

EXHIBIT D

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

FUNCTION MEDIA, L.L.C.

Plaintiff,

vs.

GOOGLE INC. AND YAHOO!, INC.

Defendants.

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Civil Action No. 2007-cv-279

JURY TRIAL DEMANDED

**DECLARATION OF V. THOMAS RHYNE IN SUPPORT OF
FUNCTION MEDIA'S CLAIM CONSTRUCTION**

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FUNCTION MEDIA'S CLAIM CONSTRUCTION**

I, V. Thomas Rhyne, Ph.D., declare as follows:

Professional Background

1. My qualifications for forming the opinions set forth in this declaration are summarized here and explained in more detail in my *curriculum vitae*, which is attached as part of Exhibit A. Exhibit A also includes a list of my publications and the cases in which I have testified at deposition, hearing, or trial during the past four years.

2. I have studied, taught, and practiced electrical engineering for almost fifty years. I hold degrees from Mississippi State University (Bachelor of Science in Electrical Engineering, with Honors, 1962), the University of Virginia (Masters of Electrical Engineering, 1964), and the Georgia Institute of Technology (Ph.D. in Electrical Engineering, 1967). I have been a registered Professional Engineer in the State of Texas since 1969. I have also been a Registered Patent Agent since 1999.

3. I taught electrical engineering, computer engineering, computer architecture, and computer science full-time at the undergraduate and graduate levels at Texas A&M University from 1967 to 1983 and part-time at the graduate level at the University of Texas from 1983 to 1991. My twenty-plus years of industrial experience includes work for the Electric Power Research Institute, Texas Instruments, Control Data Corporation, NASA, Texas Digital Systems, Inc. (a company I co-founded to produce microprocessor-based computer peripherals), the Microelectronics and Computer Technology Corporation (MCC), and Motorola, Inc.

4. I have extensive experience with computer technology, including design and teaching experience with a variety of computer systems. I have participated in the design of several computer systems and microprocessors, and I have designed systems that made use of those devices as control elements. I am familiar with a variety of computer architectures and am an experienced programmer in a variety of programming and assembly-level languages. I have managed large and complex software-development programs and have been and remain familiar with the Internet and its use for providing services to users.

5. Prior to joining MCC, I was responsible for bringing access to the ARPANET to Texas A&M University. This activity gave me insight into, and experience with, the exchange

of information over wide-area networks. I later assisted MCC's information technology department in linking MCC's local-area network first into the ARPANET and later into the Internet.

6. During my time at MCC, I was involved with a software-development group that developed an early World-Wide Web browser. I have continued to study and use Internet technology since that time.

7. While at MCC, I managed MCC's research and development programs dealing with graphical user interfaces, natural-language interfaces, and early website development tools. In the early 1990's, MCC researchers developed one of the first web browsers with search engine capabilities. I was one of the early alpha testers for that effort. I managed distributed database development for several years at MCC and also managed MCC's successful R&D program on Internet-based credit card fraud detection using neural networks. I have worked as a technical expert on several patent cases dealing with complex software systems, including a case dealing with Internet-based support for car purchasers and a case dealing with computer-assisted product configuration systems.

8. During my academic career, I initiated and taught graduate-level courses in high-speed computer arithmetic at both Texas A&M and the University of Texas at Austin. I also taught, on an annual basis, graduate-level courses on other related topics such as computer architecture. On the industrial side, I have worked as a consultant for Motorola Corporation, Control Data Corporation, ETA Corporation, Texas Instruments, and AMD.

9. I have also chaired and otherwise participated in a number IEEE and ISO/IEC committees relating to computer use and technology.

10. At Texas A&M, I directed the digital systems program within the Department of Electrical Engineering. As director, I defined and taught the undergraduate, graduate, and laboratory courses within the program. I also created the A&M Digital Systems Laboratory and served as the university-wide Coordinator of Computing for Texas A&M.

11. Over the course of my academic career, I have authored thirty technical papers. I have also presented papers at 37 conferences and have authored an award-winning textbook entitled *Fundamentals of Digital System Design*. Published by Prentice-Hall in 1973, *Fundamentals of Digital System Design* has been adopted at over 35 U.S. and international

universities since 1973. My textbook has also been cited as a reference by the U.S. Patent and Trademark Office.

12. I have also served as a technical reviewer for Prentice-Hall, the *IEEE Transactions on Computing*, and *IEEE Spectrum*. I was elected to serve on the IEEE Board of Directors for two terms, during which I represented the engineering education community and the IEEE Computer Society. I was also elected to two terms as IEEE Treasurer.

13. I have extensive experience with the accreditation of engineering and computer science programs in the U.S. and abroad. This has provided me an excellent opportunity to become and remain familiar with program curricula, faculties, and graduates from a large number of U.S. and international colleges and universities.

14. I represented the IEEE for five years on the Engineering Accreditation Commission and for six years on the Board of Directors of the Accreditation Board for Engineering and Technology (ABET). As part of my work with ABET, I defined the first guidelines for accrediting computer engineering programs and was a member of the small working group that successfully merged ABET with the Computer Science Accreditation Board (CSAB). I also completed a three-year *pro bono* assignment, assisting Japanese universities and industries in the establishment of the Japanese Accreditation Board for Engineering Education. I have also led several other international accreditation missions.

15. The U.S. National Research Council appointed me to the Panel of Assessment for the Electronics and Electrical Engineering Laboratory of the U.S. National Institute of Standards and Technology. I served on that Panel for seven years, including three terms as its chair. During this service, I provided invited testimony before the U.S. Congress regarding the status of the Laboratory.

16. My experience and qualifications have been recognized by the Texas Society of Professional Engineers (Young Engineer of the Year in Texas, 1973); the American Society for Engineering Education (Terman Awardee as the "Outstanding Young Electrical Engineering Educator in the U.S.," 1980); the Institute of Electrical and Electronics Engineers (IEEE Life Fellow, recognizing my contributions to "computer engineering and computer engineering education," 1990); the Accreditation Board for Engineering and Technology (ABET Fellow, 1992); and the IEEE Computer Society (Golden Core Awardee, 2000).

17. I retired from full-time work in 1997, and I now draw retirement benefits from Texas A&M University. In addition to the full-time work described above and in my *curriculum vitae*, I have worked part-time as a consulting engineer over the past 30 years. This consulting work involves computer-systems design, application-specific system design, and expert witness work in intellectual property litigation.

My Assigned Task

18. I have been retained by counsel for Function Media LLC (“Function Media” herein) in *Function Media LLC vs. Google Inc. & Yahoo!, Inc.* I refer to the two defendants collectively as “Defendants” herein.

19. In connection with my retention, I have reviewed the following U.S. Patents and their respective file histories: 6,446,045 (“the ‘045 patent” herein); 7,240,025 (“the ‘025 patent” herein); and 7,249,059 (“the ‘059 patent” herein). Where appropriate, I refer to these three patents collectively as the “Function Media patents” herein.

20. I have also reviewed the parties’ Joint Claim Construction and Prehearing Statement as well as the parties’ respective preliminary claim constructions and identifications of extrinsic evidence. The purpose of this declaration is to assist the Court in determining the meaning of certain claim terms within the Function Media patents to a person of ordinary skill in the relevant art.

Methodology

21. In opining herein on the appropriate meaning of certain terms found within the claims of the Function Media patents, I have relied on the patents themselves, their respective file histories, and the ordinary meaning of the disputed terms as of January 10, 2000 (the date on which the earlier ‘045 application was filed). I have conducted my analysis from the perspective of a person of ordinary skill in the art as of January 2000. *See* ¶ 27.

22. I have focused my analysis on the areas in which the parties have disagreed regarding a term’s proper meaning, including those areas where the two defendants have disagreed with one another. In each of these areas, I have analyzed each party’s proposed construction and any cited support for the respective constructions.

The Technical Field of the Function Media Patents

23. The Function Media patents generally concern the provision of software which supports advertising systems. Thus, those patents fall within the general computer discipline and relate primarily to software design.¹ To fully understand the Function Media patents, one should have a general familiarity with software design, communication systems, websites, and the Internet.

24. The Function Media patents disclose and claim a software-based advertising system that can automatically create and publish customized advertisements to be displayed on websites and/or in other media (collectively the “media venues”) in accordance with *presentation rules* entered into the system by the media venues. Those presentation rules include guidelines concerning an advertisement’s look and feel.

25. The software-based system disclosed in the ‘045 and ‘025 patents includes a first interface through which the media venues can enter their respective presentation rules and a second interface through which advertisers (the “sellers”) can enter advertising content and market-targeting information. That system processes the information input through the first and second interfaces to create and publish customized advertisements for selected media venue(s). These advertisements meet the specified presentation rules. The published advertisements will therefore have, for example, an appropriate look and feel as specified by the respective media venues for which the advertisements are published.

26. The software-based system disclosed and claimed in the ‘059 patent adds to that disclosed in the ‘045 and ‘025 patents a third software interface: an interface for use by a “third-party professional.” In the parlance of the Function Media patents, a third-party professional is a professional individual or business entity that provides advertising services for sellers. *See* ‘059 patent, at 15:47-16:16. This additional interface enables the third-party professional(s) to enter advertising content and selection information on behalf of multiple seller clients.

Level of Ordinary Skill in the Function Media Patents

27. In this declaration I make reference to a person of ordinary skill in the art with regard to the Function Media patents. In my opinion, the Function Media patents were addressed

¹ I note that some of the limitations of the asserted claims of the Function Media patents specifically refer to hardware. In my opinion, other than for those limitations, the asserted Function Media claims refer to software.

to a person with at least an accredited bachelor's degree in computer science, computer engineering, or electrical engineering and at least five years of programming experience with communication architectures in general and website design and the operation of the Internet in particular. Alternatively, the person of ordinary skill in the art would have a Master's degree in computer science, computer engineering, or electrical engineering and two years of experience in designing Internet-related software systems. Alternatively, the person of ordinary skill in the art would have a Ph.D. degree in computer science, computer engineering, or electrical engineering with a specialty in Internet-related software systems. In all instances, the person of ordinary skill in the art would have access to a library of relevant technical publications, periodicals, and textbooks.

28. A person with the characteristics set forth in ¶ 27 above would have the requisite knowledge for the subject matter that I described in ¶¶ 23 to 26 within the "Technical Field of the Patents" section above.

Disputed Terms

29. In this section, I address the terms from within the Function Media patents for which Function Media and one or more of the defendants have been unable to identify an agreeable construction. For each of those terms, I provide my analysis of the dispute and my own opinions as to how one of ordinary skill in the art would interpret those disputed terms.

"means for applying corresponding guidelines of the media venues," as found in all of the asserted claims of the '045 patent

30. All parties have agreed that this term should be interpreted in means-plus-function form, where the claimed function is "applying corresponding guidelines of the media venues." The disputed corresponding structure is shown in the following table and discussed thereafter:

Disputed Term	Function Media	Google & Yahoo!
means for applying corresponding guidelines of the media venues	Structure: computer software executable on a processor capable of (1) identifying one or more selected media venues for publication; (2) accessing data representing each identified media venue's guidelines; (3) accessing data representing seller information; and (4) executing a systematic sequence of mathematical and/or logical operations upon the accessed seller information to create a presentation customized for each identified media venue in a form that complies with the accessed guidelines of that media venue, or equivalents	Structure: a seller interface including a central processor, operating system, ROM, RAM, clock, communication port, video driver, video monitor, input devices (<i>e.g.</i> , standard keyboard, mouse, or other replacement items), modem, network interface, data storage device, a presentation database including information related to the seller's choice of media or venues as well as the presentation of their products, goods, or services; a seller database; a presentation rules database including information from the internet media venue to control and limit the style and editing of the presentations; and a Presentation & Configuration Program (which lacks any structural description).

