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Transcript of Robert Sherwood

Date: February 6, 2024

Case: Duration Media, LLC -v- Rich Media Club, LLC (PTAB)

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Transcript of Robert Sherwood
Conducted on February 6, 2024

1 (1 to 4)

1	3
1 UNITED STATES PATENT AND TRADEMARK OFFICE	1 APPEARANCES
2 -----	2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD	3 FOR THE PETITIONER:
4 -----	4
5 DURATION MEDIA, LLC,	5 DENTONS
6 Petitioner,	6 BY: KEVIN GREENLEAF, ESQ.
7 vs.	7 JOEL N. BOCK, ESQ.
8 RICH MEDIA CLUB, LLC,	8 1900 K Street Northwest
9 Patent Owner.	9 Washington, District of Columbia 20006
10 -----	10
11 IPR2023-00953	11 FOR THE PATENT OWNER:
12 US PATENT NO. 11,443,329	12
13 -----	13 GLOBAL IP LAW GROUP
14 Deposition of ROBERT J. SHERWOOD	14 BY: DAVID BERTEN, ESQ.
15 Conducted Virtually	15 55 West Monroe Street, Suite 3400
16 Tuesday, February 6, 2024	16 Chicago, Illinois 60603
17 9:15 a.m.	17
18	18
19	19
20	20 ---o0o---
21 Job No.: 523985	21
22 Pages: 1 - 122	22
23 Stenographically reported by: LAURA AXELSEN,	23
24 CSR NO. 6173, RMR, CCRR, CRR, CRC	24
25	25
2	4
1 UNITED STATES PATENT AND TRADEMARK OFFICE	1 INDEX OF EXHIBITS
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5 DURATION MEDIA, LLC,	5 Exhibit 1001 '329 Patent 13
6 Petitioner,	6 Exhibit 1003 Badros patent 65
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9 Patent Owner.	9 declaration
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15 BE IT REMEMBERED THAT, pursuant to Notice and on	15 declaration
16 Tuesday, February 6, 2024, at 9:15 a.m. thereof, with all	16 Exhibit 2061 Citation 92
17 participants being present via Zoom videoconference,	17
18 before me, LAURA AXELSEN, a Certified Shorthand	18 ---o0o---
19 Reporter, remotely appeared	19
20 ROBERT J. SHERWOOD	20
21 called as a witness by the Petitioner.	21
22	22
23 ---o0o---	23
24	24
25	25

5 1 ROBERT J. SHERWOOD 2 having been duly sworn, testified as follows: 3 EXAMINATION BY MR. GREENLEAF 4 MR. GREENLEAF: Q. Good morning, 5 Mr. Sherwood. How are you? 6 A. Good morning, Mr. Greenleaf. I'm fine. Thank 7 you. 8 Q. So before we got on the record, I asked you 9 whether you preferred to be called Mr. Sherwood or Bob. 10 You said Bob was fine. So Bob is still fine? 11 A. Yes. 12 Q. All right. Is there any reason you can't give 13 truthful testimony today, Bob? 14 A. No. 15 Q. All right. What is your experience in 16 computer programming? 17 A. Pardon me? 18 Q. What is your experience in computer 19 programming? 20 A. My experience in programming actually starts 21 years ago. I was -- I was working for a start-up 22 company in Brisbane, California, and the president gave 23 me an assignment To develop a financial engineering 24 model for a company. It was a pretty high, fast-growing 25 company, and at that point, I'd only had some linear	7 1 contributed to the invention? 2 A. I have a general understanding of it, but I 3 don't know exactly what each of them did, no. 4 Q. What's your general understanding? 5 A. That they were, you know, part of the 6 invention team. They had their names on the patent. 7 They have different backgrounds. I'm familiar with that 8 to that extent. 9 Q. They -- they being Igor and Alan -- testified 10 that there were other viewability methods that predated 11 the '329 patent, but they were not geometric. Are you 12 familiar with any of those viewability methods? 13 MR. BERTEN: I'm just going to object to the 14 extent it mischaracterizes the testimony. 15 THE WITNESS: No, I'm not aware of any 16 viewability methods prior to the invention. 17 MR. GREENLEAF: Q. Do you know of any other 18 companies that were working on viewability prior to 19 2009? 20 A. No. 21 Q. Have you heard of a company called Alenti? 22 A. I may have. It doesn't ring a bell. 23 Q. Have you heard of a company called Moat? 24 A. No. 25 Q. Have you heard of a company called Comscore?
