 (LPS); *Intellectual Ventures II LLC v. T-Mobile USA, Inc. and T-Mobile US, Inc.,* C.A.

No. 13-1633 (LPS); *Intellectual Ventures I LLC, v. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.,* C.A. No. 13-1634 (LPS); *Intellectual Ventures II LLC v. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.,* C.A. No. 13-1635 (LPS); *Intellectual Ventures I LLC, v. United States Cellular Corporation*, C.A. No. 13-1636 (LPS); *Intellectual Ventures I LLC v. United States Cellular Corporation*, C.A. No. 13-1637 (LPS); *Intellectual Ventures II LLC v. AT&T Mobility LLC*, *AT&T Mobility II LLC, New Cingular Wireless Services, Inc.,* C.A. No. 15-799 (LPS); *Intellectual Ventures I LLC v. T-Mobile USA, Inc. and T-Mobile US, Inc.,* C.A. No. 15-800 (LPS), on behalf of AT&T Mobility LLC; AT&T Mobility II LLC, Boost Mobile, LLC Cricket Wireless LLC, Nextel Operations, Inc., New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Sprint Spectrum L.P., T-Mobile USA, Inc., T-Mobile US, Inc., United States Cellular Corporation Virgin Mobile USA, L.P., and Wayport, Inc., November 15, 2016; (4) *Hitachi Maxell, LTD., v. Top Victory Electronics (Taiwan) Co. Ltd., et al.,* 2:14-cv-1121 JRG-RSP (E.D. Texas), on behalf of Top Victory Electronics (Taiwan) Co. LTD, *et. al.,* January 20, 2016; (5) *Sprint Spectrum, L.P. v. General Access Solutions, Ltd*., Petition for *Inter Partes Review* of U.S. Patent No. 7,173,916, on behalf of Sprint Spectrum L.P., July 13, 2018; (6) *Nichia Corporation v. Vizio, Inc*., 8:16-cv-00545; on behalf of Vizio, Inc., October 12, 2018; (7) *Intellectual Ventures I*

*LLC, v. T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson*, 2:17-cv-00557 (JRG), on behalf of T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson, October 19, 2018; (8) Pfizer, Inc. v. Biogen, Inc., Petition for *Inter Partes Review* of U.S. Patent No. 8,821,873, on behalf of Pfizer, November 3, 2018; (9) Finjan, Inc. v. ESET, LLC and ESET SPOL. S.R.O., 3:17-cv-00183-CAB-BGS, on behalf of ESET, January 15, 2019; (10) *Finjan, Inc. v. Cisco Systems, Inc.,* 5:17-cv-00072-BLF-SVK, on behalf of Cisco Systems, Inc., September 6, 2019; (11) *Facebook, Inc., Instagram, LLC and Whatsapp Inc. v. Blackberry Limited*, Petition for *Inter Partes Review* of U.S. Patent No. 9,349,120 B2, on behalf of Facebook, Inc., Instagram, LLC and Whatsapp Inc. December 20, 2019; (12) *3Shape A/S and 3Shape Inc. v. Align Technology, Inc.,* Petition for *Inter Partes Review* of U.S. Patent No. 7,156,661, IPR 2020-00222 and IPR 2020-00223, August 10, 2020, on behalf of 3Shape A/S and 3Shape Inc.; (13) *Finjan Inc. v. Rapid7, Inc. and Rapid7 LLC*, Northern District of Delaware; 1:18-cv-01519-MN, September 15, 2020; (14) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255, 6:19-cv-00256, on behalf of Intel Corporation, September 23, 2020; (15) *Finjan Inc. v. Sonicwall, Inc.,* Northern District of California, 5:17-cv-04467-BLF-HRL, on behalf of Sonicwall, Inc., October 27, 2020; (16) *VLSI Technology, LLC v. Intel*