31. In my opinion, a person of ordinary skill in the art reading the '045 patent would understand and interpret the "means for applying corresponding guidelines of the media venues" to refer to a specific functionality of the invention that is referred to in the '045 specification as the "Presentation Generation Program." That specification describes the Presentation Generation Program that applies a media venue's guidelines by listing its algorithmic operations as (and in no particular order):

- (1) Identifying one or more selected media venues for publication;
- (2) Accessing data representing each identified media venue's guidelines;
- (3) Accessing data representing the seller's information; and
- (4) Executing a systematic sequence of mathematical and/or logical operations upon the accessed seller information (using the accessed guidelines) to create a presentation customized for publication to each identified media venue in a form that complies with the accessed guidelines of that media venue.

See, e.g., '045 patent, at 3:28-31; 3:58-61; 17:1-18:8; 18:63-19:65; 42:36-42; 43:28-31; and 43:42-51.

32. As described in the '045 specification portions cited above, it is the Presentation Generation Program 1710² that identifies the media venues to which the seller-inputted presentation content will be published and that processes the presentation content in creating customized presentations for publication to those media venues in accordance with the identified media venues' presentation rules.

33. In my opinion, Defendants' proposed construction for the structure of the "means for applying" is incorrect because it refers to programming disclosed as having a different function: the function of creating a seller interface. The "presentation & configuration program" to which Defendants refer would not be understood by one of ordinary skill in the art to constitute the corresponding structure of the "means for applying" that is recited in the asserted '045 claims because that function ("applying corresponding guidelines of the media venues") is specifically executed by a Presentation Generation Program having the algorithm recited above, or an equivalent. The "Presentation & Configuration Program," in contrast, is software that provides the seller interface embodied in other claim elements, namely the "means for a seller to select the media venues," "means for a seller to input information," and "means for said media venues to input said guidelines and information" elements that are addressed in ¶¶ 39 to 48 below.

34. Defendants also contend that the "means for applying corresponding guidelines" refers to a seller's computer and, further, that the computer must include various elements. In my opinion, the term "means for applying corresponding guidelines of the media venues" would not be understood to be referring to a seller's computer or to any elements thereof, or to any exemplary computer described in the '045 specification. For all the reasons set forth above, one of ordinary skill in the art reading the specification would understand this term to refer to the Presentation Generation Program having the algorithm set forth above, or its equivalent. Defendants further construe the "means for applying corresponding guidelines" to include databases containing stored presentation rules and presentation content. This is also incorrect. Although the Presentation Generation Program accesses stored presentation rules and presentation content, such stored

² The '045 patent describes that the Presentation Generation Program 1710 is preferably contained on the central controller and presentation processor 1000. *See* 18:58-62. *See also* Fig. 2a.

information need not be part of the Presentation Generation Program—and, in fact, is not a part of the preferred embodiment of the Presentation Generation Program.

“means for transmitting,” as found in all of the asserted claims of the ‘045 patent

35. All parties have agreed that this term should be interpreted in means-plus-function form, where the claimed function is “transmitting presentations to a selected media venue.” The disputed corresponding structure is shown in the following table and discussed thereafter:

Disputed Term	Function Media	Google & Yahoo!
<p>means for transmitting said presentations to a selected media venue of the media venues</p>	<p>Structure: computer software executable on a processor capable of initiating a data transmission to a specified electronic destination, or equivalents</p>	<p>Structure: On-demand, direct dial-up phone lines, network, or Internet connection between Seller Interface, Media Interface, and Central Controller and Presentation Processor; standard Internet connections between Buyer Interface and Central Presentation and Selection Server; and a high-speed network or Internet connection between Central Controller and Presentation Processor and Central Presentation and Selection Server. Connections between components may be accomplished by any combination of public switched phone network, cellular, Personal Communication System, dedicated data lines, microwave, private network, shared data network, or satellite network.</p>

36. In my opinion, one of ordinary skill in the art reading the ‘045 patent would understand this term to refer to a specific functionality of the presentation generation program, namely the functionality of initiating a data transmission to a specified electronic destination or an equivalent. The ‘045 specification discloses that the task of transmission will be the job of the presentation generation program: “[t]he Presentation Generation Program 1710 will proceed to

publish or place the presentations and any supporting components in their proper locations on the Central Presentation and Selection Servers 2000 and Independent Presentation Directories and Indexes 3000 (block 11390-11414).” ‘045 patent, at 45:8-13.

37. Defendants’ proposed construction for the corresponding structure of the “means for transmitting said presentations to a selected media venue of the media venues” suggests that the operator of the system himself or herself would provide to the users of the system the entire communication network used to accomplish the transmission, including, for example, modem hardware and the Internet or telecommunication connections. One of ordinary skill in the art, however, would understand from the ‘045 specification that the system operator provides only software having the functionality to initiate that transmission, with the users providing their own hardware and networking. *See, e.g.*, 3:28-34 (“The present invention’s Presentation Generation Program 1710, along with the Presentation Rules Database 1650 and 4650, then creates a presentation for each and every media outlet the seller has chosen. The Presentation Generation Program 1710 then either transmits the presentation to the appropriate destination or holds it for a publication date to be submitted for a particular deadline or predetermined promotional market.”).

38. This basic dispute between the parties—whether the system operator’s provision of the claimed “means for transmitting” requires the operator to provide not only the necessary software but also all of the required hardware and communications linkages necessary for the user to execute that software—repeats itself in numerous disputed claim terms which are discussed below. In my opinion, however, and as evidenced by the portions of the ‘045 specification language that I cite below, one of ordinary skill in the art would understand that the Function Media patents are all directed toward software programmed to accomplish the steps of the invention—not to the hardware that such software is executed on. Those of ordinary skill in the art would not expect from reading the ‘045 patent claims that in addition to providing the required software the system operator must also provide all of the hardware and networking necessary for the disclosed software to operate.

“means for a seller to select the media venues” and “means for a seller to input information,” as found in all asserted claims of the ‘045 patent; and “means for said media venues to input said guidelines and information,” as found in claim 5 of the ‘045 patent

39. All parties have agreed that these terms have the same meaning and should be interpreted in means-plus-function form, where the function of the first term is agreed to be “enabling a seller to select the media venues” and the function of the third term is “enabling the media venues to input said guidelines and information.” The disputed meanings are shown in the following table and discussed thereafter:

Disputed Term	Function Media	Google & Yahoo!
means for a seller to select the media venues	Structure: computer software executable on a processor capable of presenting electronic forms allowing the selection of media venues, or equivalents	Structure: a seller interface including a central processor, operating system, ROM, RAM, clock, communication port, video driver, video monitor, input devices (<i>e.g.</i> , standard keyboard, mouse, or other replacement items), modem, network interface, data storage device, and further including a Presentation & Configuration Program (which lacks any structural description).

Disputed Term	Function Media	Google & Yahoo!
<p>means for the seller to input information; [whereby the seller may select one or more of the media venues, create a presentation that complies with said guidelines of the media venues selected, and transmit the presentation to the selected media venues for publication.]³</p>	<p>Function: enabling a seller to input information</p> <p>Structure: computer software executable on a processor capable of presenting electronic forms allowing the seller to input information, or equivalents</p>	<p>Function: enabling the seller to input information to select one or more media venues, create a presentation that complies with said media guidelines of the selected media venues, and transmit the presentation to the selected media venues for publication.</p> <p>Structure: a seller interface including a central processor, operating system, ROM, RAM, clock, communication port, video driver, video monitor, input devices (e.g., standard keyboard, mouse, or other replacement items), modem, network interface, data storage device, and a Presentation & Configuration Program (which lacks any structural description).</p>
<p>whereby the seller may select one or more of the media venues, create a presentation that complies with said guidelines of the media venues selected, and transmit the presentation to the selected media venues for publication</p>	<p>whereby the seller may select one or more of the supported media venues, input information for use by the computer programming in creating customized advertisements in accordance with the controls set by each media venue, and transmit each customized presentation to each respective media venue for publication</p>	<p>Defendants ask the Court to construe this phrase with the phrase above.</p>

³ Defendants ask the Court to construe the bracketed phrase with the non-bracketed phrase, whereas Function Media contends that the whereby clause modifies more than just the non-bracketed phrase. I agree with Function Media's position.

Disputed Term	Function Media	Google & Yahoo!
means for said media venues to input said guidelines and information	Structure: computer software executable on a processor capable of presenting electronic forms allowing the media venue to input guidelines and information for that media venue, or equivalents	Structure: a media interface including a central processor, operating system, ROM, RAM, clock communication ports, video driver, video monitor, input devices (e.g., standard keyboard, mouse, or other replacement items), modem, network interface, and data storage device.

40. In my opinion, a person of ordinary skill in the art reading the '045 patent would understand and interpret the "means for a seller to select the media venues" and the "means for a seller to input information" to refer to the two recited functionalities of the "seller interface" software referenced in the specification as the "Presentation and Configuration Program."

41. The '045 specification describes the Presentation and Configuration Program as interface software that prompts and enables the seller to input selection information and advertising content. For example, at 27:55-28:2, the '045 patent states that

[t]he Presentation and Configuration Program 4715 is both the gateway to the present invention and the controlling software interface for the Seller. The Presentation and Configuration Program 4715 introduces the Seller to the instance of the present invention and allows the Seller to choose in which presentations and which media or advertising channels the Seller wishes to participate. The Presentation and Configuration Program 4715 offers the choices of media and presentations to the Seller, giving requirements and cost for each. Upon choosing media and presentations, the Seller is then presented with a series of questions to answer. The answering of these questions contributes to the Seller Database 4630, Presentation Database 4640, Inventory Database 4660, Referral Database 4670 and any other databases necessary.

42. Further, at 54:59-55:7, the '045 specification discloses that the *operator* provides this software and not any hardware:

Seller Participation: 1) The XYZ Corporation makes the decision to use ABC's services to promote its Basketball team. 2) ABC sends XYZ the necessary software to be installed on their computer. 3) A computer operator at XYZ installs the software on their computer that then is configured as Seller Interface 4000 FIG. 2c. 4) After installation and setup the XYZ operator does basic information input as prompted by the Seller Interface 4000 FIG. 2c of the present Invention. 5) After the input of basic information by the operator, the Seller Interface 4000

presents available media venues and associated information for review by the XYZ Corporation management.

43. Defendants' proposed construction is incorrect for the reasons discussed above—namely, that it would require the operator to provide the hardware and the network interface that the software is intended to be executed upon. The '045 specification, however, expressly distinguishes between (1) the hardware and networking that forms the operational environment needed for the use of the invention and (2) the invention itself. *See, e.g.*, 5:227-31 (“The present invention partially resides on the sellers’ computers, controls and edits the presentation, and then automatically transmits that information and data for publication on traditional media and electronic networks.”). Defendants’ reading of the claim language would, for example, require the operator of the invention to provide to a seller both the “invention” and the “sellers’ computers”—a nonsensical result in light of the '045 patent’s disclosures.

