

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Duration Media LLC
Petitioner,

v.

Rich Media Club LLC
Patent Owner.

US Patent No. 11,443,329
Case IPR2023-00953

Ex-1027

**SECOND DECLARATION OF DR. TREVOR SMEDLEY
IN SUPPORT OF PETITIONER'S REPLY TO
THE PATENT OWNER RESPONSE**

1) Materials Considered

1. I have considered the following documents, in addition to the documents cited in my first declaration, Ex-1009, ¶35.

Ex. No.	Document
2004	U.S. Patent No. 11,195,210 Request for Continued Examination, 9/1/21 and Information Disclosure Statement 9/1/21
2005	U.S. Patent No. 11,195,210 B2 (Batkin)
2007	Smedley Deposition Exhibit - Comparison of Figure 51 '329 and Figure 3 Batkin.
2008	CopyLeaks Plagiarism Report and Results for U.S. Patent No. 11,195,210
2009	Duration Media-RealVu License Cooperation Agreement (September 24, 2018)
2010	Smedley Deposition Exhibit – U.S. Application No. 20060224445 (March Badros)
2012	Smedley Deposition Exhibit – Declaration of Trevor Smedley from IPR2019-01000 (Match.com)
2013	RealVu Overlay
2014	Duration Media Overlay
2015	Assignment of Application 12/384,403 to Rich Media Club, LLC
2016	Assignment of Application 12/803,779 to Rich Media Club, LLC
2017	Smedley Deposition Exhibit - Media Ratings Council Accreditation Letter (April 13, 2010)
2018	MRC's Viewable Impression Advisory (Nov. 14, 2012)
2021	Smedley Deposition Exhibit - Proposed Claim Amendment 1
2022	Press - Duration Media
2023	Patent Information - Duration Media
2024	David Cohen - Curious Thoughts from Curious Minds: This Could Change Everything - David Cohen - MediaBizBloggers

2025	Declaration of Igor Tchibirev
2026	Declaration of Igor Tchibirev #2 (Under Seal)
2027	Declaration of Alan Edwards
2028	Smedley Deposition Exhibit - IAB Annual Report 2013
2029	Smedley Deposition Exhibit - Measurementnow.net homepage from Internet Archive1 7-21-12
2030	Smedley Deposition Exhibit - Measurementnow.net FAQs from Internet Archive 7-22-12
2031	Smedley Deposition Exhibit - Measurementnow.net Who's Involved from Internet Archive 7-22-12
2032	Smedley Deposition Exhibit - Measurementnow.net Benefits from Internet Archive 7-22-12
2033	IAB - Our Story
2034	Media Rating Council homepage
2035	Smedley Deposition Exhibit - Volunteer Landing
2036	Smedley Deposition Exhibit - Think with Google – See How Viewability is Measured
2037	Smedley Deposition Exhibit - Google Active View reporting metrics
2038	MRC's Update to Viewable Impression Advisory (June 12, 2013)
2039	MRC Accredited Viewability Verification Disclosure
2040	MRC Viewable Impression Advisory Update, November 2013
2041	MRC Lifts Viewable Impression Advisory for Display Advertising (March 31, 2014)
2042	RealVu Revolutionizes Internet Advertising Measurement With the Viewable Impression
2043	Inventors LinkedIn Profiles
2044	Expert Robert J. Sherwood CV

2045	Expert Declaration of Robert J. Sherwood (Under Seal)
2046	U.S. Patent No. 11,443,329 - RealVu Claim Chart
2047	U.S. Patent No. 11,443,329 - Duration Media VaaS Claim Chart
2048	U.S. Patent No. 11,443,329 - Duration Media HVAX Claim Chart
2049	U.S. Patent No. 11,443,329 - Duration Media Sequency Claim Chart
2050	Deposition Transcript of Trevor Smedley 10-25-23
2053	IAB 2004 Ad Guidelines
2054	Screenshots - Viewability Panel - IAB Ad Ops Summit
2055	Duration Interrogatory Response 1 (Under Seal)
2056	Duration Interrogatory Response 2
2057	MRC Accreditation Renewal Press Release
2058	Lume – Display Ad Tech Landscape
2059	DoubleVerify Aims to Police the Online Advertising World
2060	David Evans - The Online Advertising Industry: Economics, Evolution, and Privacy
2061	Harvard Business Review - The Dark Underbelly of Online Advertising
Paper 9	Institution Decision
Paper 35	Patent Owner Response “POR”
1020	Igor Deposition transcript
1021	Alan Edwards Deposition Transcript
1022	Robert Sherwood Deposition Transcript
1023	EMPTY