*Corporation*, District of Delaware, 1:18-cv-00966-CFC-CJB, February 5, 2021, on behalf of the Intel Corporation; (17) *Unified Patents, LLC v. Good Kaisha IP Bridge 1*, Petition for *Inter Partes Review* of U. S. Patent 7,817,868, February 11, 2021, on behalf of Unified Patents; (18) *Finjan, Inc. v. Qualsys, Inc.,* Northern District of California, 4:18-cv-07229-YGR, March 1, 2021, on behalf of Qualsys, Inc.; (19) *Qualcomm, Inc. v. Monterey Research LLC*, Petition for *Inter Partes Review* of U. S. Patent 6,534,805, May 6, 2021, on behalf of Qualcomm, Inc.; (20) *Hulu, LLC v. Sound View Innovations, LLC*, Petition for *Inter Partes Review* of U. S. Patent 5,806,062, May 14, 2021, on behalf of Hulu, LLC; (21) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255 and 6:19-cv-00256, August 3, 2021, on behalf of Intel Corporation; (22) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes Review* of U. S. Patent 10,716,793 B2, October 20, 2021, on behalf of Liquidia Technologies, Inc.; (23) *EcoFactor, Inc. v. Google, Inc.,* Western District of Texas, 6:20-cv-00075 (ADA), 6:20-0078-ADA, and 6:20-cv-00080 ADA, October 27, 2021, on behalf of Google, Inc.; (24) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes Review* of U. S. Patent 10,716,793 B2, March 11, 2022, on behalf of Liquidia Technologies, Inc.; (25) *Juniper Networks, Inc. v. Swarm Technology LLC*, Petition for *Inter*

*Partes Review* of U. S. Patent 9,852,004, May 5, 2022, on behalf of Juniper Networks, Inc.; (26) *ParkerVision, Inc. v. Intel Corporation*, Western District of Texas, 6:20-cv-108 (ADA), October 26, 2022, on behalf of the Intel Corporation; (27) *CommScope v. TQ Delta*, Petition for *Inter Partes Review* of U. S. Patents 9,094,348 and 10,833,809, February 16, 2023, on behalf of CommScope; and, (28) *WSOU Investments d/b/a Brazos v. Salesforce.com, Inc.* for Western District of Texas, 6:20-cv-01164-ADA and 6:20-cv-01170-ADA, April 18, 2023, on behalf of Salesforce.

10. My full curriculum vitae is attached as Appendix 1.

## III. PRELIMINARIES

### A. Scope of Declaration and Legal Standards

11. I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising ordinary diligence, could have located the documents on or after June 14, 2005.

12. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available such that a person interested in and ordinarily skilled in the relevant subject matter

could locate it through the exercise of ordinary diligence.

13. While I understand that the determination of public accessibility under the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered "publicly accessible" if it is cataloged and indexed by a library such that a person interested in the relevant subject matter could locate it (*i.e.*, I understand that cataloging and indexing by a library is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

14. I understand that routine business practices, such as general library

cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

**B. Persons of Ordinary Skill in the Art.**

15. I have been informed by counsel that a "person of ordinary skill in the art at the time of the invention" ("POSITA") is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of the inventions. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

16. I am told by counsel a POSITA at the time of the invention would have had at least a Bachelor's Degree in Computer Science, Electrical Engineering, or similar field of study and at least two years of research or work experience in designing or working with database systems, such as those used in software applications. This level of skill is approximate, and more experience would compensate for less experience and vice versa. I have been further informed by counsel that a person of ordinary skill in the art would have been familiar with and able to understand the information known in the art relating to these fields, including the information disclosed in the publication discussed in this Declaration.

17. It is my opinion that such a person would have been engaged in research, learning, study, and practice in the field, and formal instruction so that bibliographic resources relevant to his or her research would be familiar. After

June 14, 2005 such a person would have had access to a vast array of long-established print resources in the field as well as to a rich set of online resources providing indexing information, abstracts, and full text services.

## IV. LIBRARY PROFESSIONAL PRACTICES

18. In preparing this Declaration, I used authoritative databases, such as the OCLC bibliographic database, the Library of Congress Online Catalog, and the Library of Congress Subject Authorities, to confirm citation details of the various publications discussed. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for the serial publication discussed below.

19. *Indexing*. A researcher may discover material relevant to his or her topic in a variety of ways. One common means of discovery is to search for relevant information in an index of periodicals and other publications. Having found relevant material, the researcher will then normally obtain it online, look for it in libraries, or purchase it from the publisher, a bookstore, a document delivery service, or other provider. Sometimes, the date of a document's public accessibility will involve both indexing and library date information. However, date information for indexing entries is often unavailable. This is especially true for online indices.

20. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents.

The Library of Congress Subject Authorities includes standard forms of terms and cross references that are included in bibliographic records. Subject headings are terms that an individual seeking a document regardless of format can enter in the search bar of the online catalog. Subjects also connect an authenticated term (one included in the Library of Congress subject headings list) with related, broader, and narrower terms. The formats in which these access terms are presented vary from service to service.

21. Online indexing services commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document. A citation of a document is evidence that the document was publicly available and in use by researchers no later than the publication date of the citing document. Prominent indexing services include the *IEEE Xplore* database, the *ACM Digital Library, Google Scholar,* and the *Internet Archive*.

## V. ONLINE CATALOGS AND MARC RECORDS

22. MARC is a framework into which descriptive bibliographic data are transcribed to interact with the software in online library catalogs to provide access to books, journals, and other resources in the collection. The bibliographic data provide points of access and can be searched by a POSITA to identify and obtain

resources in the library collection. An information seeker (or POSITA) can search a local online library catalog or the holdings of a group of libraries in a state or region or in the global catalog WorldCat.

23. MARC records are not designed for public viewing. Although a significant number of libraries provide access to the MARC version of a bibliographic record, the public display is designed to show information in a succinct manner that is quickly understood and useful to the information seeker. Libraries determine the default search for the online catalog to make the entry of search terms efficient and result in a successful search. Information seekers can enter a keyword, title, author, or standard number for the item. Libraries may also provide a search capability called "Summon" that allows the information seeker to enter known information about the item to conduct a search.

24. Learning to use an online library catalog begins in elementary school and continues through high school and post-secondary studies. Undergraduate students further develop their skills to use the online catalog at the academic institution where they are studying through information literacy instruction which is provided by professional reference and user experience librarians. The skills required to search, identify, and obtain the resources identified in this Declaration/report are fundamental to using the online catalogs in libraries and information centers. Therefore, a POSITA who has attained the undergraduate

and/or graduate educational levels described above (see paragraph 17) possesses the searching and retrieval skills needed to search library catalogs.

25. Professional catalog and metadata librarians prepare and enhance MARC records to provide points of access for each item in the library collection. Using a set of internationally adopted guidelines, rules for the assignment of classification numbers, and the assignment of subject headings from standardized lists, taxonomies, folksonomies, locally developed lists. An information seeker (including POSITAs) can search the online library catalog in a number of ways to identify a specific item or resources on a defined topic.

26. The continued development of the software that supports integrated online library catalogs resulted in the potential to search by an individual creator or author, title proper or variant title, a series that contains the desired item, subjects, corporate bodies responsible in part for the creation of an item, or standard identification numbers associated with the item (e.g., International Standard Book Numbers (ISBN), International Standard Serial Numbers (ISSN), and Publisher's Numbers). Each of these data elements appears in a prescribed location within the MARC framework so that the software can parse, index, and display data elements resulting from a user-initiated search.

27. Examining the MARC records for a specific item reveals the comprehensive data transcribed about a particular item at the time that cataloging

and classification occurred. In addition to the creator, title, subjects, and standard numbers, additional information may provide additional and relevant data depending on the type of resource. Understanding the full extent of bibliographic data for an item and the points of access associated with it provides essential information that can be used to determine the indexing and public availability for documents described in this Declaration.

## VI. LIBRARY CATALOGING PRACTICES

28. I am fully familiar with the library cataloging standard known as the MARC standard, which is an industry-wide standard method of storing and organizing library catalog information.[1] MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.[2]

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[1] The full text of the standard is available from the Library of Congress at http://www.loc.gov/marc/bibliographic/ (last visited March 2, 2023).

[2] Almost every major library in the world is MARC-compatible. *See, e.g.*, *MARC Frequently Asked Questions (FAQ)*, Library of Congress, https://www.loc.gov/marc/faq.html (last visited March 2, 2023) ("MARC is the acronym for Machine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began nearly fifty years ago. It

29. Since at least the early 1970s and continuing to the present day, MARC has been the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.[3] As explained by the Library of Congress:

> You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources. Choosing to use MARC enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a "home-grown" system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.
>
> Using the MARC standard also enables libraries to

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provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today."). MARC is the ANSI/NISO Z39.2-1994 (reaffirmed 2016) standard for Information Interchange Format.