44. Defendants' proposed identification of the corresponding structure of the “means for said media venues to input said guidelines and information” is likewise incorrect because one of ordinary skill in the art would understand from reading the '045 patent specification that this term refers to the media venue interface software—software that prompts and enables the media venue to input guidelines and information into the system. As the '045 specification states, at 33:45-56,

[t]he Presentation and Configuration Program 6717 is both the gateway to the present invention and the controlling software interface for the Media. The Media Configuration Program 6717 introduces the Media to the instance of the present invention. The Media Configuration Program 6717 presents the Media with a series of questions to answer. The answering of these questions contributes to the Media Database 6635, Presentation Database 6640, Presentation Rules Database 6650, Media Inventory Database (optional) 6665, and any other databases necessary. The Media Configuration Program 6717 monitors the responses to the questions asked, text entry areas, photos, graphics, and other input, either required or optional.

45. Defendants' proposed construction also misstates the function of the “means for a seller to input information” element. The recited function is merely to enable the seller to input information. Defendants' proposed construction, however, seeks to incorporate additional requirements from the whereby clause. The independent claim reads as follows:

I. A method of using a network of computers to contract for, facilitate and control the creating and publishing of presentations, by a seller, to a plurality of media venues owned or controlled by other than the seller, comprising: a) providing a media database having a list of available media venues; b) providing means for

applying corresponding guidelines of the media venues; c) providing means for transmitting said presentations to a selected media venue of the media venues; d) providing means for a seller to select the media venues; and e) providing means for the seller to input information; whereby the seller may select one or more of the media venues, create a presentation that complies with said guidelines of the media venues selected, and transmit the presentation to the selected media venues for publication. (emphasis added)

46. One of ordinary skill in the art reading the '045 specification would understand that the whereby clause underlined above summarizes the resulting capacity of the claimed system—and not just the final means-plus-function element—for two important reasons. First, there is a semicolon immediately preceding the whereby clause. That semicolon separates the whereby clause not only from the “means for a seller to input information” element but also from all of the preceding limitations of the claim. Therefore, the clause that follows the semicolon plainly relates back to all of the elements that precede it—not just to the last element that precedes it.

47. Second, the '045 specification discloses that it is a combination of the recited elements that provides the resulting capacity. Specifically, as previously discussed, the '045 specification teaches that the means for applying and the means for transmitting are both provided by the Presentation Generation Program. *See, e.g.*, 3:28-34 (“The present invention’s Presentation Generation Program 1710, along with the Presentation Rules Database 1650 and 4650, then creates a presentation for each and every media outlet the seller has chosen. The Presentation Generation Program 1710 then either transmits the presentation to the appropriate destination or holds it for a publication date to be submitted for a particular deadline or predetermined promotional market.”).

48. Thus, one of ordinary skill in the art would understand that the only recited function of the “means for a seller to input information” is to enable the seller to input the information that is used by the system in creating and publishing the customized advertisements.

“create a presentation that complies with said guidelines of the media venues selected” and “create an electronic advertisement for publication to the selected internet media venues,” as found respectively in all of the asserted claims of the '045 patent and the '025 patent

Disputed Term	Function Media	Google & Yahoo!
create a presentation that complies with said guidelines of the media venues selected	produce a presentation customized to each of the selected media venue's presentation rules	create a presentation that complies with the guidelines of all the selected media venues.
create an electronic advertisement for publication to the selected internet media venues	produce an electronic advertisement in a form customized to each of the selected internet media venue's presentation rules	create an advertisement for placement at all the internet media venue locations selected by the [seller/third party professional] for public display.

49. In my opinion, a person of ordinary skill in the art reading the '045 patent would understand and interpret the limitations in the table above to mean to produce a presentation "customized to each of the selected media venue's presentation rules." A person of ordinary skill in the art would not read these limitations, as Defendants propose to do, to imply that a single presentation has to meet the guidelines of *all* of the media venues to which it will be published.

50. The specifications and prosecution histories of the Function Media patents make clear that the invention disclosed and claimed in those patents is designed to allow each media venue to input its respective guidelines through the media venue interface so that the system of the invention can create and publish customized advertisements to that media venue in accordance with that media venue's specified guidelines, thereby resulting in advertisements that have the required look and feel for that particular media venue. As the '045 specification states, at 43:28-51 and 5:10-24,

[t]he Presentation Generation Program 1710, using the information contained within the Presentation Rules Database 1650, then formats the presentation information for each client outlet, channel, resident media, or non-resident media (blocks 11300, 11294). New presentations are created in their entirety, while only the portions of existing presentations affected by any modifications are republished. After creating or modifying the presentations, messages confirming any edits or modifications of submissions are created and sent to the Sellers (blocks 11310-11336).

...

This invention improves on the prior art by automatically publishing the information and data received from sellers in an open-access format that is readily available to public automatic search and index programs as well as to on-demand

search programs. With this invention, the seller's presentation can be published in several different directories or indexes, taking on a different style, look, and feel in each as a result of the automatic restructuring of the data entered by the seller. This is accomplished by using different presentation formatting guidelines and rules for the targeted directories or indexes. This single-entry and automatically distributed method is more efficient than managing each directory or index individually. (emphases added)

51. These citations are clear, conveying to one of ordinary skill in the art that there is not a single presentation that must somehow comply with the presentation rules of all of the media venues to which it will be published. Instead, the advertising content input by the seller will be transformed into a presentation for each media venue to which it will be published in a form that is customized according to the presentation rules for each specific media venue.

52. Additionally, prosecution history for the '025 patent confirms both that an advertisement is created separately for each media venue to which it will be published and that the advertisement is customized to have the look and feel for that media venue. For example, on pages 14 and 16 of the applicants' September 5, 2006, Request for Reconsideration, the applicants specifically distinguish a reference on this exact basis:

Sparks does not disclose the claimed 'first interface' through which one or more internet media venues 'owned or controlled by other than the seller and the third-party professional' (the claimed 'internet media venues') are prompted to enter their presentation rules so that a seller's advertisement can be automatically modified by the claimed internet advertising system for publication/display at each such internet media venue in compliance with the presentation rules for that internet media venue.

...

Thus, the claimed 'first interface' is necessarily an interface for a internet media venue owned or controlled by other than the seller or the third-party professional' [sic] to enter its presentation rules to control the 'look and feel' and other aspects of the presentations destined to be published at that internet media venue. (emphases added)

53. Further, one of ordinary skill in the art would not read the two limitations in the table above to imply that the [seller/third party professional] must directly select the media venues. To the contrary, one of ordinary skill in the art would recognize that the specifications of the Function Media patents each provide that the seller may also indirectly select media venues by entering targeting information, such as a desired advertising channel. *See, e.g.*, '025

patent, at 27:1-22 (“The Presentation Database 4640 will have data fields containing information that relates to the Seller’s choice of non-resident media or advertising channels as well as to the interactive presentation of information and data describing their products, goods, or services for presentation to the Buyers.”) (emphasis added). *See also, e.g.*, ‘025 patent, at 28:42-48 (“The Presentation and Configuration Program 4715 introduces the Seller to the instance of the present invention and allows the Seller to choose which presentations and which media or advertising channels the Seller wishes to participate.”) (emphases added). Thus, the ‘025 specification discloses that the seller could either directly select media venues by name or indirectly select media venues through the use of “channels.” Moreover, there is nothing about the term “selected” that implies only direct selection (as opposed to either or both direct and/or indirect selection). Therefore, to the extent Defendants’ proposed construction implies direct selection only, it is too narrow and would be contrary to the reading of one of ordinary skill in the art.

“processing...the electronic advertisement... in compliance with the presentation rules of the internet media venue,” as found in all asserted claims of the ‘025 and ‘059 patents

Disputed Term	Function Media	Google & Yahoo!
<p>processing...the electronic advertisement...in compliance with the presentation rules of the internet media venue</p>	<p>executing a systematic sequence of mathematical and/or logical operations upon the inputted information to create an electronic advertisement customized for each selected internet media venue in a form that complies with the presentation rules set by that media venue</p>	<p>Google: this claim is indefinite because the “in compliance with the presentation rules of the internet media venue” language does not specify which internet media venue’s presentation rules must be complied with.</p> <p>Yahoo: obtaining and applying the presentation rules from the first database to create the electronic advertisement in compliance with the presentation rules of the internet media venue.</p>

54. In my opinion, one of ordinary skill in the art reading the ‘025 and ‘059 patents would understand the limitation “processing...the electronic advertisement...in compliance with the presentation rules of the internet media venue” to mean “executing a systematic sequence of mathematical and/or logical operations upon the inputted information to create an electronic advertisement customized for each selected internet media venue in a form that complies with the presentation rules set by that media venue.” As discussed above in ¶¶ 49 to 52, a person of

ordinary skill in the art would not read this limitation (as Defendants do) to imply that a single presentation has to meet the guidelines of all of the media venues to which it will be published.

55. Further, Google's indefiniteness argument—not shared by Yahoo!—is incorrect because the patents are clear that advertisements will only be created for media venues to which they will be published. The '025 and '059 specifications state that the Presentation Generation Program identifies the media venue(s) to which the presentation will be published and formats the advertisements for publication to those identified venues. For example, at 44:24-42, the '025 specification states as follows::

Having passed the presentation information for content and style, the Presentation Generation Program 1710 next determines the directories and presentation indexes in which this information should be published (blocks 11290-11296). In the preferred embodiment of the present invention, each Central Controller and Presentation Processor 1000 may support any number of client outlets, channels, resident media, or non-resident media. These client outlets, channels, resident media, or non-resident media may include Central Presentation and Selection Servers 2000; Independent Presentation 3000; Printed Publications, Periodicals, Directories, CD-ROMs, and other Media Interface 6000 FIG. 2e; and other sales outlets, channels, or advertising methods.

The Presentation Generation Program 1710, using the information contained within the Presentation Rules Database 1650, then formats the presentation information for each client outlet, channel, resident media, or non-resident media (blocks 11300, 11294). New presentations are created in their entirety, while only the portions of existing presentations affected by any modifications are republished. (emphases added)

56. Moreover, the '025 specification discloses that the media venues to which custom presentations are actually published may be fewer than the media venues selected by a seller—given, for example, media venue distribution rules (*e.g.*, blocked URLs) that operate to prevent publication of content from certain sellers. *See, e.g.*, 69:28-49 and 18:29-50.

57. Further, from the perspective of a person of ordinary skill in the art, Yahoo!'s proposed construction of "processing" is flawed in several ways. First, it does not specify that a customized presentation is created for each selected media venue to which it will be published in accordance with the respective presentation rules of that media venue. Second, Yahoo!'s construction does not specify that the presentation rules are applied to the advertising content entered by the seller. Third, Yahoo!'s construction is incorrect to the extent that it proposes to limit how the presentation rules are accessed. The "presentation" limitation does not limit how

the presentation rules are accessed or processed in order to create the compliant advertisement. One of ordinary skill in the art would not interpret the term “processing” as limited to any specific algorithm.