6 1 programming experience. 2 And -- so I went up To Brigham Young 3 University and hired the chairman of the computer 4 science department, and I moved him down To California 5 with one of his graduate students, and I told him To 6 teach me everything he knew for the next two years. And 7 so I started off with FORTRAN, COBOL, acoustical 8 couplers, and programming in those languages, and then 9 computer -- computers in general, you know. 10 Q. Okay. So we've already had depositions of two 11 of the inventors, Igor and Alan. Are you aware of that? 12 A. Yes. 13 Q. And they testified that they had invented 14 geometric viewability. Are you aware of that? 15 MR. BERTEN: I'll just object to the extent it 16 mischaracterizes the testimony, but you can answer. 17 THE WITNESS: Yeah, I don't recall the 18 geometric issue, but I do recall the visibility issue -- 19 viewability issue, yes. 20 MR. GREENLEAF: Q. Okay. Well, they both 21 mentioned geometric viewability. Do you know what 22 geometric viewability is? 23 A. No, I don't think I have a perfect 24 understanding of it. 25 Q. Okay. Do you know what each of them	8 1 A. Comscore rings a bell. I don't -- I don't 2 recall exactly what they did, but I do -- it does ring a 3 bell, yes. 4 Q. Can you tell me anything more about Comscore? 5 A. No. 6 Q. So you testified that nobody had demonstrated 7 viewability in 2005; is that correct? 8 A. Yes. 9 Q. What do you mean by demonstrated? 10 A. Well, demonstrated to me means you have -- you 11 take whatever product that you're working on or 12 researching and you put it into a form that you can show 13 it as a working product. 14 Q. You're familiar with the term above the fold, 15 correct? 16 A. It sounded like you said above the fold; is 17 that correct? 18 Q. Yes. 19 A. Yes. 20 Q. Does above the fold mean in view without 21 having To scroll down the page? 22 A. If you're talking about content being above 23 the fold and you can see it without scrolling down the 24 page, then yes. 25 Q. So content that's above the fold is viewable,

9 1 correct? 2 A. Yes. 3 Q. Do you know when the inventors of the '329 4 patent conceived of the invention? 5 A. I'm aware that they -- a filing date of about 6 April 2008, I think. 7 Q. It's April 2009. 8 A. Okay. Thank you. 9 Q. But do they conceive of and make a prototype 10 before that filing date? 11 A. I don't believe, in my examination, I came 12 across the fact that they had a -- you know, conceived a 13 prototype before that date. 14 Q. I'm going to share my screen quickly here. 15 Give me a second. 16 MR. BOCK: Just want to raise the fact that 17 I'm not getting the feed. It stopped at the very first 18 minute or two minutes. 19 MR. GREENLEAF: Okay. Maybe we can go off the 20 record quickly here. 21 (The deposition was in recess from 9:23 to 22 9:27.) 23 (EXHIBIT 2027 WAS MARKED FOR 24 IDENTIFICATION.) 25 MR. GREENLEAF: Q. Let's go back on the	11 1 Q. Here's Exhibit 2027, Paragraph 24, which you 2 cited. Does this refresh your recollection? 3 A. Let me read it for a second. Can you blow it 4 up just a bit, please? There we -- thank you. I take 5 your word for it that's Mr. Edwards's declaration, but 6 yes, that looks like it, yes. 7 Q. Does this paragraph support your testimony 8 that the invention was made in 2028 [sic]? 9 A. I don't see that I've actually used the term 10 2008 in that, so I'm not sure -- I referenced it, but 11 I'm not sure where the number came from. It may have 12 come from the -- from the article I'm talking about on 13 the website. I really don't remember where I picked 14 that number up from. 15 Q. So besides Exhibit 2027, do you have any other 16 knowledge of when the invention was made? 17 A. Again, I'm not sure of how often I referenced 18 it in my report, but whatever knowledge I would have 19 would come from either some of the documents I read or, 20 you know, Edwards's declaration or Igor's declaration. 21 Q. Did you speak with any of the inventors? 22 A. I spoke with Igor. I may have spoken early on 23 with Edwards, but I don't remember that conversation, 24 but I did speak with Igor. I use Igor because it's hard 25 to pronounce his last name, but go ahead.