1024	<i>Nunc pro tunc</i> assignment
1025	US Patent No. 7,567,916 (“Koeppel”) (titled “System and method for performing Web based in-view monitoring,” priority 2000)
1026	Declaration of Michele Madansky, Ph.D.
1027	Second Declaration of Trevor Smedley, Ph.D.
1028	US Patent No. 6,317,782 (“Himmel”) (titled “Method and apparatus for detecting actual viewing of electronic advertisements,” priority 1998)
1029	US pub. no. 20080222503 (“Sandige”) (titled “Rendering of two-dimensional markup messages,” priority 2007)
1030	US pub. no. 20060155615 (“Loo”) (titled “Object placement within computer generated multidimensional environments,” priority 2005)
1031	DDE-1-11-cv-00235-440 (Sherwood Daubert)
1032	JavaScript - Wikipedia.pdf
1033	Overview of Viewability and Active View - Google Ad Manager Help
1034	US Patent No. 5,778,372 (“Cordell”)
1035	US Patent No. 6,418,470 (“Blumenau”) (titled “Metering of internet content using a control,” priority 1998)
1036	ComScore v. MOAT complaint
1037	US Patent No. 8,135,616 (“Callaghan”) (titled “Browsing and quality of service features”)
1038	Audience 2.0_ Time - Alenty - Web 2.0 Marketing
1039	Alenty analyzes the visibility of advertisements on the Internet
1040	AppNexus Buys Paris-Based Viewability Firm Alenty
1041	Ad Viewability Debate Disrupts the Marketplace
1042	Need the list of Auditors for MRC accreditation. adops
1043	Moat Accreditation

1044	DoubleVerify Accreditation
1045	Integral Ad Science Accreditation
1046	Viewability Has Arrived_ What You Need To Know To See Through This Sea Change
1054	3MS Initiative Releases Five-Part Digital Marketing Measurement Solution
1055	A History Of Programmatic And The Era Of Control _ AdExchanger
1056	MRC-Viewable-Ad-Impression-Measurement-Guideline

2) Introduction

2. The POR and related exhibits have not changed my opinions from my first declaration (Ex-1009). My first declaration addressed a few discrete issues, including priority, rationale to combine, and the meaning of “in response to.”

3. I understand that the Patent Owner does not dispute that the priority of the ’329 patent is the effective filing date of April 4, 2009.

4. I also understand that Patent Owner does not dispute the rationale to combine.

5. The POR and Institution Decision raised new issues with the “in response to” limitation that I address in this declaration.

3) The person of ordinary skill in the art (“POSA”)

6. My opinions have not changed that the person of ordinary skill in the art did not require experience in advertising because the prior art clearly distinguished between served and viewed impressions. My opinions regarding unpatentability would not change if the Board required the POSA to have advertising experience.

4) Badros teaches to “make a determination that the predefined area that is used to display the advertisement has been in view within the visible area of the browser window for a predefined period of time.”

7. The POR incorrectly argued that I do not believe Badros teaches how to “make a determination....” POR, 4 (citing Ex-2050, 50:22-52:19).

8. Firstly, I do not see a “make a determination” limitation in the ’329 patent. Rather, each claim of the ’329 patent includes an optional step:

(b) in response to a determination that the predefined area that is used to display the advertisement has been in view within the visible area of the browser window for a predefined period of time

(Emphasis added). The Patent Owner defines this limitation as the “viewability test.” POR, 3.

9. Secondly, I stated nothing about my belief. I stated that I had not yet formed an opinion on whether Badros disclosed any “make a determination...” limitation. Ex-2050, 50:22-52:19.

10. Thirdly, I testified that this limitation was optional. Ex-1009, ¶66. I understand that the Board rejected this opinion. Paper 9, 8. I now address the Board’s holding and Patent Owner’s false accusation about what I believe. I am willing and able to appear for a second deposition in case there is any confusion about my opinions.

11. I testified in ¶70 of my previous declaration concerning the steps performed “in response to” the determination. It is my opinion that the disclosure in ¶70 of my prior declaration and other disclosure in Badros discloses Patent Owner’s “viewability test.” For example, Badros has the following relevant disclosure:

Some embodiments may apply time-multiplexing criteria for a plurality of documents based on the time during which a document is

actually viewable on the user's screen. For instance, an ad's allotted duration may be tolled according to viewable time instead of absolute time. In these embodiments, time during which the document space is not viewable on the user's computer may not be tolled against the time for a current ad or other document. For instance, the time during which a user's browser window is minimized may not count against an ad's allotted time. In other embodiments, the time during which a document space is not visible to the user may be used as an opportunity to unobtrusively transition to the next document.