[3] A complete history of the development of MARC can be found in *MARC: Its History and Implications* by Henrietta D. Avram (Washington, DC: Library of Congress, 1975) and available online from the Hathi Trust (https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1; last visited March 2, 2023).

> make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

*Why Is a MARC Record Necessary?* LIBRARY OF CONGRESS.[4]

30. Thus, almost every major library in the world is MARC-compatible. *See, e.g.*, *MARC Frequently Asked Questions (FAQ)*, LIBRARY OF CONGRESS.[5] ("MARC is the acronym for MAchine-Readable Cataloging. It defines a data format that emerged from a Library of Congress-led initiative that began fifty years ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today."). MARC is the ANSI/NISO Z39.2-1994 standard (reaffirmed in 2016) for Information Interchange Format. The full text of the standard is available from the Library of Congress.[6]

31. A MARC record comprises several fields, each of which contains

[4] http://www.loc.gov/marc/umb/um01to06.html#part2

[5] https://www.loc.gov/marc/faq.html

[6] http://www.loc.gov/marc/bibliographic/

specific data about the work. Each field is identified by a standardized, unique, three-digit code corresponding to the type of data that follow. For example, a work's title is recorded in Field 245; the primary author of the work is transcribed in Field 100; an item's International Standard Book Number ("ISBN") consisting of ten or thirteen digits is transcribed in Field 020; an item's International Standard Serial Number ("ISSN") is transcribed in Field 022; the Library of Congress classification notation is recorded in Field 050; and the publication date is recorded in Field 260 under the subfield "c." If a work is a periodical, then its publication frequency is recorded in Field 310, and the publication dates (e.g., the first and last publication) are recorded in Field 362, which is also referred to as the enumeration/chronology field.[7]

32. The library that created the record is recorded in Field 040 in subfield "a" with a unique library code. When viewing the MARC record online via Online Computer Library Center's ("OCLC") bibliographic database, hovering over this code with the mouse reveals the full name of the library. I used this method of "mousing over" the library codes in the OCLC database to identify the originating library for the MARC records discussed in this Declaration. Where this "mouse over" option was not available, I consulted the Directory of OCLC Libraries to

[7] http://www.loc.gov/marc/bibliographic/bd3xx.html

identify the institution that created the MARC record.[8]

33. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available through the Library of Congress.[9] For example, 6XX fields are termed "Subject Access Fields."[10] Among these, for example, is the 650 field; this is the "Subject Added Entry – Topical Term" field.[11] The 650 field is a "[s]ubject added entry in which the entry element is a topical term." These entries "are assigned to a bibliographic record to provide access according to generally accepted thesaurus-building rules (e.g., *Library of Congress Subject Headings* (LCSH), *Medical Subject Headings* (MeSH)." *Id.* Further, MARC records include call numbers, which themselves include a classification number. For example, the 050 field is the "Library of Congress Call Number."[12] A defined portion of the Library of Congress Call (LCC) Number is the classification number, and "source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*." Thus, included in the 050 field is a subject

[8] https://www.oclc.org/en/contacts/libraries.html

[9] http://www.loc.gov/marc/bibliographic/

[10] http://www.loc.gov/marc/bibliographic/bd6xx.html

[11] http://www.loc.gov/marc/bibliographic/bd650.html

[12] http://www.loc.gov/marc/bibliographic/bd050.html

matter classification. Further, the 082 field is the "Dewey Decimal Call Number."[13] A defined portion of the Dewey Decimal Call (DDC) Number is the classification number, and "source of the classification number is the *Dewey Decimal Classification and Relative Index*." Thus, included in the 082 field is a subject matter classification. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress classification scheme just described or a similar scheme such as the Dewey Decimal classification scheme) and uses it consistently. When the Library of Congress assigns the LCC classification number, it appears as part of the 050 field. When the Library of Congress assigns the DDC classification number, it appears as part of the 082 field. If a local library assigns the classification number, it appears in a 090 field. In either scenario, the MARC record includes a classification number that represents a subject matter classification.