“publish the advertisement to the internet media venue” and “whereby the electronic advertisement is displayed on each of the one or more of the selected internet media venues in compliance with the presentation rules of the internet media venue,” as found in all of the asserted claims of the ‘025 and ‘059 patents

Disputed Term	Function Media	Google & Yahoo!
<p>publish the advertisement to the internet media venue</p>	<p>placing or making available the customized electronic advertisement within the framework of each internet media venue so that it is accessible by the end users, consumers, viewers, or Buyers</p>	<p>Google & Yahoo: place the advertisement at the internet media venue location for public display.</p>
<p>a computer controller⁴ of the computer system processing and publishing the electronic advertisement to one or more of the selected internet media venues in compliance with the presentation rules of the internet media venue, whereby the electronic advertisement is displayed on each of the one or more of the selected internet media venues in compliance with the presentation rules of the internet media venue</p>	<p>a computer processor of the computer system executing a systematic sequence of mathematical and/or logical operations upon the inputted information to create an electronic advertisement customized for each selected internet media venue in a form that complies with the presentation rules set by that internet media venue and placing or making available the customized electronic advertisement within the framework of each internet media venue so that it is accessible by the end users, consumers, viewers, or buyers so that the electronic advertisement is displayed on each internet media venue in a form customized to each internet media venue’s presentation rules</p>	<p><u>Yahoo</u>: “processing . . . the electronic advertisement” means “obtaining and applying the presentation rules from the first database to create the electronic advertisement” <u>Google and Yahoo</u>: “publishing the electronic advertisement to one or more of the selected internet media venues” means placing the electronic advertisement at the internet media venue location for public display;” and further, “whereby the electronic advertisement is displayed on each of the one or more internet media venues” means the advertisement is displayed on every one of the internet media venue locations selected by the seller “in compliance with the presentation rules of the internet media venue” is indefinite because the language does not specify which internet media</p>

⁴ This is an example of a limitation that specifically calls for hardware as well as software.

Disputed Term	Function Media	Google & Yahoo!
		venue's presentation rules must complied with."

58. One of ordinary skill in the art reading the '025 and '059 patents would understand that to "publish the advertisement to the internet media venue" means "placing or making available the customized electronic advertisement within the framework of each internet media venue so that it is accessible by the end users, consumers, viewers, or Buyers." This definition comes verbatim from the definition of "publishing" provided in the '025 specification at 11:47-51.

59. Defendants' proposed construction of "publishing" leaves out the option of "making available." One of ordinary skill in the art would appreciate that making the presentation available within the framework of the internet media venue is different from physically placing the advertisement at the internet media venue. The '025 specification, for example, contemplates that advertisements may be made available for access to the viewer by being placed at the internet media venue's website server or by being placed within the framework of the website directly at the browser level. For example, at 52:28-42, the specification states as follows:

The Presentation Generation Program 1710 creates presentations that can be accessed by the buying public in location/outlet-appropriate formats and availability through the Central Presentation and Selection Server 2000; Independent Presentation Directories and Indexes or Independent stand-alone Presentations 3000; Printed Publications, Periodicals, Directories, CD-ROMs, and other Media and Presentations 6000; and the Buyers Interface 5000. The present invention allows buyers to review descriptions; specifications; photos; graphics; pricing; and the availability of products, goods, and services, including time- and allocation-critical services. The buyer can access this information and these resources through either a search specific mode or a browsing mode, depending on the advertising channel or media outlet he is using.

60. Defendants' proposed construction is also incorrect because it includes the word "location," which could imply that the presentation must be published only to the internet media venue server. The limitation has no such limitation, however. One of ordinary skill in the art reading the '025 and/or '059 patent specifications would understand that the advertisement need not be published only to an internet media venue server; rather, it could also be published

directly to a viewer accessing a web page through a browser, as I have discussed in the preceding paragraph.

61. Finally, Defendants’ proposed construction of the “whereby” clause is incorrect for the same reasons discussed above in ¶¶ 49 to 52. Their construction implies that a single advertisement is displayed at every selected internet media venue. As noted above, however, one of ordinary skill in the art reading the limitation and the ‘025 specification would understand that a customized advertisement is created for each media venue to which the advertising content is published. Such a person would also understand that the limitation requires only that the seller input selection information into the system—not that the seller necessarily directly select the media venues for publication. As the specification makes clear, the seller may also select indirectly via (for example) inputting channel information. Moreover, an advertisement may not be published to every selected media venue. A distribution factor, for example, could prevent publication. Thus, Defendants’ proposed construction is incorrect to the extent it implies either that the seller must directly select the media venue(s) or that an advertisement must be published to every selected media venue(s).

“owned or controlled by other than seller,” as found in all of the asserted claims

Disputed Term	Function Media	Google & Yahoo!
<p>A method of using a network of computers to contract for, facilitate and control the creating and publishing of presentations, by a seller, to a plurality of media venues owned or controlled by other than seller, comprising</p>	<p>A method of using a computer network that facilitates and controls the creation and publication of presentations, by a seller, to multiple media venues owned or controlled by other than seller, that include</p>	<p><u>Google:</u> This claim is indefinite because to “use a network of computers to contract for, facilitate, and control, the creating and publishing of presentations, by a seller” is to exercise control over the internet media venue, and thus it conflicts with the requirement that the internet media venue is “controlled by other than the seller” (Also, the terms “network of computers,” “presentations,” and “contract for” were expressly defined.)</p> <p><u>Yahoo!:</u> A method of using the sellers’ computers, the media venues’ computers, and the Resident Media computers, that may communicate either</p>

Disputed Term	Function Media	Google & Yahoo!
		continuously or on-demand for the purpose of sharing processing, transferring information and data to contract for, facilitate, and control the creating and publishing of presentations, by a seller, to a plurality of media venues owned or controlled by other than the seller, comprising

62. In my opinion, Google’s indefiniteness argument is at variance with how one of ordinary skill in the art reading the Function Media patents would understand the term “media venues owned or controlled by other than the seller.” The fact that a seller can use the invention to bring about the publication of advertisements on a particular media venue does not mean that the seller thereby “own[s] or control[s]” the media venue, and one of ordinary skill in the art would understand that. First, the ‘025 specification is clear that ownership or control of the media venue refers to ownership or control in the legal sense. For example, in defining “resident media” venues, the specification describes media venues that are “wholly owned and controlled” by the management, operators, or affiliates of the invention. *See* 12:6-8 (“Resident media refers to media that is wholly owned or controlled by the management, operators or affiliates of the given instance of the present invention.”). Second, even if the specification had contemplated that “creating and publishing” advertisements to a media venue meant “control” over the media venue, such “control” is contractually provided to the system operator. *See, e.g.*, ‘045 specification, at 53:52-54:32 (describing how a media venue contracts with the system operator through the provided software interface to permit customized advertisements to be published on its represented websites).

63. In Paper No. 4 of the ‘045 File Wrapper, at page 6, the inventor further confirms that the term “owned or controlled by other than the seller” refers to business entities legally unrelated to the seller. Specifically, the inventor distinguishes a prior art reference on the grounds that it disclosed “only an Internal Management Model”—a model that utilized publication to a seller company’s own media venue(s). The present invention, by contrast, taught “a **Business to Business Model**” (emphasis in original)—a model that utilizes publication

to companies legally unrelated to the seller. Indeed, in allowing the patent, the Examiner reasoned that the prior art disclosed “an ‘in-house’ system” and not “a system for selecting media venues owned by other than the seller...” See Notice of Allowability, page 2, appended to the April 10, 2002, Notice of Allowance. Defendants’ proposed construction does not reflect the purpose of the invention disclosed in the Function Media patents and distinguished in the prosecution history: to create an online advertising marketplace for legally unrelated sellers and media venues.⁵

64. I also disagree with Yahoo!’s proposed construction because it includes “Resident Media.” “Resident Media” is not recited in the claim. For example, at 12:6-8, the ‘025 specification notes that “Resident media refers to media that is wholly owned or controlled by the management, operators or affiliates of the given instance of the present invention.” The limitation requires only media venues that are owned or controlled by other than the seller. One of ordinary skill in the art would understand that nothing in the specification requires resident media to be part of the system.

“media venues”/“internet media venues,” as used in all of the asserted claims

Disputed Term	Function Media	Google & Yahoo!
media venue	those physical or virtual locations (e.g., web servers, domain names, internet addresses, websites) where presentations are placed or made available to present the information within the framework of the media so that it is accessible by the end users, consumers, viewers, or buyers.	those physical or virtual locations (i.e., addresses) where presentations are placed or made available to present the information within the framework of the media so that it is accessible by the end users, consumers, viewers, or buyers.

⁵ It is my understanding that, on February 3, 2009, Google withdrew its indefiniteness argument and proposed for the first time that the term “owned or controlled by other than the seller” means “the media venue ultimately controls the publishing of presentations.” This interpretation is contrary to the plain language of the claim, which states “media venues owned or controlled by other than the seller”—not “media venues in which the media venue controls the publication.” Google cites a portion of the specification describing a preferred methodology for the system to publish an advertisement to a media venue, namely to the media venue interface. (Other specification portions support other preferred publication method, such as directly to the viewer.) The specification portion cited by Google is not directed to the meaning of the term “media venues owned or controlled by other than the seller.” For all the reasons set forth above, the claim language, specification and the prosecution history all show that the term “media venues owned or controlled by other than the seller” refers to media venues that are not owned or controlled by the seller (in the legal sense).

65. One of ordinary skill in the art would understand that “media venues” are “those physical or virtual locations where presentations are placed or made available to present the information within the framework of the media so that it is accessible by the end users, consumers, viewers, or buyers.” This definition is taken verbatim from the ‘045 specification. The parties disagree, however, on the meaning of “virtual locations.”

66. Defendants’ proposal to further define “virtual locations” is unduly narrow because it describes only a single type of virtual location. It also fails to recognize that the ‘045 specification expressly describes a website and gives examples of other virtual locations that may be connected via the Internet (such as bulletin boards, news groups, and interactive media and networks). *See* 3:13-22.

67. One of ordinary skill in the art would not limit a virtual location to being an address because “address” and “virtual locations” are not synonymous. An address is one way to identify a virtual Internet location, but such a location may also be identified—including for seller-selection purposes—by a name or URL (for example). An address is a numeric value that will typically change dynamically and that represents a node on the Internet. A URL, by contrast, contains text (such as *www.google.com*). A URL represents an Internet domain and does not dynamically change. A person of ordinary skill in the art would recognize—consistent with the ‘045 specification and the open-ended definition of media venue therein—that a virtual location may be a website, an address, or any other virtual location that could constitute an Internet media venue and/or be selected other than by inputting an address.