10 1 record. So we're back on the record. Bob, this is your 2 declaration, Paragraph 106. It states that the '329 3 patent was invented in 2008. 4 Do you see that? 5 A. Yes. 6 Q. Do you still stand by this testimony? 7 A. Yes, I don't see any reason to consider it to 8 be incorrect, no. 9 Q. How do you know that it was invented in 2008? 10 A. I can see it okay, right? Well, I don't 11 see -- I don't see that I referenced a footnote there, 12 so someplace in my analysis, you know, I would have 13 looked and made that determination. I don't remember 14 exactly where. 15 Q. Besides Paragraph 24 of Exhibit 2027, which is 16 Mr. Alan Edwards' declaration, did he tell you that it 17 was invented in 2008? 18 A. Where is that cite? 19 Q. At the bottom of Paragraph 106. The very last 20 thing. 21 A. Where it says to have a test method for 22 viewability in 2010, Exhibit 2027. I'd have to see what 23 2027 was. If that was Alan Edwards and that's where I 24 would have probably gotten that information. I don't 25 know what Exhibit 2027 is just by heart.	12 1 Q. I have the same problem. What did you discuss 2 with Igor? 3 A. I'm trying to remember the substance of the 4 conversation I had with him, but I think it was -- you 5 know, it was just about the '329 and '329 patent. I 6 think I had some discussions with him about issues 7 around, like, copying functionality and things of that 8 nature, but they were -- they were pretty general 9 discussions. 10 Q. Did he tell you when he invented the subject 11 matter of the '329 patent? 12 A. He may have. I may even have referenced it, 13 but I don't recall it in the conversations that actually 14 date coming up, no. 15 Q. When did you speak with him? 16 A. I spoke with him yesterday. 17 Q. You're familiar with what we're referring to 18 as the Krassner patent, the '602 patent, correct? 19 A. Yes. 20 Q. What did you discuss with Igor yesterday? 21 A. Discussed some issues about the '329 patent, 22 some copying issues, things of that nature. I don't 23 recall discussing the Krassner patent with him. 24 Q. What issues about the '329 patent did you 25 discuss?

13 1 A. We discussed some issues around the -- the 2 code, what language it was written in. 3 Q. Language written in? 4 A. Pardon me? 5 Q. I'm sorry. What language was the code written 6 in? 7 A. JavaScript. At least the code that we were 8 looking at was in JavaScript. 9 Q. What code are you referring to? 10 A. The code that's -- I don't remember the actual 11 sections in the patent. If you threw the patent up, I 12 could probably see it, but it was the code that was in 13 the patent, in the '329 patent. 14 Q. All of the code that's in the patent? 15 A. Are you -- are you asking me if all the code 16 was written in JavaScript? 17 Q. Yes. 18 A. I don't know the answer to that without 19 looking at the patent again, but the code that we looked 20 at was JavaScript. 21 Q. Did you look at all of the code in the '329 22 patent? 23 A. I don't recall, as I sit here. 24 (EXHIBIT 1001 WAS MARKED FOR 25 IDENTIFICATION.)	15 1 were looking at. Those are the column headings. 2 Q. Do you have any documents you're using to 3 refresh your recollection right now? 4 A. Do I have any? 5 Q. Yes. 6 A. No, the only thing I have is what I'm looking 7 at on your screen. 8 Q. Okay. All right. And you see the '329 patent 9 up here on my screen from Google Patents? 10 A. Yeah, if you can blow it up a bit, it will be 11 helpful, but I can see a little bit in that area, yes. 12 Uh-huh. 13 Q. Let me try a different way. Maybe we'll look 14 at it in here. Okay. So here I have up on the screen 15 Columns 65 and 66 of the '329 patent. Do you see that, 16 Bob? 17 A. Right. It said 68, but meant 66 is what I 18 recall we were looking at, yes. 19 Q. Yeah, I think you said 65 through 68. So 20 that -- 21 A. Yeah. Yeah. 22 Q. All right. What is this element VarViz check 23 in Column 65? 24 A. Yeah, can you blow it up a bit, please? 25 Q. Is that good?
14 1 MR. GREENLEAF: Q. All right. I'm sharing 2 the '329 patent here. Exhibit 1001. What specifically 3 did you discuss about the code? 4 A. Well, we discussed what the language was, and 5 as I recall, we were looking at like Column 65 through 6 maybe 68, somewhere in that area, and if you could 7 blow -- I can't really see this screen as it is now, 8 but -- 9 Q. I think it might be better if we switch to 10 Google Patents. You're familiar with Google Patents, 11 correct? 12 A. Yes, you want to bring it up under Google 13 Patents. 14 Q. Yeah, I think it will be easier to be in 15 Google Patents. You said you discussed some code at 16 Column 65 through 68, correct? 17 A. Yeah, I think that's right, and I don't want 18 to -- I don't want to mislead you by saying -- when I 19 say we discussed the code, it was pretty general 20 discussions about, you know, the language it was in. We 21 didn't go through every line of the code for sure. 22 Q. How do you remember those lines in particular, 23 68 -- sorry. 65 through 68? 24 A. I don't believe those were lines. I believe 25 those were columns, and I just remember that's what we	16 1 A. Yeah. I can see it. What was the question 2 again, please? 3 Q. So why did you discuss the code in Column 65 4 through 68 with Igor? 5 A. Well, I was asking him about the -- the code 6 that actually created the viewability test, and I was 7 asking him about it because I'm not a JavaScript expert. 8 I used to do a little bit more in it than I do now, so 9 he was explaining to me the different parts of it, but I 10 don't know that I understood all of it. 11 Q. Okay. What is VarViz check? 12 A. I don't know. Var could be some sort of 13 variable. 14 Q. Is this element an integer? 15 A. I don't know. I'm really not that current on 16 JavaScript. So I'm not -- I don't know the answer to 17 that. 18 Q. But it's your opinion that this code teaches a 19 viewability test? 20 A. Well, I'm relying on Igor, his -- his 21 declaration and my discussions, but, yes, he seemed to 22 be a very knowledgeable person and could explain how it 23 worked. He was obviously much more knowledgeable about 24 JavaScript than I was, but, yeah, I'm relying on him for 25 that assessment.