34. The OCLC was created "to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering

[13] http://www.loc.gov/marc/bibliographic/bd082.html

ease of access to and use of the ever-expanding body of worldwide scientific, literary and educational knowledge and information."[14] Among other services, OCLC and its members are responsible for maintaining the WorldCat database (http://www.worldcat.org/), used by independent and institutional libraries throughout the world.

35. OCLC also provides its members online access to MARC records through its OCLC bibliographic database. When an OCLC member institution acquires a work, it creates a MARC record for this work in its computer catalog system in the ordinary course of its business. MARC records created at the Library of Congress are tape-loaded into the OCLC database through a subscription to MARC Distribution Services daily or weekly. Once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and therefore made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress or another library anywhere in the world, any publication corresponding to the MARC record has been cataloged and indexed

[14] Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf).

according to its subject matter such that a person interested in that subject matter could, with reasonable diligence, locate and access the publication through any library with access to the OCLC bibliographic database or through the Library of Congress.

36. When an OCLC member institution creates a new MARC record, OCLC automatically supplies the date of creation for that record. The date of creation for the MARC record appears in the fixed Field (008), characters 00 through 05. The MARC record creation date reflects the date on which, or shortly after which, the item was first acquired or cataloged. Initially, Field 005 of the MARC record is automatically populated with the date the MARC record was created in year, month, day format (YYYYMMDD) (some of the newer library catalog systems also include hour, minute, second (HHMMSS). Thereafter, the library's computer system may automatically update the date in Field 005 every time the library updates the MARC record (*e.g.*, to reflect that an item has been moved to a different shelving location within the library). Field 005 is visible when viewing a MARC record via an appropriate computerized interface, but when a MARC record is printed to hardcopy, no "005" label appears. The initial Field 005 date (*i.e.*, the date the MARC record was created) does appear, however, next to

the label "Entered."[15] The date upon which the most recent update to Field 005 occurred also appears, next to the label "Replaced." Thus, when an item's MARC record has been printed to hardcopy—as is the case with the exhibit to this Declaration—the date reflected next to the label "Entered" is necessarily on or after the date the library first cataloged and indexed the underlying item.

37. Once one library has cataloged and indexed a publication by creating a MARC record for that publication, other libraries that receive the publication do not create additional MARC records—the other libraries instead rely on the original MARC record. They may update or revise the MARC record to ensure accuracy, but they do not replace or duplicate it. This practice does more than save libraries from duplicating labor. It also enhances the accuracy of MARC records. Further, it allows librarians around the world to know that a particular MARC record is authoritative (in contrast, a hypothetical system wherein duplicative records were created would result in confusion as to which record is authoritative).

38. Catalogers can create MARC records for all types of print, online, and digital resources. The date of creation of the MARC record by a cataloger at an OCLC member institution reflects when the underlying item is accessible to the

[15] Field 005 is visible when viewing a MARC record via an appropriate computerized interface. But when a MARC record is printed directly to hardcopy from the OCLC database, the "005" label is not shown. The date in the 005 field instead appears next to the label "Replaced."

public. Upwards of two-thirds to three-quarters of book sales to libraries come from a jobber or wholesaler for online and print resources. These resellers make it their business to provide books to their customers as fast as possible, often providing turnaround times of only a single day after publication. Libraries purchase a significant portion of the balance of their books directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year as the books are published and shelve the books as soon thereafter as possible to make the books available to their patrons. Thus, books are generally available at libraries across the country within just a few days of publication.