Ex-1003, 11:22-34.

Impression module 38 may also determine more specific and accurate information about an impression. For instance, impression module 38 may determine whether a document (e.g., a document containing a link) is actually visible to a user, and it may track the time duration during which the document is actually visible to the user. For instance, impression module 38 may determine whether an ad on a web page of a user's browser is actually visible to the user. For instance, impression module 38 may determine whether the browser is in a minimized status on the user's desktop. It may also determine when and if a particular document is actually visible on the user's desktop (or other display interface). Impression module 38 may accordingly track impressions of a document on a more accurate basis.

Id., 12:33-47.

The user module 40 may also determine which of several multiplexed documents were displayed to and/or selected by a user 10. If a user selects one of the plurality of documents that is currently

occupying the time-multiplexed space, the program (such as a toolbar) may determine which of the plurality of documents was displayed at the time the user made the selection and thereby determine the identify of the document (e.g., and also the identity of any link or linked document). The toolbar (or server 2) may also detect the size of the user's screen and display ads accordingly.

In some embodiments, user module 40 may determine whether a particular document is currently viewable on a user's screen. For instance, a user may scroll down a website so that a banner ad at the top of the page is no longer viewable on the user's display. Some embodiments may apply time-multiplexing of a plurality of documents based on the time during which a document is actually viewable on the user's screen. For instance, one or more advertisements may be rotated according to viewable time instead of absolute time. In these embodiments, time during which the document space is not viewable on the user's computer may not be tolled against the time for a current ad or other document.

User module 40 may determine if and when a user 10 selects a document passed to the user 10 from server 2. Accordingly, user module 40 may determine when a user 10 selects a particular advertisement. In some embodiments, timing information may be used to determine which document was selected by a user, e.g., if the identity of the selected document cannot otherwise be readily determined.

In some embodiments, user module 40 may determine whether a particular document is currently viewable on a user's 10 screen. For instance, a user 10 may scroll down a website so that a banner ad at the top of the page is no longer viewable on the user's display. User module

40 may inspect the user's computer to determine the time during which the ad is not viewable.

Id., 14:10-45 (emphasis added). A person of ordinary skill in the art would have understood this plain language in Badros as disclosing viewable impressions, not served impressions. Dr. Madansky's opinion supports my view. Ex-1026.

12. I disagree with Patent Owner's argument that Badros' discussion of viewability concerns served impressions. POR, 14-16.

13. I have reviewed Mr. Sherwood's declaration and related evidence. I agree with Mr. Sherwood that Badros discusses viewability. Ex-2045, ¶113; Ex-1022, 39:18-41:14, 54:25-58:16 ("...Badros discussed Viewability..."), 65:13-67:1, 67:25-68:4.

14. The citations above emphasize that Badros was concerned with ads that were "actually visible," and Badros emphasized the distinction between viewed and served impressions:

The number of "actual" (e.g., verified) impressions may be distinguished from the number of times a document was output to client terminal. Also, the actual time during which a document was visible on a monitor may be stored.

Ex-1003, 15:4-8.

15. Dr. Madansky (Ex-1026) and I agree that Badros and other prior art references demonstrate that viewability tests were well known. The POSA in 2009 knew the difference between viewed and served impressions.

16. I understand that the inventors of the '329 patent agree that they did not invent viewability, but instead claim to have invented what they call “geometric viewability.” Ex-1020, 49:12-50:12; Ex-1021, 13:13-14:10 (“... non-geometric viewability ... was done before....”). I agree that viewability was known.

17. Several prior art references I reviewed disclosed various viewability tests. *See e.g.*, Ex-1028 (“Himmel,” titled “Method and apparatus for detecting actual viewing of electronic advertisements,” priority 1998); Ex-1025 (“Koeppel,” titled “System and method for performing Web based in-view monitoring,” priority 2000); Ex-1029, ¶62 (“Sandige,” “To provide greater accuracy in advertising metrics, may supplement the existing server-based web-page advertisement metrics and tracking with detailed accurate client viewability information.” Priority 2007); Ex-1037, Abstract (“Callaghan,” “Embodiments are configured to provide browsing and other functionality that can be used to provide viewable data based in part on a current viewable space of a browser interface”). Also, US pub. no. 20060155615 (“Loo”) confirms my opinion that it was easy and common in 2005 to determine whether an advertisement was visible. Ex-1030, ¶4.