17 1 (EXHIBIT 2026 WAS MARKED FOR 2 IDENTIFICATION.) 3 MR. GREENLEAF: Q. So I have up here on the 4 screen a copy of version -- sorry. Exhibit 2026, which 5 is Igor's second declaration. Do you happen to have a 6 copy with you, Bob? 7 A. No. I can find it, but probably easier for 8 you to send me one that you have. 9 Q. Yeah, I'll upload it to the chat right now. 10 Exhibit 2026. 11 A. Yeah. Okay. Okay. Is it in the chat now? 12 Q. Yes, you should be able to open up the chat if 13 you go to the bottom. 14 A. I got it. 15 (EXHIBIT 2025 WAS MARKED FOR 16 IDENTIFICATION.) 17 MR. GREENLEAF: Q. I'll also upload 18 Exhibit 2025, which is his first declaration. 19 A. Okay. I was going to move it over to my other 20 monitor, but it looks like it's opening on the same 21 screen on my laptop screen. 22 Q. You should be able to drag it to another 23 window. 24 A. That's what I thought, yeah. 25 Q. Okay.	19 1 code, and I had never done an analysis of the -- of the 2 actual code in the patent. That wasn't part of what I 3 was engaged to do. And I was also kind of following 4 Smedley's lead, and I didn't see him do that either. So 5 I wanted to get just a general familiarity as to what 6 that code represented. 7 Q. I'm going to pull up -- before I do that, did 8 you request the meeting with Igor? 9 A. I don't remember if I requested it. I was 10 having a conversation with counsel. I may have. I 11 don't -- I don't recall exactly how that took place. 12 Q. Okay. So I have here, again, Exhibit 1001, 13 the '329 patent. Do you see that, Bob? 14 A. Just a second here. I got to get this out of 15 the way here. Yeah, I do. 16 Q. All right. And did you discuss this 17 deposition with counsel? 18 A. Well, I didn't discuss what's going on right 19 now. I mean, yes, we -- he had to tell me I was going 20 to have this deposition today. So, yeah, to the extent 21 that we were having the deposition and we were doing a 22 little depo prep, yes. 23 Q. What else did you discuss with counsel? 24 A. That's it. To me, it was more or less kind of 25 a depo prep.
18 1 A. Yeah, just not -- I do this all the time, but 2 for some reason it's not opening for me here. There we 3 got it. Wait a minute here. All right. Okay. I have 4 opened on the other monitor, or my large screen monitor 5 to my left looks like Igor's declaration, and I'm not 6 sure if it's the first one or the second one, but -- 7 Q. I've given you both, the 2025 and 2026. 8 A. All right. What I have right now is 2025 9 open. 10 Q. So you spoke to Igor yesterday about this code 11 in Column 65 through 68, correct? 12 A. Yes. 13 Q. What did Igor explain to you about the code in 14 Column 65 to 68? 15 A. Well, I would say what he -- what he confirmed 16 for me was that -- that code represented the -- the 17 viewability test of the '329 patent. 18 Q. You did not independently analyze the code 19 from Column 65 to 68, correct? 20 A. No, I did not do any independent code 21 analysis. 22 Q. Why did you speak with Igor yesterday? 23 A. In looking through my report, there was some 24 references -- and I don't remember the exact paragraphs 25 where, you know, we talked about -- I think talked about	20 1 Q. When did you meet with counsel? 2 A. Well, I had the conversation with -- with 3 counsel was yesterday. 4 Q. What documents did you discuss with counsel? 5 MR. BERTEN: Hang on a second. That calls for 6 attorney work product. So I'm not sure that you can ask 7 him that broad of a question. I'll object to the 8 question and instruct the witness not to answer to the 9 extent it would be revealing attorney work product. 10 MR. GREENLEAF: Q. Okay. So we'll table that 11 for now. Bob, if you ever need a break, please let me 12 know. Just if there's a question pending, just please 13 answer the question. So we haven't even been going an 14 hour yet, but again, just let me know when you need a 15 break, and I'll pause from time to time asking you 16 whether you need a break just in case. 17 A. Thank you. 18 Q. And that goes for anybody else on this call, 19 too. So, again, back to Exhibit 1001, it says the '329 20 patent is a continuation of Application No. 12,384,403 21 filed on April 4, 2009. Now, Patent No. 11,004,090. Do 22 you see that? 23 A. Actually, I barely see it. If you can blow it 24 up and I take your word for it you read it. Yes, I see 25 that.