## VII. "XML Content Management Based on Object-Relational Database Technology" by B. Surjanto, Norbert Ritter, and H. Loeser. Exhibit 1002 ("Surjanto")

39. Attached hereto as Exhibit 1008 is a copy of a conference paper published in the two-volume set titled *Proceedings of the First International Conference on Web Information Systems Engineering* found in the Linda Hall Library of Science, Engineering & Technology (Kansas City, Missouri). The conference paper titled "XML Content Management Based on Object-Relational Database Technology" by B. Surjanto, Norbert Ritter, and H. Loeser (hereafter "Surjanto") appears beginning on page 70 in volume 1. The conference papers were presented at the First International Conference on Web Information Systems

Engineering which was held on June 19-21, 2000, in Hong Kong, China. Exhibit 1002 is a true and correct copy of the Surjanto conference paper (volume 1, pages 70-79). I obtained this copy of the conference paper from the Linda Hall Library of Science, Engineering & Technology. Specifically, the text of the Surjanto conference paper is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1002 was found within the custody of a library – a place where, if authentic, a copy of this two-volume set of conference proceedings would likely be. Exhibit 1002 is a true and correct copy in a condition that creates no suspicion about authenticity.

40. The Surjanto conference paper is available in the *IEEE Xplore* database[16] and the digital repository *ResearchGate*.[17] The *IEEE Xplore* database indicates that the Surjanto conference paper was added on August 6, 2002.

41. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for this two-volume set of conference proceedings from the Linda Hall Library of Science, Engineering & Technology online catalog. Library ownership is indicated by the presence of the library's code (LHL) in the 049 field.

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[16] https://ieeexplore.ieee.org/document/882377

[17] https://www.researchgate.net/publication/2496994_XML_Content_Management_based_on_Object-Relational_Database_Technology

The library continues to update this MARC record and enhanced the MARC record to meet current cataloging rules. The most recent enhancement to the MARC record occurred on April 16, 2002, as shown in field 005 ("20020416"). I personally identified and retrieved the library catalog record which is Attachment 1A.

42. Based on finding a copy of Exhibit 1002 in the Linda Hall Library of Science, Engineering & Technology and MARC record in its online library catalog attached as Attachment 1A, it is my opinion that the two-volume set of conference proceedings titled *Proceedings of the First International Conference on Web Information Systems Engineering* was publicly available at the Linda Hall Library of Science, Engineering & Technology as of October 6, 2000, as shown in field 008 ("001006").

43. Attached hereto as Attachment 1B is a true and correct copy of the MARC record for the two-volume set titled *Proceedings of the First International Conference on Web Information Systems Engineering* obtained from the OCLC bibliographic database. I personally identified and retrieved the MARC record that is Attachment 1B. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 1B, that library code is "ZCU," which means that the MARC record for this two-volume set of conference proceedings was cataloged in the Columbia University Libraries (New

York, New York). As can be seen in the "Entered" field in the MARC record for this exhibit, a cataloger in the Columbia University Libraries created OCLC record number 45200924 on October 6, 2000, as shown in the "Entered" field ("20001006"). The library continues to update this MARC record to meet current cataloging rules. The most recent enhancement to the MARC record occurred on April 3, 2022, as shown in the "Replaced" field ("20220403").

44. 66. Attachment 1B further includes an entry in field 050 ("TA168 $b .I57 2000")—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 ("025.04")—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 1B also shows that the two-volume set of conference proceedings was catalogued with three descriptor terms reading "Systems engineering $v Congresses" (see Attachment 1C, Library of Congress subject heading sh2008118998), "World Wide Web $v Congresses" (Attachment 1D, Library of Congress subject heading sh2008114004), and "Internet $v Congresses" (see Attachment 1E, Library of Congress subject heading sh2008104632) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1B was indexed according to its subject matter by virtue of at least three independently sufficient

classifications: the field 050 entry, the field 082 entry, and the field 650 entries. Further, as of October 6, 2000, the MARC record attached hereto as Attachment 1B was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that acquired the two-volume set of conference proceedings, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

45. Attachment 1B indicates that the two-volume set of conference proceedings titled *Proceedings of the First International Conference on Web Information Systems Engineering* as cataloged at Columbia University Libraries is currently available from 34 libraries. In view of the above, the two-volume set of conference proceedings titled *Proceedings of the First International Conference on Web Information Systems Engineering* was publicly available by October 6, 2000, because by that date it had been received, cataloged, and indexed in the Columbia University Libraries and made part of the OCLC bibliographic database. For these reasons, it is my opinion that Exhibit 1002 was published and publicly accessible by October 6, 2000.