“self-serve interface,” as used in claims 6 and 185 of the ‘025 patent; “first interface” and “a second interface to the computer system,” as used in all asserted claims of the ‘025 patent and the ‘059 patent; and “third interface to the computer system,” as used in all asserted claims of the ‘059 patent

Disputed Term	Function Media	Google & Yahoo!
self-serve interface	interface that the [internet media venue user/seller] uses without requiring the aid of anyone else	software and hardware at the [IMV/seller] location that the [IMV/seller] uses directly without the aid of anyone else.
first interface to the computer system	software that enables the internet media venue user to interact with the computer system.	software and hardware at the internet media venue location that enables an agent of the internet media venue to interact

Disputed Term	Function Media	Google & Yahoo!
		with the computer system.
each of the internet media venues is prompted to input presentation rules	each internet media venue user is prompted to input presentation rules	every one of the internet media venues is prompted to input presentation rules.
prompting each of the internet media venues... to input presentation rules	each internet media venue is prompted to input its presentation rules	every one of the internet media venues is asked to input presentation rules.
a second interface to the computer system through which a seller is prompted to input information to select one or more of the internet media venues	software that enables the seller user to interact with the computer system through which the seller user is prompted to enter information to select one or more internet media venues	software and hardware at the seller location in communication with the computer system through which the seller is prompted to enter information to enable the seller to select one or more internet media venues.
third party professional is prompted to input information to select one or more the internet media venues	third-party professional is prompted to input information used to select one or more internet media venues	Google: The third party professional is prompted to enter information to enable the third party professional to select one or more internet media venues
prompting the third party professional to input information to select one or more of the internet media venues	prompting the third-party professional to input information used to select one or more internet media venues	Google: The third party professional is prompted to enter information to enable the third party professional to select one or more internet media venues
third interface to the computer system	software that enables the third party professional user to interact with the computer system	software and hardware at the third party professional location that enables the third party professional to interact with the computer system.

68. The dispute between the parties here centers on whether the referenced interfaces are (1) software-only interfaces or (2) software and hardware interfaces—a dispute similar to the software/hardware dispute discussed above. One of ordinary skill in the art reading the specifications of the Function Media patents would understand that the interfaces are software

interfaces provided by the system operator to enable the intended user to interact with the system. These interfaces prompt the users to input information and are provided by the operator of the invention. *See, e.g.*, '045 specification, at 53:53-56:17; '025 specification, at 54:54-57:15; '059 specification, at 75:34-77:3. The specifications of the Function Media patents thus refer to the provided interface program as the "gateway to the present invention" and "the controlling software interface" for the intended user class. *See also, e.g.*, '025 specification, at 28:42-25 and 34:35-37; '059 specification, at 45:19-23.

69. The "first interface to the computer system" would be understood by one of ordinary skill in the art to be the software interface that enables the internet media venue user to interact with the computer system and through which the internet media venue is prompted to input its presentation rules. *See, e.g.*, '025 specification, at 34:35-47; '045 specification, at 53:53-54:32 and 33:45-56. The "second interface to the computer system" and the "third interface to the computer system" would likewise be understood by one of ordinary skill in the art to be software interfaces that enable a [seller/third party professional] user to interact with the system and through which the [seller/third party professional] user is prompted to input information. *See, e.g.*, '025 specification, at 41:39-63 and 28:42-63; '059 specification, at 45:19-23, 69:22-71, and 81:12-15.

70. Additionally, Defendants' proposed construction of the "first interface to the computer system" could be construed to imply that all media venues must interact with the system through a single first interface. In my opinion, such a construction would be wrong. The claim language is open-ended and does not require that all media venues must interact through a single interface, nor is any such requirement specified in the patents.

71. Further, the limitation does not specify any location of the interface. It is incorrect for Defendants to specify a location in their construction. The '045 specification shows that the software is preferably provided to the intended user via physical delivery and is physically installed on the user's computer. However, one of ordinary skill in the art reading the specifications of the Function Media patents would understand that the patents do not require that the interface software be necessarily installed on the seller's computer. Instead, one of ordinary skill in the art would read the Function Media patents to allow for other ways of providing a software interface (*e.g.*, via Internet download or through a website).

72. Likewise, it is incorrect for Defendants to include hardware in their proposed construction. The common definition of the term “interface” includes hardware or software. *See, e.g., IEEE Standard Dictionary of Electrical and Electronic Terms*, IEEE Standard No. 100 (1996), at page 541 (defining “interface” among other things as “a hardware or software component that connects two or more components for the purpose of passing information from one to the other”). That definition is consistent with the Function Media patents, which (1) expressly teach that the operator provides only the software interface and (2) expressly distinguish between the invention itself (*e.g.*, the provided software interface) and the environment in which the invention may operate (*e.g.*, a seller’s computer). *See, e.g.*, ‘025 specification, at 5:31-34 (“The present invention partially resides on the sellers’ computers, controls and edits the presentation, and then automatically transmits that information and data for publication in traditional media and electronic networks.”). It would be inconsistent with the specification to interpret the invention as both the software component of the invention and the hardware environment within which the software is running. To do so contorts the pertinent portions of the Function Media specifications into saying that the invention partially resides on the invention. One of ordinary skill in the art would understand that, regardless of the environment or the location where the invention is operating, the interfaces are each software programmed to perform the intended function—namely, enabling the intended user class (seller, media venue user, or third-party professional) to interact with the system by prompting the intended user to provide the necessary information for that user.

“presentation rules,” as used in all of the asserted claims of the ‘025 and ‘059 patents

Disputed Term	Function Media	Google & Yahoo!
presentation rules	controls to be set by a media venue for use by the computer system programming in creating advertisements for publishing on that media venue	rules that control and limit the style and editing of the presentations created by the system.

73. In my opinion, one of ordinary skill in the art would understand that “presentation rules” are controls to be set by a media venue for use by the computer system programming in creating advertisements for publication to that media venue. This understanding is made clear throughout the Function Media specifications. As those specifications describe, the Presentation

Generation Program uses these rules to process the seller information so as to create a customized advertisement for publication to that media venue. The system operator decides what types of rules his or her system will handle, and the media venue then selects its values from the available fields. For example, at 5:4-14 and 18:40-50, the '025 specification discloses that presentation rules could include

...the upper and lower limits of quantities such as amounts of text and size of images, restrictions of language and reference, standards of style and presentation, choices of type fonts and colors, as well as the cost of presentations and demographics of the DEF subscribers or viewers” and that “[t]he data fields held by the Presentation Rules Database 1650 will vary from seller type to seller type, as well as from one media type to another depending on the design of the presentations. Some of the fields that might be maintained are presentation templates; blocked words; blocked phrases; blocked references; presentation cost and options; publication dates and deadlines; blocked URLs; grammar guidelines; spelling dictionaries; presentation size restrictions; photo or graphics specifications such as size, compression, and file format; and any other guidelines, benchmarks, or controlling algorithms.

74. Defendants’ proposed construction suggests that the presentation rules must include both style (*i.e.*, formatting) and editorial (*i.e.*, content) rules. However, one of ordinary skill in the art would understand from the limitations and the open-ended examples provided above that presentation rules may include design or style standards that control the look and feel ('025 patent, claim 47) of the advertisement; editorial standards that control the content of the advertisement ('025 patent, claim 78); or distribution factors that determine whether to publish the advertisement to the media venue ('025 patent, claim 79). Thus, the term “presentation rules” may include design, content, or distribution rules: *See, e.g.*, '025 Abstract:

An internet advertising system and method that provides a seller self-serve control for creation, publication, and display of advertisements on internet media venues owned or controlled by entities other than the seller in a form automatically modified to comply with the media venues’ presentation rules, which may include design or style standards for “look and feel,” editorial standards, and distribution factors.

“design or style standards” and “look and feel,” as used in claims 47, 62, 63, 226, 241, and 242 of the '025 patent

Disputed Term	Function Media	Google & Yahoo!
design or style standards	presentation rules which control the look and feel of an	this term is indefinite because it is unclear what the term means or

Disputed Term	Function Media	Google & Yahoo!
	advertisement	does not mean.
control look and feel of the advertisement	control the appearance of an advertisement	this term is indefinite because it is unclear what the term means or does not mean.

75. In my opinion, one of ordinary skill in the art would understand that “design or style standards” are presentation rules that control the look and feel of an advertisement. Indeed, Claim 47 of the ‘025 patent expressly states that design or style standards control the look and feel of the advertisement:

The computer system of claim 1, wherein the presentation rules of the internet media venue comprise design or style standards, further comprising a computer program design filter to automatically apply or compare the internet media venue design or style standards to the information input by the seller or the advertisement to control look and feel of the advertisement to be displayed on the internet media venue. (‘025 specification at 67:35-44)

76. Examples of design and style standards include font standards, color standards, image standards, and size standards. *See, e.g.*, Claims 48-56 of the ‘025 patent. One of ordinary skill in the art would not find the term “look and feel” indefinite.

**“distribution factors,” as used in claims
79, 90, 91, 258, 269, 270 of the ‘025 patent**

Disputed Term	Function Media	Google & Yahoo!
distribution factors	rules concerning whether advertising content may be published on a particular media venue	information about where the internet media venue will make the advertisement available, such as billboards, skywriters, bus benches, radio, interactive kiosk, and any other form of customer

77. In my opinion, one of ordinary skill in the art would understand that distribution factors are presentation rules concerning whether advertising content may be published on a particular media venue. Indeed, Claim 79 expressly states that distribution factors determine whether to publish the advertisement to the internet media venue:

79. The computer system of claim 1, wherein the internet media venue presentation rules comprise distribution factors, further comprising a computer program distribution filter configured to automatically apply or

compare the internet media venue distribution factors to the information input by the seller or the advertisement to determine whether to publish the advertisement to the internet media venue.

78. Examples of distribution factors include advertisement costs, blocked URLs, content standards, blocked words/phrases/references, link restrictions, publication dates/deadlines, and demographics. *See* '025 specification, at 69: 28-49. At 18:29-59, the '025 specification reiterates that these examples are non-exhaustive:

The data fields held by the Presentation Rules Database 1650 will vary from seller type to seller type, as well as from one media type to another, depending on the design of the presentations. Some of the fields that might be maintained are presentation templates; blocked words; blocked phrases; blocked references; presentation cost and options; publication dates and deadlines; blocked URLs; grammar guidelines; spelling dictionaries; presentation size restrictions; photo or graphics specifications such as size, compression and file format; and any other guidelines, benchmarks, or controlling algorithms.

79. Defendants' proposed construction does not fit the specification. The examples that Google provides are examples of various media types—not examples of distribution factors.

“computer program design filter” and “computer program distribution filter” as used (respectively) in claims 47, 62 and 63 of the '025 patent, and claims 79, 90, 91 of the '025 patent

Disputed Term	Function Media	Google & Yahoo!
computer program design filter	software that processes design or style standards	this term is indefinite because it has neither ordinary meaning nor support in the written description.
computer program distribution filter	software that processes distribution factors	this term is indefinite because it has neither ordinary meaning nor support in the written description.

80. In my opinion, one of ordinary skill in the art would understand the term “computer program design filter” to mean software that processes design or style standards. Indeed, claim 47 specifies that the function of the computer program design filter is to automatically apply or compare the internet media venue design or style standards to the information input by the seller to control look and feel of the advertisement to be displayed on the internet media venue.

81. Moreover, the specification expressly describes that the presentation generation program acts (in one respect) as the computer program design filter to automatically apply or

compare the internet media venue design or style standards to information input by the seller. *See, e.g.*, '025 specification, at 42:52-55 and 42:31-37.

82. One of ordinary skill in the art who had read the '025 patent would interpret the computer program distribution filter as software that also processes distribution factors. Claim 79 expressly describes the function of that filter as being “to automatically apply or compare the internet media venue distribution factors to the information input by the seller or the advertisement to determine whether to publish the advertisement to the media venue.”