18. It is my opinion that “geometric viewability” is not a term of art. Mr. Tchibirev’s testimony defines it as collecting X and Y coordinates or rectangles Ex. 1020, 49:12-50:12. The Koepfel reference (Ex-1025) illustrates just this approach, for example at FIG. 9B:

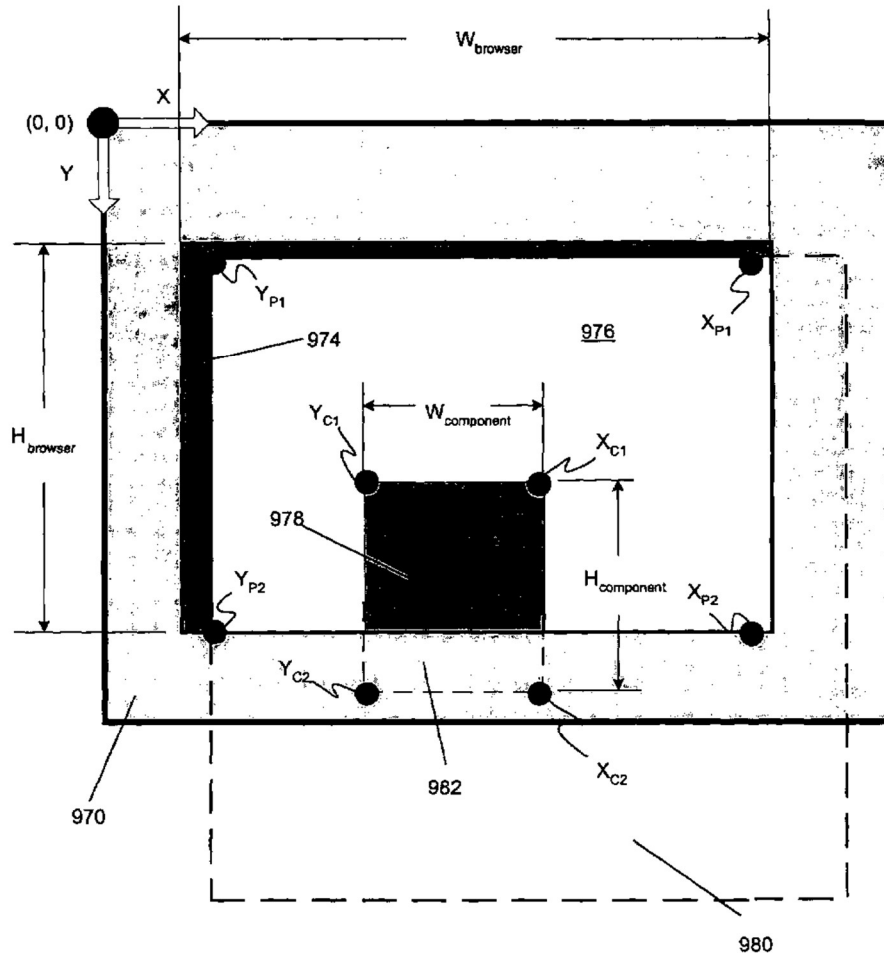


FIGURE 9B

Koeppel also includes a detailed algorithm to implement its viewability test that “determine[s] whether the target component is entirely positioned in the browser window [by] checking X and Y coordinates of both the Web page and component.”

See e.g., Ex-1025, 16:15-17 and 14:7-18:25. Therefore, it is my opinion that the prior art enabled the POSA to implement viewability tests in many different ways, including “geometrically.” There was no need for a disclosure in 2009 (or 2005) to describe what was already well known and easy to implement.

5) Badros uses a standard client-server architecture used by modern web pages.

19. It is common knowledge that the basic client-server architecture of the Internet in 2009 is the same as now. The architecture provides content from servers to clients. The content often contains JavaScript and HTML. Ex-1032, 1. JavaScript has been available since at least the mid-90’s. *Id.* I had already obtained my Ph.D. in computer science when JavaScript arrived. JavaScript was “originally used only in web browsers.” *Id.*

20. I have reviewed Ex-1032 and believe it to be a true and accurate history and description of JavaScript based on my experience. Unsurprisingly, both the ’329 patent (Ex-1001, 7:62-8:6) and Badros (Ex-1003, 13:24:29 and 20:14-21) disclose using JavaScript

21. Badros discloses using the commonplace client server architecture that necessarily stores data on servers that they provide to clients. For example, Badros discloses,

In some embodiments, user module 40 may cause code to be downloaded and/or executed on a user computer 10 or display device

18. The code may be effective to cause a time-multiplexed display of a plurality of documents at the user computer 10 or display device 18. For instance, user module 40 may cause a time-multiplexing program or system (e.g., similar to that described for server 2) to exist and run on a user computer. In some embodiments, user module 40 may cause a toolbar to be installed on a user computer, and the toolbar may implement document time-multiplexing and other functions. The time-multiplexing code may be associated with (e.g., downloaded in conjunction with) the toolbar, such as the Google™ toolbar which can be used in conjunction with a user's web browser. The time-multiplexing system at a user computer may cause a plurality of documents to be displayed in a multiplexed manner as described herein. The code (or toolbar) at a user computer 10 may pass information about the user computer 10 to server 2.