## VIII. SUMMARY OF OPINIONS

46. In view of the foregoing, it is my opinion that the publication described above was publicly available no later than the corresponding date listed

in the table below:

| Publication | Publicly Available No Later Than |
|---|---|
| Surjanto, B., Norbert Ritter, and H. Loeser. "XML Content Management Based on Object-Relational Database Technology." *Proceedings of the First International Conference on Web Information Systems Engineering* (vol. 1, pp. 70-79). 2 vols. Los Alamitos, CA: IEEE Computer Society, 2000. | October 6, 2000 |

47. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

# Attachment 1A

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001    993445213405961
005    20020416090900.0
008    001006s2000    caua     b    001 0 eng c
010    ##$a   00101162
020    ##$a9780769505770
020    ##$a0769505775
020    ##$a9780769505787 (case)
020    ##$a0769505783 (case)
020    ##$a9780769505794 (microfiche)
020    ##$a0769505791 (microfiche)
035    ##$a(OCoLC)45200924
035    ##$9471036
035    ##$a(MoKL)344521-lhalldb
035    ##$a(lhalldb)344521-lhalldb
040    ##$aZCU $cZCU $dLHL
042    ##$apcc
049    ##$aLHLA
050    #4$aTA168 $b.I518 2000
111    2#$aInternational Conference on Web Information Systems
Engineering $n(1st : $d2000 : $cHong Kong, China)
245    10$aProceedings of the First International Conference on Web
Information Systems Engineering : $bHong Kong, China, June 19-21,
2000 / $cco-organized by City University of Hong Kong ... [et al.].
246    16$aWISE 2000
246    30$aFirst International Conference on Web Information Systems
Engineering
260    ##$aLos Alamitos, California : $bIEEE Computer Society,
$cc2000.
300    ##$a2 v. : $bill. ; $c28 cm.
500    ##$aIEEE Computer Society Order number PR00577"--T.p. verso.
505    0#$aVol. 1. Main program -- v. 2. Workshops.
650    #0$aSystems engineering $vCongresses
650    #0$aWorld Wide Web $vCongresses
650    #0$aInternet $vCongresses
710    2#$aCity University of Hong Kong
948    ##$aLTI 09/01/2008
994    ##$aE0 $bLHL
```

# Attachment 1B

**OCLC** 45200924 **No holdings in XXX - 34 other holdings**

Books

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **Rec Stat** | | **Entered** | 20001006 | **Replaced** | 20220403023849.4 |
| **Type** | a | **ELvl** | 4 | **Srce** | c | **Audn** | | **Ctrl** | | **Lang** | eng | | |
| **BLvl** | m | **Form** | | **Conf** | 1 | **Biog** | | **MRec** | | **Ctry** | cau | | |
| | | **Cont** | b | **GPub** | | **LitF** | 0 | **Indx** | 1 | | | | |
| **Desc** | a | **Ills** | a | **Fest** | 0 | **DtSt** | s | **Dates** | 2000, | | | | |

010 00101162
040 ZCU $b eng $c ZCU $d E9X $d OCLCQ $d BAKER $d YDXCP $d LEAUB $d OCLCF $d OCLCQ $d OCLCO $d OCL $d OCLCO $d OCLCA $d GILDS $d OCLCQ $d OCLCO
020 0769505775
020 9780769505770
020 0769505783 $q (case)
020 9780769505787 $q (case)
020 0769505791 $q (microfiche)
020 9780769505794 $q (microfiche)
042 pcc
050 4 TA168 $b .I57 2000
082 04 025.04 $2 22
090 $b
111 2 International Conference on Web Information Systems Engineering $n (1st : $d 2000 : $c Hong Kong, China)
245 10 Proceedings of the First International Conference on Web Information Systems Engineering : $b Hong Kong, China, June 19-21, 2000 / $c co-organized by City University of Hong Kong [and others].
246 16 WISE 2000
246 30 First International Conference on Web Information Systems Engineering
260 Los Alamitos, Calif. : $b IEEE Computer Society, $c ©2000.
300 2 volumes : $b illustrations ; $c 28 cm
336 text $b txt $2 rdacontent
337 unmediated $b n $2 rdamedia
338 volume $b nc $2 rdacarrier
500 IEEE Computer Society Order number PR00577"--Title page verso.
505 0 Vol. 1. Main program -- v. 2. Workshops.