83. Moreover, the '025 specification describes that the Presentation Generation Program (in another aspect) acts as a computer program distribution filter. *See, e.g.*, 44:23-27 (“having passed the presentation information for content and style, the Presentation Generation Program 1710 next determines the directories and presentation indexes in which the information should be published. (blocks 11280-11284).”). Only then does the Presentation Generation Program format the presentation information for each selected media venue for display in compliance with its presentation rules. *See, e.g.* '025 specification, at 44:36-46.

84. Thus, the '025 specification makes clear to one of ordinary skill in the art that the Presentation Generation Program may act as the computer program design filter and the computer program distribution filter to ensure that advertising content meets the design or style rules and the distribution factors of the media venue for which it is created and to which it is published. I therefore disagree with Defendants' indefiniteness contention.

“automatically applying or comparing the internet media venue design or style standards to the information input by the seller or the advertisement,” “automatically applying or comparing the internet media venue distribution factors to the information input by the seller or the advertisement,” and “automatically applying or comparing the internet media venue presentation rules to the information input by the seller or the advertisement,” as used in claims 47, 62, 63, 226, 241, 242, 269, 270 and 319 of the '025 patent

Disputed Term	Function Media	Google & Yahoo!
automatically applying or compare/ing the internet media venue design or style standards to the information input by the seller or the advertisement	execute/ing a systematic sequence of mathematical and/or logical operations to apply or compare the internet media venue's design or style standards to the information input by the seller or to the advertisement	these terms are indefinite at least because of the multiple, cascading “or” in the claims themselves, and particularly because the “information” must be input by the seller “or” the [text] advertisement.

Disputed Term	Function Media	Google & Yahoo!
automatically apply/ing or compare/ing the internet media venue distribution factors to the information input by the seller or the advertisement	execute/ing a systematic sequence of mathematical and/or logical operations to apply or compare the internet media venue's distribution factors to the information input by the seller or to the advertisement	these terms are indefinite at least because of the multiple, cascading "or" in the claims themselves, and particularly because the "information" must be input by the seller "or" the [text] advertisement.
automatically...applying or comparing the internet media venue presentation rules to the information input by the seller or the advertisement	execute a systematic sequence of mathematical and/or logical operations to apply or compare the internet media venue's presentation rules to the information input by the seller or the advertisement	these terms are indefinite at least because of the multiple, cascading "or" in the claims themselves, and particularly because the "information" must be input by the seller "or" the [text] advertisement.

85. In my opinion, one of ordinary skill in the art would not find these terms indefinite. Defendants' primary argument appears to be that these terms are unclear because they supposedly suggest that the invention applies/compares the internet media venue's standards/rules to "information input by the seller" or "information input by the advertisement." One of ordinary skill in the art would not read these claims in such a fashion. The '025 specification clearly discloses to one of ordinary skill in the art that the presentation rules may be applied to, or compared with, advertising content that is input by the seller either as (1) a new advertisement or (2) as modifications to an existing advertisement. *See, e.g.*, '025 specification, at 42:53-56: ("The information entered, either as a new presentation or as modifications to an existing presentation, can be sent to the Central Controller and Presentation Processor 1000 immediately or delayed for publication later."). Even when an existing advertisement is modified, the presentation generation program will reformat it (ensuring compliance with the presentation rules of the media venue to which it is published). *See, e.g.*, '025 specification, at 44:36-43. ("The Presentation Generation Program 1710, using the information contained within the Presentation Rules Database 1650, then formats the presentation information for each client outlet, channel, resident media, or non-resident media (blocks 11300, 11294). New presentations are created in their entirety, while only the portions of existing presentations affected by any modifications are republished.").

86. Defendants' proposed construction is also incorrect because the word "[text]" appears nowhere in the limitations.

“blocked URLs,” as used in claim 81 of the ‘025 patent

Disputed Term	Function Media	Google & Yahoo!
blocked URLs	internet locations that are precluded from displaying a presentation	this term is indefinite because it unclear what it means in view of the written description.

87. In my opinion, one of ordinary skill in the art who had read the specifications of the Function Media patents would understand the term “blocked URLs” to mean Internet locations that are precluded from displaying a presentation. The term “URL” is an acronym for “Universal Resource Locator,” which is an Internet-related term that refers to a website domain name. For example, the URL for Google’s primary website is *www.google.com*. Thus, in the context of the ‘025 patent, one of ordinary skill in the art would understand the above limitation to mean a seller’s website that has been blocked from advertising on the website of the media venue that specified the block.

“advertisement generation program,” as used in Claims 143, 144, and 148 of the ‘025 patent

Disputed Term	Function Media	Google & Yahoo!
advertisement generation program	software that displays an electronic advertisement	<u>Google</u> : this term is indefinite because it has no ordinary meaning and no support in the written description. <u>Yahoo</u> : advertising software at the internet media venue location

88. In my opinion, one of ordinary skill in the art reading the ‘025 specification would interpret the “advertisement generation program” to mean “software that displays an electronic advertisement.” This construction is in accord with the express functional definition given to that term in Claims 143 and 144 as well as the use of that term in claim 148. Specifically, claim 143 introduces and defines the term consistently with how the term is used in claim 148:

143. The computer system of claim 1, further comprising an advertisement generation program for displaying the advertisement published by the computer controller on the one or more of the selected internet media venues in compliance with the internet media venue presentation rules.

148. The computer system of claim 141, wherein the computer controller publishes the modified or reformatted advertisement to the one or more of the

selected internet media venues for display by an advertisement generation program in compliance with the internet media venue presentation rules.

89. Yahoo!'s proposed definition does not identify any function for the software—even though the associated claims make clear that the advertisement generation program is software that operates to display an advertisement (as set forth above). Further, those claims do not limit the location of the software. One of ordinary skill in the art would not read the specification as limiting the location of the advertisement generation program to the internet media venue location, particularly given the fact that programs can operate remotely over the Internet or another telecommunication connection.

Executed on February 27, 2009

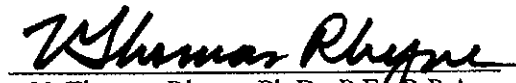

V. Thomas Rhyne, Ph.D., P.E./R.P.A.

EXHIBIT A

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BIOGRAPHICAL DATA

Birthdate: February 18, 1942

Citizenship: USA

Married: Glenda Pevey Rhyne

Children: Amber Rhyne Compton and Vernon Thomas Rhyne, IV

Grandchildren: Truett Rhyne Compton and Tate James Compton

Security Clearance: Department of Defense Secret (Inactive)

PROFESSIONAL INTERESTS

- Microprocessor/Microcomputer Design and Application
- Computer-Aided Design
- Computer Architecture
- Digital Systems Design and Synthesis
- Digital Communications
- Electronic Circuit Design
- Semiconductor Manufacture
- Technology Maturation and Commercialization
- Intellectual Property Litigation

EDUCATION

- Ph.D. (Electrical Engineering) — Georgia Institute of Technology, 1967.
- M.E.E. — University of Virginia, 1964.
- B.S.E.E. (Special Honors) — Mississippi State University, 1962.
- Japanese Language Instruction, 1988-89, 1996, 1997.
- Modern Semiconductor Manufacturing, Motorola University, 1996.

WORK EXPERIENCE

Industrial and Research:

1997-Present: Retired from Texas A&M University; part-time engineering consultant.

1995-1997: Manager of Strategic Programs, Strategic Asset Group, Semiconductor Products Sector, Motorola, Inc, Austin, TX. Responsible for technology transfer negotiations and management of joint ventures with strategic partners.

1994-1995: Vice President, Research and Development, Information Systems Division, Microelectronics and Computer Technology Corporation (MCC). Responsible for MCC R&D in neural network applications, data mining, software interface standardization, and other advanced software development projects.

1991-1994: Director, MCC ATLAS Standards Laboratories. Responsible for definition and testing of CAD framework and interfaces in support of the CAD Framework Initiative, Inc.

1989-1991: Manager, CAD Framework Laboratory, MCC CAD Program. Responsible for definition and testing of CAD framework and interfaces.

1988-1989: Manager, Systems Engineering Group, MCC CAD Program, 1988. Responsible for alpha testing of MCC CAD System.

1986-1989: Deputy Director, MCC CAD Program. Responsible for general program administration.

1983-1986: Director, Systems Technology Laboratory, MCC CAD Program, Austin, TX. Responsible for development of supporting technologies for MCC CAD System including distributed databases, natural-language interface, and rule-based design management.

1962-1965: Aerospace Technologist, Analysis and Computer Technology Division, NASA Langley Research Center, VA

1965-1967: System Engineer (Part-Time), Lockheed-Georgia Research Center, Marietta, GA.

1961: Summer Intern, Union Carbide Corporation, Texas City, TX.

Academic

- Senior Lecturer in Electrical/Computer Engineering, University of Texas at Austin, 1984-1994.
- Adjunct Faculty Member, Department of Electrical and Computer Engineering, Carnegie-Mellon University, 1986-1992.
- University/SRC Coordinator, MCC CAD Program, 1988-1990; SRC Design Sciences Advisory Committee, 1989-1990.
- Professor, Electrical Engineering, Texas A&M University 1974-1986 (on leave to MCC during 1983-86).
- Coordinator of Computing, Texas AM University, 1982-1983.
- Director, Digital Systems Laboratory, Department of Electrical Engineering, Texas A&M University, 1978-1983.
- Associate Professor, Electrical Engineering, Texas A&M University, 1969-1974.
- Assistant Professor, Electrical Engineering, Texas A&M University, 1967-1969.
- Instructor, Electrical Engineering, Georgia Institute of Technology, 1965-1967.
- Lecturer, Computer Systems, George Washington University Extension, 1964.

Consulting:

- Consultant to a number of companies and law firms re intellectual property litigation, 1978-present (part-time).

- Consultant to the Electric Power Research Institute, including serving as technical project manager on the EPRI/DOE Distribution Automation Project, 1979-1983.
- Consulting engineer to a variety of national and international industries dealing with microelectronics and computer design. Clients have included Texas Instruments, Control Data Corporation, AMD, ETA, and Signetics.
- Consulting engineer to a variety of clients dealing with computer systems for satellite navigation. Clients have included Texas Instruments, Gould, Matsushita, ITE-Europe, and the Federal Republic of Germany.
- Invited member of NASA Shuttle-GPS Advisory Panel and EPRI/DOE Distribution Automation Research Review Panel, 1979-1981.
- Consultant to U.S. Coast Guard, developing on-line data acquisition system for shipboard navigation data and off-line data processing/analysis systems, 1979-1982.
- Principal investigator on research projects dealing with automated Boolean minimization, high-speed computer arithmetic, bit-serial processing, special-purpose VLSI architectures, marine navigation systems, and computer-aided design of digital systems, 1967-83.