21 1 Q. And it has a long, convoluted priority chain, 2 which I will show this for completeness. 3 MR. BERTEN: I think you're past it, Kevin. 4 MR. GREENLEAF: Q. Yeah. All right. So 5 here's the whole paragraph. Are you familiar with the 6 priority chain of the '329 patent? 7 A. You mean am I aware that it exists, yes. 8 Q. Are you aware of the disclosure that supports 9 the claims of the '329 patent and when it was first 10 filed? 11 A. You're referencing some disclosure, and I'm 12 not sure what you mean by that. 13 Q. What is the priority date of the '329 patent, 14 the claims of the '329 patent? 15 A. I can't -- if you can blow it up, maybe I 16 could read it a little better. 17 Q. Let me -- let me re-ask the question. What is 18 the effective filing date of the claims of the '329 19 patent? 20 A. Well, kind of -- it looks like here it says 21 April 4th -- I'm sorry. I have to look closer. 22 Looked like April the 4th, 2009, is what it says here. 23 Q. But it also claims priority to and a 24 provisional patent application filed December 24th, 25 2005. Do you see that?	23 1 A. A method for determining the viewability of an 2 ad displayed on a web page. 3 Q. So you testified that there may very well be 4 other novel features in Claim 1, but that the one that 5 stands out in your mind is the viewability test. What 6 are those other novel features in Claim 1 of the '329 7 patent? 8 A. Actually, I don't believe I testified to the 9 issue that -- you used the term Claim 1 in your 10 question, and I believe the question you asked me 11 earlier is what were the novel features, and I replied 12 the viewability test, but I don't remember that I 13 associated it with a specific claim. 14 And as far as the other novel features go, I 15 mean, there may be there. I mean, it's -- it's not for 16 me to second guess the United States, you know, Patent 17 and Trademark Office, but that's the one that -- that I 18 focused on. 19 Q. Why was that the one that you focused on? 20 A. Typically, I'm following, you know, Smedley's 21 declaration and what he talked about or what he saw, 22 observations that he made regarding viewability of other 23 patents or other documents. 24 Q. I'm going to share my screen again. 25 A. Uh-huh.
22 1 A. Yes. 2 Q. So what is the effective filing date of the 3 claims of the '329 patent? 4 A. Well, I don't know that I actually studied 5 that. The -- the date that I put in my report, which I 6 think is the -- is the 2009 date, was what was my 7 understanding of the effective filing date. There may 8 be another -- another filing date, but I didn't make 9 that examination. 10 Q. What are the novel features of the '329 11 patent? 12 A. Are you asking me to -- simply to recite the 13 claims of the '329 patent? 14 Q. No, I just want to know what features are 15 novel in the claims of the '329 patent. 16 A. Uh-huh. Well, I don't know that I could list 17 every novel feature. I could say that the feature that 18 stands out, in my mind, is the -- is the viewability 19 test. 20 Q. Are there any other novel features in Claim 1 21 of the '329 patent? 22 A. There may very well be, but again, the one 23 that -- that stands out, in my mind, is it the 24 viewability test. 25 Q. And what do you mean by viewability test?	24 1 Q. I'm going to pull up the Google Patents 2 version of the patents, the '329 patents, and we have 3 Claim 1 up on the screen. Do you see that, Bob? 4 A. I apologize, but it's still too small for me. 5 Q. Okay. 6 A. Getting bigger, a little bit bigger? 7 Q. Oops. 8 A. I can -- 9 Q. That's about as big as I can get with the 10 whole claim on the screen. 11 A. I can -- 12 Q. I can copy and paste it into a Word document. 13 That would make it bigger. 14 A. Okay. That would be easier for me if you can 15 do that. 16 Q. I understand you had some recent medical 17 issues, so we'll try to accommodate you. 18 A. Thank you. 19 Q. All right. So this should be -- this is about 20 as big as you can make it. 21 A. Sure. I can see this. 22 Q. Okay. So what claim limitations here 23 constitute the viewability test, in your opinion? 24 A. Are you asking me which claim uses the term 25 viewability test?