530 Also available via the World Wide Web with additional title: Web Information Systems Engineering, 2000, proceedings of the First International Conference on.
650 0 Systems engineering $v Congresses.
650 0 World Wide Web $v Congresses.
650 0 Internet $v Congresses.
650 6 Ingénierie des systèmes $0 (CaQQLa)201-0050710 $v Congrès. $0 (CaQQLa)201-0378219
650 6 Web $0 (CaQQLa)201-0266258 $v Congrès. $0 (CaQQLa)201-0378219
650 6 Internet $0 (CaQQLa)201-0235884 $v Congrès. $0 (CaQQLa)201-0378219
650 7 Internet. $2 fast $0 (OCoLC)fst00977184
650 7 Systems engineering. $2 fast $0 (OCoLC)fst01141455
650 7 World Wide Web. $2 fast $0 (OCoLC)fst01181326

655 4 Congresses.
655 7 Conference papers and proceedings. $2 fast $0 (OCoLC)fst01423772
710 2 City University of Hong Kong.
740 0 Web Information Systems Engineering, 2000, proceedings of the First International Conference on.
776 08 $i Online version: $a International Conference on Web Information Systems Engineering (1st : 2000 : Hong Kong, China). $t Proceedings of the First International Conference on Web Information Systems Engineering. $d Los Alamitos, Calif. : IEEE Computer Society, ©2000 $w (OCoLC)761155049
856 41 $3 IEEE Xplore $u http://ieeexplore.ieee.org/servlet/opac?punumber=7079

# Attachment 1C

The Library of Congress

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# LIBRARY OF CONGRESS AUTHORITIES

Help | New Search | Search History | Headings List | Start Over

Previous Next

MARC Display | Labelled Display

**LC control no.:** sh2008111998

**LCCN Permalink:** https://lccn.loc.gov/sh2008111998

**HEADING:** Systems engineering Congresses

**000** 00509cz a2200169n 450

**001** 7470235

**005** 20110729160822.0

**008** 080311|| anannbabn |n ana

**010** __ |**a** sh2008111998

**035** __ |**a** (DLC)388501

**035** __ |**a** (DLC)sh2008111998

**040** __ |**a** DLC |**b** eng |**c** DLC

**150** __ |**a** Systems engineering |**v** Congresses

**667** __ |**a** Record generated for validation purposes.

**670** __ |**a** Work cat.: Radical Innovations of Software and Systems Engineering in the Future, 2004

**906** __ |**t** 8888 |**u** te00 |**v** 0

**953** __ |**a** te00

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Help - Search - Search History - Headings List - Start Over

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Washington, DC 20540

**Library of Congress Authorities**
*URL:* http://authorities.loc.gov/
**Library of Congress Online Catalog**
*URL:* https://catalog.loc.gov/

**Questions, comments, error reports:** Contact Us

# Attachment 1D

**LC control no.:** sh2008114004
**LCCN Permalink:** https://lccn.loc.gov/sh2008114004
**HEADING:** World Wide Web Congresses

**000** 00468cz a2200169n 450
**001** 7472241
**005** 20110729160942.0
**008** 080311|| anannbabn |n ana
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**035** __ |**a** (DLC)390507
**035** __ |**a** (DLC)sh2008114004
**040** __ |**a** DLC |**b** eng |**c** DLC
**150** __ |**a** World Wide Web |**v** Congresses
**667** __ |**a** Record generated for validation purposes.
**670** __ |**a** Work cat.: The World Wide Web and databases, c2001
**906** __ |**t** 8888 |**u** te00 |**v** 0
**953** __ |**a** te00

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# Attachment 1E

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Previous Next

MARC Display | Labelled Display

**LC control no.:** sh2008104632
**LCCN Permalink:** https://lccn.loc.gov/sh2008104632
**HEADING:** Internet Congresses

**000** 00477cz a2200169n 450
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**667** __ |**a** Record generated for validation purposes.
**670** __ |**a** Work cat.: On the move to meaningful Internet systems 2003, c2003
**906** __ |**t** 8888 |**u** te00 |**v** 0
**953** __ |**a** te00

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