OTHER PROFESSIONAL ACTIVITIES

- Member, Panel on Assessment, Electrical and Electronics Engineering Laboratory, U.S. National Institute for Standards and Technology, 1993 to 1999; Panel Chair, 1996-99. (Appointed by National Research Council)
- Planning Committee, 1997 Workshop for National Technology Roadmap for Semiconductors, SIA.
- Member, Technical Working Group (TWIG) on Semiconductor Manufacture, SIA, 1995-97.
- Secretary, Board of Directors of White Oak Semiconductor, Inc., Richmond, VA, 1996-97.
- Executive Secretary, Board of Directors of the Tohoku Semiconductor Corporation, Sendai, Japan, 1996-97.
- Board of Directors Alternate, Semiconductor Research Corporation, representing Motorola, 1995-96.
- Roadmap Coordinating Committee, Semiconductor Industries Association, 1995.
- Book reviewer, *American Scientist*, 1993.
- Reviewer for State-funded research proposals in microelectronics, computer science, and computer engineering, Texas Higher Education Coordinating Board, 1993.
- Visitor for Accreditation Board for Engineering and Technology, accrediting undergraduate programs in Computer Science, Computer Engineering and Electrical Engineering, 1981-1983, 1991-92, 1997-present.

- Chair for nine U.S. engineering program accreditation teams, 1984-90, including accreditation teams for the University of California at Berkeley (1988) and the University of Illinois (1989).
- Advisor, Texas State Board of Education (1985), Texas State Coordinating Board for Higher Education (1987).
- Consultant on international engineering accreditation, Kuwait University College of Engineering and Petroleum (1990 and 1992), Korean Institute for Advanced Science and Technology (1993), Bilkent University, Ankara, Turkey (1995), University of the United Arab Emirates (1998), ITESM, Querétaro, Mexico (1999), Kyoto University, Japan (2000), Ritsumeikan University, Japan (2000), Mapua Institute of Technology, Manila (2004).
- Consultant on engineering accreditation to the Japan Accreditation Board for Engineering Accreditation, 2000-2004.
- Advisor to the Washington Accord on International Engineering Accreditation, 2003-04.
- Consultant on engineering education and long-range planning, George Washington School of Engineering and Applied Science, 1990 and 1993-94.

PROFESSIONAL LICENSES

- Registered Professional Engineer, Texas, No. 28,728.
- Registered Patent Agent, No. 45,041.
- Pilot (Single-Engine Land).

PROFESSIONAL AND HONORARY SOCIETY MEMBERSHIPS

Professional Societies:

- Member, Institute of Electrical and Electronics Engineers, 1963-present.
- IEEE Treasurer, 1994 and 1995.
- IEEE Board of Directors, 1991-1995.
- IEEE Executive Committee, 1993-1995.
- IEEE Board of Directors, Division VIII Director, 1993, Division VI Director, 1991-1992.
- IEEE Technical Activities Board, 1991-93.
- IEEE Employee Benefits Committee, Member, 1991 to 1999, Chair, 1997, 1998.
- IEEE Computer Society, 1964 to present.
- IEEE Computer Society Board of Governors, 1985.
- IEEE Computer Society Executive Committee, 1993.
- Accreditation Board for Engineering and Technology, 1994 to 1999, representing IEEE.

Honorary Societies:

- Upsilon Pi Epsilon (Computer Science).

- Eta Kappa Nu (Electrical Engineering).
- Tau Beta Pi (Engineering).
- Phi Kappa Phi (Scholarship).
- Sigma Xi (Research).

OTHER HONORS

- The Contemporary Who's Who, 2003.
- Strathmore's Who's Who, 2000-present.
- IEEE Millennium Award, 2000.
- Golden Core Award, IEEE Computer Society, 1996.
- Fellow of the Accreditation Board for Engineering and Technology, 1992.
- Outstanding Engineering Graduate, Mississippi State University, 1992.
- IEEE Educational Activities Board Award for Meritorious Achievement in Accreditation Activities, 1991.
- Who's Who in America, 1991-present.
- Who's Who in Engineering, 1991-present.
- Elected as an IEEE Fellow for "contributions to computer engineering and the computer engineering profession," 1990. (Now a Life Fellow.)
- F. E. Terman Award (Outstanding Young Electrical Engineering Educator in U.S.), American Society for Engineering Education, 1980.
- Outstanding Young Engineer (Honorable Mention), National Society of Professional Engineers, 1974.
- Young Engineer of the Year, State of Texas, Texas Society of Professional Engineers, 1973.
- Outstanding Faculty Member, Texas A&M University Student Engineers Council Award, 1973.
- General Dynamics Award for Excellence in Engineering Teaching, 1972.
- American Men and Women of Science.

COMMITTEE MEMBERSHIPS

Professional Activities:

- Technical Program Chair for 1992 IFIPS Workshop on Electronic CAD Design Environments, March 23-25, 1992, Paderborn, Germany.
- Chair, ISO TC184/SC4-IEC TC3 Joint Working Group (JWG9) for Electrical/Electronic Product Data Exchange, 1991-1993.

- DARPA Principal Investigators Advisory Panel, Information Systems Technology, 1990-1994
- Review team member for academic and research programs in microelectronics at the Microelectronics Research Center, Iowa State University, 1989.
- CAD Framework Initiative: Interim Steering Committee, 1988-1989; Board of Directors, 1989-1992; Treasurer, 1989-1992; Chair, Technical Coordinating Committee, 1989-1990.
- Member, IEC TC3, WG11, 1990-1991.
- Member, Working Group 2, IEC Technical Committee TC3, and IEEE SCC 11.9, developing IEEE Standard 91-1984, "Explanation of Logic Symbols," 1982-1985.

Civic Activities:

- Elected to Eanes Independent School District Board of Trustees, 1986-1997; President, 1987-1990, 1996-97.
- Texas Association of School Boards Finance Committee, 1989-1994; Tax Restructuring Committee, 1990.
- Citizens Advisory Committee, *Westlake Picayune*, 1988-90.
- Advisory Committee for Electric Power Distribution, City of West Lake Hills, 1987-1990.
- Capital Area Easter Seal Rehabilitation Center Advisory Board, 1985-1986, Telethon Committee, 1986.

Publications

Books, Contributions to Books, Published Notes, and Standards:

- *Electronic Design Automation Frameworks—When Will the Promise Be Realized?*, North-Holland, Amsterdam, 1992 (editor and contributor).
- ISO 10303 Standard for Product Data Exchange, Parts 103 (Electrical Interconnectivity), 212 (Electrotechnical Plants), 210 (Printed Circuit Assembly Design and Manufacture), and 211 (PCA Test and Logistics); editor and technical contributor, 1991-1993.
- "An Introduction to CAD Framework Technology," Published notes for DAC Tutorial, 1991 Design Automation Conference, June 21, 1991.
- "NAVSTAR Global Position System, A User's Approach to Understanding," published notes for IEEE Continuing Education Course No. 1125 (1982), with P. S. Noe and J. H. Painter.
- *Traffic Control Systems Handbook*, Chapter 8, "Communications Concepts," Federal Highway Administration, 1976.
- *Fundamentals of Digital Systems Design*, Prentice-Hall, 1973.

- “Supplementary Information for Computer Engineering Program Evaluators,” IEEE Manual for Program Evaluators on EAC Accreditation Teams, IEEE Educational Activities Board, May 1987.
- “ABET/EAC Program Criteria for Computer Engineering and Similarly Named Engineering Programs,” contributor, 1985-87.
- “Graphic Symbols for Logic Devices,” ANSI/IEEE Standard 91-1982, (co-author), IEEE Standards Office, New York, March 1982.
- “The NAVSTAR Global Positioning System, A User’s Approach to Understanding.” Produced by ALTAIR Corp., College Station, Texas. With P.S. Noe and John H. Painter. 1979 to 1985.

Refereed Papers and Published Research Reports:

- “Report of Board on Assessment of NIST Programs, (editor and contributor), National Research Council, Washington, DC, 1994, 1995, 1997, 1998, 1999.
- “An Algorithm for Identifying and Selecting the Prime Implicants of a Multiple-Output Boolean Function,” with Sharon Perkins, *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, Vol. 7, No. 11, pp. 1215-1218, November, 1988.
- “A Signed Bit-Sequential Multiplier,” with Noel Strader, *IEEE Transactions on Computers*, Vol. C-35, No. 10, pp. 896-901, October 1986.
- “VLSI CAD Research at MCC,” invited paper published in the “D&T Research” section of the inaugural issue of *IEEE Design & Test of Computers*, pp. 104-107, November 1984.
- “Limitations on Carry Lookahead Networks,” *IEEE Transactions on Computers*, Vol. C-33, No. 4, pp. 373-374, April 1984.
- “A VLSI-based VO Formatting Device,” with S. White and N. Strader, *IEEE Transactions on Computers*, Vol. C-33, No. 2, pp. 140-149, February 1984.
- “A Canonical Bit-Serial Multiplier,” with Noel Strader, *IEEE Transactions on Computers*, August 1982, pp. 791-795.
- “Communication Systems for Distribution Automation and Load Management: Results of EPRI/DOE Research,” with W. E. Blair, *IEEE Transactions on Power Apparatus and Systems*, July 1982, pp. 1888-1893.
- “Field Demonstrations of Communication Systems for Distribution Automation,” Department of Energy Report NBB-0012, June 1982.
- “Field Demonstrations of Communication Systems for Distribution Automation,” Electric Power Research Institute Report EL-1860, March 1982.
- “Optimum State Assignment for the D Flip-flop,” with Phil Noe, *IEEE Transactions on Computers*, August 1977, pp. 757-764.

- “A New Technique for the Fast Minimization of Switching Functions,” with Noe, McKinney, and Pooch, *IEEE Transactions on Computers*, Vol. C-26, No. 8, pp. 757-764, August 1977.
- “On the Number of Distinct State Assignments for a Sequential Machine,” with Phil Noe, *IEEE Transactions on Computers*, January 1977, pp. 73-75.
- “MNR – A Fast New Boolean Function Minimization Algorithm,” with Noe, McKinney, and Pooch, *TEES Technical Bulletin*, pp. 21-28, January 1975.
- “Programmed Logic Arrays,” *New Logic Notebook*, Vol. 1, No. 2, pp. 1-33, October 1974.
- “Comments on ‘Weighting Method for the Determination of the Irredundant Set of Prime Implicants’,” with Noe and Suraratrungsi, *IEEE Transactions on Computers*, Vol. C-23, No. 6, pg. 646, June 1974.
- “A Modification to the SHR-Optimal State Assignment Procedure,” with Noe, *IEEE Transactions on Computers*, Vol. C-23, No. 3, pp. 327-329, March 1974.
- “Use of the Voice to Control Machines,” with Newell, Sherwood, and Edwards, *TEES Technical Bulletin*, pp. 4-11, January 1972.
- “Terminal-Oriented Systems,” (Contributor), *Computer*, May-June, 1971.
- “A Simple Postcorrection for Nonrestoring Division,” *IEEE Transactions on Computers*, Vol. C-20, No. 2, pp. 213-214.
- “Computer-Oriented Electrical Engineering Experiments: 1969-1970,” (Contributor), *Cosine Committee Publication*, December 1970.
- “Coherent Time Averaging Revisited: Comments and Cautions,” *Medical Research Engineering*, Vol. 9, No. 4, pp. 8-10, September 1970.
- “Serial Binary-to-Decimal and Decimal-to Binary Conversion,” *IEEE Transactions on Computers*, Vol. C-19, No. 9, pp. 808-812, September 1970.
- “Serialization of Class Design Projects,” *Engineering Education*, November 1970, pp. 88-89.
- “Quantitative Method to Measure the Relationship between Prosthetic Gait and the Forces Produced at the Stump-Socket Interface,” with Leavitt, et. al., *American Journal of Physical Medicine*, Vol. 49, No. 3, pp. 192-203, June 1970.
- “Computer Analysis of Data Obtained from an Instrumented Prosthetic Leg,” with Leavitt, Peterson, and Canzoneri (Baylor College of Medicine), *Computer Programs in Biomedicine*, Vol. 1, No. 1, pp. 36-46, January 1970.
- “Comparison of Coherent Averaging Techniques for Repetitive Biological Signals,” *Medical Research Engineering*, Vol. 8, No. 4, pp. 22-26, September 1969.
- “The Design of Optimal Convolutional Filters via Linear Programming,” *IEEE Transactions on Geoscience Electronics*, Vol. GE-7, No. 3, pp. 142-145, July 1969.