25 1 Q. No. The claims of the '329 patent require a 2 viewability test, correct? 3 A. I believe the viewability test is the 4 invention, yes. 5 Q. Where does the claim require a viewability 6 test? 7 A. Well, I think the first sentence starts 8 describe -- determining whether a pre-defined area of an 9 ad content display page that is used to display an 10 advertisement is in view. That's very close to a -- 11 defining what -- what viewability is, right? 12 And it goes on to say with a visible area of a 13 browser -- of a browser window of a browser configured 14 to be operated by remote computing device, wherein the 15 pre-defined area is a portion of the ad content display 16 page, and wherein the ad content display page includes a 17 pre-defined area configured to display an advertisement 18 content. 19 I think that -- I think that paragraph, 20 although it doesn't use the term viewability, it's 21 discussing what viewability is. 22 Q. And where would be the start and end of the 23 limitation that requires the viewability test? Is it 24 the portion I have highlighted here? 25 A. Well, I think the whole claim is referencing	27 1 A. Well, for example, when we discussed earlier 2 about the '329 patent code, and you were asking me 3 questions about the code, and I said that I relied on -- 4 on Igor, his declaration, and the conversations I had 5 with him, that the code actually itself was detailing 6 the test, but the claims don't have the code inside the 7 claim. 8 So they're claiming issues about viewability, 9 but they're not specifying the test, which is actually 10 specified in the code in the patent. 11 Q. So to enable a person of ordinary skill in the 12 art to implement a viewability test in 2009, you would 13 require the code, correct? 14 A. Yeah, I want to make sure that I understand 15 the question. So in -- in 2009, if we were defining a 16 viewability test, then we would have to specify the code 17 that, in fact, determined the actual test itself. So I 18 think the answer is yes to your question. 19 Q. I'm looking at element B on the screen, 20 Mr. Sherwood. Do you know whether this element was 21 practiced in the prior art or disclosed in the prior 22 art? Sorry. Let me re-ask the question. 23 Bob, do you know whether Element B of Claim 1 24 of the '329 patent was known in the prior art prior to 25 2009?
26 1 the viewability. So I wouldn't want to -- you know, for 2 example, B, ii, cause replacement advertisement to be 3 selected for display on the ad content display page. 4 So I think the first paragraph to me more or 5 less defines the concept of viewability, but I wouldn't 6 want to specify or limit that to just the first 7 paragraph since the whole claim to me is -- would have 8 to be considered. 9 Q. So the definition of a viewability test, in 10 your mind, in terms of Claim 1 of the '329 patent is the 11 entire claim, correct? 12 A. I don't know that's a definition. It's 13 certainly the claim. I think the definition that I 14 mentioned earlier, which is -- which basically I think 15 defined viewability as the -- as a test to determine 16 whether or not the -- the ad is viewable to a -- to a 17 user on the ad content display page. So I can't see 18 limiting it to one part of a claim. 19 Q. Does Claim 1 define the viewability test? 20 A. Well, I would characterize it as defining 21 viewability, but it's not specifying the test itself, 22 but it's defining the viewability, which is -- starts 23 with part A. 24 Q. What do you mean by it's not specifying the 25 test itself?	28 1 A. No, I don't -- I don't have any personal 2 knowledge that B was in a prior art prior to 2009. 3 Q. Okay. I have the '329 patent open again, 4 Exhibit 1001. Column 9. Zoom in for you. All right. 5 So I'm looking -- the draftsman of this patent had a 6 penchant for run-on sentences. So I'm going to 7 highlight a sentence here. Let's see. It says -- yeah, 8 so, I mean, I don't even know if I can fit it on the 9 page, but it starts on Line 33. 10 "Unlike other systems, the invention in this 11 embodiment enables precise and accurate accounting of 12 what content actually appears within a viewer's browser 13 window dimensions and scrolling position area, in 14 addition to whether the browser window is open, 15 minimized, or otherwise covered by another browser 16 window or other application opened by a viewer and 17 enables analysis of content rendering activity with 18 respect to particular areas of an ad publisher's ad 19 content display page." 20 So this disclosure here actually appears 21 within the viewer's browser window, that's referring to 22 a viewability test, correct, on Line 35? 23 A. It doesn't use the word test, but it's 24 certainly part of a test, yes. 25 Q. Based on your experience, prior to 2009, did

29 1 browsers render advertisements? 2 A. If I understood the question correctly, you're 3 asking me did a browser render an advertisement prior to 4 2009? 5 Q. Yes. 6 A. I don't know that I'd use the term a browser, 7 but if the browser was rendering a web page and the web 8 page may called a server, and if the server had an ad on 9 it that associated with that call, then the ad would -- 10 would be sent over to the web page, would be displayed 11 by the browser, but I would call the code being 12 rendered, not the ad being rendered. 13 Q. What's the difference between the code being 14 rendered and the ad being rendered? 15 A. Well, in my mind, an ad is a unit. It's a -- 16 if, for example, it's an image. And the browser is not 17 rendering the image. It's actually looking at the HTML 18 that is rendering and calling the image or the unit or 19 the ad from the server. So the ad, in my mind -- and I 20 guess you could get into some precise arguments on this, 21 but I would say the HTML is rendered and the ad is 22 called from a server. 