Ex-1003, 13:8-27 (emphasis added). Badros explains that the code downloaded to the user computer determines the amount of time during which the advertisement is viewable:

In some embodiments, user module 40 may determine whether a particular document is currently viewable on a user's screen. For instance, a user may scroll down a website so that a banner ad at the top of the page is no longer viewable on the user's display. Some embodiments may apply time-multiplexing of a plurality of documents based on the time during which a document is actually viewable on the user's screen. For instance, one or more advertisements may be rotated according to viewable time instead of absolute time. In these

embodiments, time during which the document space is not viewable on the user's computer may not be tolled against the time for a current ad or other document.

Id., 14:20-31 (emphasis added).

Some embodiments may apply time-multiplexing criteria for a plurality of documents based on the time during which a document is actually viewable on the user's screen. For instance, an ad's allotted duration may be tolled according to viewable time instead of absolute time. In these embodiments, time during which the document space is not viewable on the user's computer may not be tolled against the time for a current ad or other document. For instance, the time during which a user's browser window is minimized may not count against an ad's allotted time. In other embodiments, the time during which a document space is not visible to the user may be used as an opportunity to unobtrusively transition to the next document.

Id., 11:22-34. Badros, therefore, expressly discloses typical client-server behavior in web applications, which would have been obvious even without the express disclosure.

22. Mr. Sherwood testified in Ex-2045, ¶69 (FN3) that the petition did not rely on the user module. This is incorrect. *See e.g.*, Pet., 35-36, and Ex-1009, ¶70 (citing 12:48-66). I testified during my deposition that implementing Badros' viewability test was not "a difficult thing to do." Ex-2050, 148:12-22. There are basically infinite ways to implement it depending on various design choices. It is my

opinion that Badros discloses more than enough information to enable the person of ordinary skill, irrespective of having any advertising experience, to determine whether an advertisement is visible in a browser. It does not matter whether the document being displayed is an advertisement or any other content.

23. It is my opinion that the '329 patent does not disclose code for implementing a viewability test. POR, 3 (citing Ex-1001, cols. 65-66). I reviewed this “correlator code”; without additional information it is gobbledygook. Ex-1001, 65:40-67:25. For example, it discloses an object¹ called `var_viz_check {...}` that relies on several nondescript, undefined global-variables, functions and objects, including “thislocation”, “_adi[i]”, “_popul”, “_sv”, and “_ea_list.” This correlator code makes very little sense without additional explanation or at least meaningful

¹ Objects (also known as classes) are basic components of object-oriented programming languages, such as JavaScript and C++. Objects are abstractions that can be associated with functions/methods and variables. Object-oriented programming has been a foundational skill for any computer science/engineering curriculum since at least the 1980's.

object and function names.² It is also wholly unnecessary because viewability tests were not difficult to code.

24. Koeppel, for example, discloses a detailed algorithm from 2000 to “determine whether the target component is entirely positioned in the browser window [by] checking X and Y coordinates of both the Web page and component.” *See e.g.*, Ex-1025, 16:15-17 and 14:7-18:25.

25. Badros also describes measuring page and ad size to determine viewability:

The user module 40 may also determine which of several multiplexed documents were displayed to and/or selected by a user 10. If a user selects one of the plurality of documents that is currently occupying the time-multiplexed space, the program (such as a toolbar) may determine which of the plurality of documents was displayed at the time the user made the selection and thereby determine the identify of the document (e.g., and also the identity of any link or linked

² However, based on the explanations of Mr. Tchibirev and Mr. Edwards that they used a “geometrical” visibility test (Ex-1020, 49:12-50:12; Ex-1021, 13:13-14:10), I was able to identify only two ‘if’ statements that appear to be “geometric” at 64:11-12 and 64:20-21. Both of these simply test if one rectangle is contained within another.

document). The toolbar (or server 2) may also detect the size of the user's screen and display ads accordingly.

Ex-1003, 14:10-45.

26. Accordingly, it is my opinion that the '329 patent does not contain comprehensible source code for implementing a viewability test, but that was unnecessary because such viewability tests were well known.

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

Respectfully submitted,

Dated: March 12, 2024

/ Dr. Trevor Smedley /
Trevor Smedley