- “A Digital System for Enhancing the Fetal ECG,” *IEEE Transactions on Biomedical Electronics*, Vol. BME-016, No. 1, pp. 80-86.
- “Digital Signal Enhancement of the Fetal ECG,” *American Journal of Obstetrics and Gynecology*, Vol. 102, No. 4, pp. 549-555, October 1968.

Conference Papers and Other Presentations:

- “The Role of the NIST Electrical and Electronics Engineering Laboratory,” Invited Testimony before the Subcommittee on Science and Technology, U.S. House of Representatives, 1996.
- “Introduction to the National Technology Roadmap for Semiconductors,” National Institute for Standards and Technology, Washington, DC, May 8, 1995.
- “Application Specific Electronic Modules (ASEM) CAD/CAE/CAM Interface Specification Alliance, 1994 IEEE Multi-Chip Module Conference, March 15-17, 1994, Santa Cruz, CA. With Drake, *et al.*
- “Standardization – The Key to Enterprise Integration,” MCC Enterprise Integration Workshop, Austin, TX, July 18, 1992.
- “High-Speed Computer Arithmetic,” Pettit Chair Seminar, Georgia Institute of Technology School of Electrical Engineering, April 6, 1992.
- “ECAD Frameworks – When Will the Promise be Realized?” Opening Address, 1992 IFIPS EDAF Workshop, Paderborn, Germany, March 23, 1992.
- “If Concurrent Engineering is the Answer, What’s the Question?” Invited presentation at the Frontiers in Education Conference, Purdue University, September 21, 1991.
- “Concurrent Engineering for Electronics,” invited presentation at the First Forum on Concurrent Engineering,” Paris, September 19, 1991.
- “Formal versus Informal Standards in Software Development,” Invited Presentation to the Workshop on the Portable Common Interface Standard, London, April 30, 1991.
- “Overview of U.S. Product Standards Activities,” DARPA Principal Investigators Workshop, Salt Lake City, Utah, March 10-11, 1991.
- “CAD Framework Technology and the CAD Framework Initiative,” Invited Keynote Presentation to INTERNEPCON, Tokyo, January 23, 1991.
- “Conformance Testing of CAD Interfaces,” with R. Reed and N. Kenagy, IFIPS Workshop on Design Environments, Charlottesville, VA, November 25-27, 1990.
- “Standards for Analog CAD,” Workshop on Analog Circuit Engineering, Research Triangle, NC, October 2, 1990.
- “The MCC CAD Framework Laboratory,” DARPA Principal Investigators Workshop, Chapel Hill, NC, October 3-5, 1990.
- “The Role of the School Attorney,” Texas Association of School Boards Convention, Houston, TX, September 22, 1990.

- “The CFI and Technology CAD,” Invited Presentation at TCAD Workshop, Semiconductor Research Corporation, Research Triangle, NC, January 10, 1990.
- “The MCC CAD Framework Laboratory,” IEEE Computer Society Chapter Meeting, Austin, TX, December 13, 1989; also presented at the 1990 NCR Conference on Tools and Methods for Design of Complex Electronic Systems, MCC, Austin, TX, January 23, 1990.
- “CAD Framework Standardization and the CAD Framework Initiative,” Invited Presentation to the Information Processing Society of Japan, Special Interest Group on Design Automation, Tokyo, December 1989.
- “Introduction to the CAD Framework Initiative,” Invited Presentation to the Third European EDIF Forum, Bonn, West Germany, October 12, 1989.
- “VLSI CAD Research at MCC,” Invited Seminar presented at Iowa State University (January 1988) and the University of Texas at Austin (February 1988).
- “Career Goals in Electrical and Computer Engineering,” Invited Presentation to Eta Kappa Nu Chapter at Texas A&M University, December 1987.
- “Object-Oriented Databases for CAD,” Invited Presentation at the IEEE Committee on Computer-Aided Network Design (CANDE) Workshop, Lakeway, TX, November, 1986.
- “DOSS: A Storage System for Design Data,” with Weiss, Rotzell, and Goldfein, 23rd ACM/IEEE Design Automation Conference, Las Vegas, June 1986.
- “Automating the Generation of Interactive Interfaces,” with Hammer, et. al., 23rd ACM/IEEE Design Automation Conference, Las Vegas, June 1986.
- “Managing Research in the MCC Environment,” University of Texas at San Antonio Graduate Seminar Series, May 1986.
- “VLSI CAD Research at MCC,” 1984 South Central Regional ACM Conference, Austin, TX, November 17, 1984; also presented at the Berkeley Electrical Engineering Graduate Seminar Series, Berkeley, CA, October 1, 1984; and to the Central Texas Section of the IEEE, Austin, TX, October 11, 1984.
- “Electronic CAD: Today and Tomorrow,” Southwest CAD/CAM Conference, Austin, TX, September 20, 1984.
- “Communications Options for Distribution Automation,” Invited Presentation at Transmission & Distribution EXPO, Atlanta, December 13, 1982; portions reprinted in “T&D Expo Blends Theory And Practice,” *Transmission & Distribution*, February 1983, pp. 20-24.
- “Comparative Results for GPS, Omega, and LORAN Marine Navigation,” Proceedings of the 1982 National Telecommunications Conference Galveston, TX., November 7-10, 1982. With P.S. Noe.
- “Statistical Analysis of GPS Marine Navigation Data,” with Noe, Painter, and Lotz, PLANS’82 Conference, Atlantic City, NJ, December 1982.

- “New Comparisons Between C/A GPS and Other Marine Nav aids,” with Noe and Painter, National Telecommunications Conference, New Orleans, LA, December 1981.
- “Communication Systems for Distribution Automation and Load Management: Results of EPRI/ DOE Research,” with W.E. Blair, EEE/PES Conference and Exposition on Overhead and Underground Transmission and Distribution, Minneapolis, September 23, 1981.
- “A Critique of Distribution Automation Research,” Invited Closing Address at EPRI/DOE Seminars on Communication Systems for Distribution Automation and Load Management, Atlanta (June 4, 1981) and Denver (June 18, 1981).
- “NAVSTAR-A New Star on the Horizon,” with Noe and Painter, IEEE Region V Conference, San Antonio, Texas, April 22, 1980.
- “The GPS Navigator,” with Noe and Painter, Joint Applications in Instrumentation, Control, and Computing Conference, Clear Lake, Texas, March 13-14, 1980.
- “The C/A Code GPS Receiver at Sea,” with Phil Noe and John Painter, IEEE Position Location and Navigation Symposium, Atlantic City, NJ, December 8-11, 1980.
- “Evaluating GPS Performance in the Marine Environment,” with Noe and Painter, National Telecommunications Conference, Houston, Texas, December 3, 1980.
- “A Navigation Algorithm for the Single Channel Low-Cost GPS Receiver.” Proceedings of the Third Digital Avionics Conference, Fort Worth, Texas, November, 1979. With H. Parsiani and P.S. Noe.
- “An AM9511/8080 Processor System for Use in Digital Avionics.” Proceedings of the Third Digital Avionics Conference, Fort Worth, Texas, November, 1979. With A. J. Brown and P.S. Noe.
- “Low Cost Navstar/GPS Receiver/Microprocessor Floating Point Design,” IEEE 1979 National Aerospace and Electronics Conference, May 16-18, Dayton, OH. With Phil Noe.
- “Improving Volumetric Intrusion Security System Reliability Through The Use of a Digital Processing Technique,” 1974 Carnahan and International Crime Countermeasures Conference, April 16-19, 1974. Lexington, KY. With Joel N. Holyoak and Philip S. Noe.
- “A Color CRT Image Display System,” 1973 SID International Symposium Digest of Technical Papers, May 15-17, 1973. With Frank Bruns and John Schell.
- “The Design of Digital Filters for Seismic Data Analysis via Linear Programming,” 21st Southwestern IEEE Conference and Exhibition Record, 1969. With Ralph Cavin and Clifford Ray.

**Cases In Which I Have Testified At Trial, Hearing, Or By Deposition Within The
Preceding Four Years**

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
PalTalk vs. Microsoft	Eastern	Texas	Civil Action No. 2:06cv367-DF	Depositions
Planview vs. CA	Travis County	Texas (State Court)	Cause No. D-1-GN- 06-001382	Deposition and Hearing
A.I. vs. Continental Airlines	Eastern	Virginia	Civil Action No: 2:07-cv-00341	Deposition
SanDisk vs. Various	ITC	N/A		Deposition and Hearing
Flash Seats vs. Pacolian	Delaware	N/A	Case No. 07-575 (JJF)	Deposition
PST vs. Federal Express	Eastern	TX	Civil Action No. 5:07-cv-00038-DF- CMC	Deposition
Computer Acceleration vs. Microsoft	Eastern	TX	Case No. 9:06-CV- 140	Deposition and Trial
Transcore vs. ETC	Northern	TX	Civil Action No. 3:05-CV-2316 K	Hearing
Tinkers & Chance vs. leapfrog	Eastern	TX	Civil Action No. 2- 05-CV-369 TJW	Deposition
Orion vs. Hyundai	Eastern	TX	Civil Action No. 6:05-CV322-LED	Deposition and Trial
O2 Micro vs. MPS	Northern	CA	Case No. C.04cv2000	Deposition and Trial
Forgent vs. EchoStar	Eastern	TX	Consolidated C.A. No.: 6:06-208	
AutoBytel vs. Dealix	Western	TX	Civil Action No. 2:04-cv-338-LED	Deposition
SanDisk vs. STMicro	ITC	N/A	Investigation No 337-TA-560	Deposition
Lectrolarm Custom Systems, Inc. vs. Vicon Industries, Inc. <i>et al.</i>	Western	Tennessee	Civil Action No. 03-2330	Deposition
Gobeli Research, Ltd. V. Apple Computer Inc. and Sun Microsystems, Inc.	Eastern	Texas	2:04-CV-149 (TJW)	Deposition
O2 Micro vs. BiTek	Eastern	Texas	2:04-CV-32-TJW	Deposition, Trial
Tantivy vs. Lucent	Eastern	Texas	2:04-CV-79-TJW	Deposition

PARTIES	DISTRICT	DIVISION	CASE NUMBER	TESTIMONY
TiVo vs. EchoStar	Eastern	Texas	2:04-CV-1-DF	Deposition, Trial, and Contempt Hearing
O2 Micro vs. Taiwan Semiconductor	Eastern	Texas	2:03-CV-007 (TJW)	Deposition
Zoran vs. Mediatek	ITC	N/A	Investigation No. 337-TA-506	Deposition