23 Q. So up on the screen I have Claim 1. Do you 24 see that? 25 A. Yes.	31 1 term render, but did browsers render advertisements by 2 interpreting HTML and calling ads from servers prior to 3 2009? Yes. 4 Q. So I'm going to bring up the '329 patent 5 again. We're looking at Column 13. The top of Column 6 13, but I'm going to start at the bottom of Column 12, 7 and I'm going to read it to you. "The billboard module 8 may also cease rendering or send additional requests to 9 the ad dispatcher server to select a new ad slash 10 content to render in the billboard module." 11 A. Uh-huh. 12 Q. "Say if the billboard was in view for a 13 pre-determined period of time or has been scrolled 14 outside the viewer's browser window dimensions." 15 Do you understand that sentence? 16 A. Yes. 17 Q. What does the term view mean? 18 A. Well, in the context of this particular 19 sentence, right -- excuse me a second -- it could mean 20 that it's inside a viewable area. 21 Q. What do you mean by viewable area? 22 A. I'll go back to the sentence or two before 23 that, if you don't mind. 24 Q. Yeah, I think I'll pull up the Google Patents 25 version of this. This should be better. And the
30 1 Q. Okay. The last limitation, "Wherein the 2 browser is configured to render the replacement 3 advertisement in the pre-defined area." 4 Is it your opinion that this is referring to 5 rendering HTML? 6 A. I didn't draft this, and I probably wouldn't 7 have drafted it like this, but the browser is an 8 interpretive program. So it interprets the HTML. So I 9 think it's a stretch, in my mind, technically, to say it 10 renders the ad, but it's certainly rendering the HTML 11 and calling the ad, yes. 12 Q. Why wouldn't you have drafted the claim 13 limitation this way? 14 A. Well, it's not as precise as I would -- as I 15 would like it in thinking about how a browser works. 16 Q. Is this language inaccurate? 17 A. No. I mean, I think it -- it depicts what is 18 going on. It, in my mind, doesn't depict it from a 19 purely technical point of view, but it does depict what 20 is happening, yes. 21 Q. Prior to 2009, were browsers configured to 22 render a replacement advertisement in a pre-defined 23 area? 24 A. Well, the statement, as it stands, is correct. 25 For me, I just have a little bit of an issue with the	32 1 question was what do you mean by viewable area? 2 A. Uh-huh. As I read this, it states that 3 billboard module may also -- excuse me. "The billboard 4 module may also cease rendering or send additional 5 requests to the ad dispatch server to select a new 6 ad/content to render in the billboard module, say if the 7 billboard was in view for a pre-determined period of 8 time or has been scrolled outside the viewer's browser 9 window." 10 I'm not sure I can add anything to what I've 11 already said. 12 Q. I asked you before what does the term view 13 mean, and you answered, well, in the context of this 14 particular sentence, right -- excuse me a second. It 15 could mean that it's inside a viewable area. 16 A. Uh-huh. 17 Q. Is the viewable area always in view? 18 A. Well, to me, we're getting into what I call 19 some semantics issues about, you know, the word view. 20 Because we have what I call sometimes the old versions 21 of view or impressions, and then the issue of 22 viewability as in the '329 patent. But I think the way 23 they're referencing here inside of '329 patent is 24 they're talking about in view being in conformity to 25 the -- to the way the '329 patent works with respect to

33 1 identifying areas and whether or not the ad, in fact, is 2 inside that viewable area. 3 Q. Okay. I'd like to take a quick five-minute 4 break, and I also need to take a bit of a longer break 5 at noon. So can we be back at say, you know, in about 6 five minutes. So a little bit before, you know, half 7 past the hour roughly? Is that okay? 8 A. Okay. 9 MR. GREENLEAF: All right. I'll see you then. 10 (The deposition was in recess from 10:23 to 11 10:31.) 12 MR. GREENLEAF: Q. Let's go back on the 13 record, then. So, Bob, prior to 2009, did servers cause 14 advertisements to be served to client devices? 15 A. Yes. Servers — I'd probably say a little bit 16 differently. The servers didn't — didn't cause it. 17 They were responding to a call from a browser, but the 18 ads were certainly served to a client device based on a 19 call from a — a browser when it renders a web page. 20 Q. Prior to 2009, did servers receive 21 communications from client software applications? 22 A. Well, I mean — well, yes, servers received 23 calls from software applications and browsers, web pages 24 that were being rendered, yes. 25 Q. You used the term viewable area earlier. Do	35 1 opposed to the number of impressions that were actually 2 viewed by a user because there wasn't a good method of 3 measuring the viewability. 4 So view has a number of meanings in those 5 various contexts, as I've just described. 6 Q. Did the '329 patent just change the meaning of 7 the word view? 8 A. No, I don't think that from a purely, you 9 know, dictionary point of view it changed the meaning of 10 the word view, but it did obviously change the concept 11 of the viewability of a view. 12 Q. Did it change the concept of the viewability 13 of the view? What did you mean by that? 14 A. I — I admit that sounds a little bit awkward, 15 but when I think about views prior to the patent, we 16 really think about served impressions as opposed to were 17 the impressions viewed. So once the patent was — was 18 developed and it was demonstrated, of course, then the 19 concept of a view and/or an impression took on another 20 meaning because now we had a viewability test that would 21 work on determining views as opposed to impressions or 22 ads that were simply served and counted at the server 23 level. 24 Q. What did you do determine whether the prior 25 art included disclosure of the viewability test?
34 1 you recall that? 2 A. Yes. 3 Q. What's the definition of a viewable area? 4 A. Well, I think, of course, that's the subject 5 of the — of this matter at hand, but the viewable — 6 when I use the term viewable area, I'm thinking in terms 7 of the — of the patent and viewable area, which is kind 8 of a pre-defined area, and does the ad fit into that 9 pre-defined area so the ad becomes viewable. 10 Q. And just to confirm, a browser is a client 11 side application, correct? 12 A. Yes. 13 Q. What's the meaning of the verb view to you? 14 A. What's the meaning of the word view? 15 Q. Particularly, the verb form of the word view. 16 What does that mean? 17 A. Well, when you ask me a question in that 18 manner, I'm thinking of the context, and to me, it could 19 be impressions that were measured by a server. It could 20 be — many people call them page views. It could be 21 page views. That could be part of a view definition. 22 Generally, in the — I'll say in the period of — you 23 know, prior to the invention, the term — the term view 24 was — was really kind of a misnomer because it really 25 dealt with the number of impressions that were served as	36 1 A. I think in the examination I -- I reviewed the 2 documents that I -- that I mentioned. I looked at the 3 content of Smedley's report. I also, you know, looked 4 at my own experience. 5 Q. What are the documents that you mentioned? 6 A. I don't recall them by -- by name, but they're 7 listed in my declaration. 8 Q. Did you review any other documents in 9 preparation for your declaration? 10 A. You mean any other documents other than ones I 11 mentioned listed in the list? 12 Q. Yes. 13 A. No. 14 Q. Did you review any other documents other than 15 the ones mentioned in the list to prepare for this 16 deposition? 17 A. I'm just thinking if I had looked at any other 18 website or document, and I think the answer is no. I 19 just looked at the same documents that were listed in my 20 report. 21 Q. Did you perform any independent prior art 22 searches? 23 A. I'm sorry. What was the question again? 24 Q. Did you perform any independent prior art 25 searches?

37 1 A. No. 2 Q. What documents did you review to prepare for 3 this deposition? 4 MR. BERTEN: Let me just interpose an 5 objection to the extent that it would expose attorney 6 work product. With the exception of the '329 patent 7 itself that he's already said he looked at. 8 THE WITNESS: Uh-huh. 9 MR. GREENLEAF: Q. Are there any other 10 non-privileged documents that you reviewed in 11 preparation -- well, let me ask a different question. 12 What documents did you review in preparation 13 for your deposition that refreshed your recollection? 14 A. Okay. Refresh my recollection of what, 15 please? 16 Q. The subject matter of this inter partes 17 review. 18 A. I understand. I reviewed my own declaration, 19 Smedley declaration I believe I took another look at. I 20 looked at the Igor declaration. I think that's it. 21 Q. What does the verb "display" mean to you? 22 A. Okay. Actually, I worked at RasterOps on 23 display technology for several years. It was always the 24 subject of discussion, but I don't want to be limiting 25 in any definition. But if I call, let's say, an ad or	39 1 A. Well, I could be defining a predefined area 2 for some other reason other than displaying. 3 Q. And the context of Claim 1 of the '329 patent, 4 the term pre-defined area, does that mean the same thing 5 as viewable area? 6 A. Well, I'd have to look at the claim again just 7 to be sure, but sounds correct. 8 Q. Okay. I'll just share it quickly so you can 9 make sure you're correct. So the question was, in the 10 context of the '329 patent Claim 1, does the pre-defined 11 area mean the same thing as viewable area? 12 A. Let me just read it carefully again. 13 Determining whether a pre-defined area of an ad content 14 display page used to display an advertisement is a 15 view -- is a view with a view of visible area of a 16 browser window of a browser configured to be operated. 17 Yes. 18 Q. It's your position that Badros discusses 19 viewability, correct? 20 A. No, I don't -- I don't believe I -- I 21 concluded that. 22 Q. But you don't agree that Badros discusses 23 viewability, correct? 24 A. Well, as I -- again, I don't have all the 25 detail in front of me, but I do recall that he -- he --
38 1 let's say more specifically I go up to my search bar or 2 my -- and I call a certain website, and the browser 3 takes that website, takes the HTML, and displays the web 4 page, it displays the web page on your monitor, you 5 know, your computing device, in accordance with the -- 6 with the HTML that defines that web page. 7 Q. So display means to show information on a 8 screen, correct? 9 A. Sure. I mean, I think if you're showing -- if 10 you're showing something on a screen without getting 11 into how it's displayed, I would say, yeah, that's -- 12 that's displayed. 13 Q. And Badros teaches displaying advertisements 14 on a screen, correct? 15 A. Yeah, I believe I mention this in my 16 declaration that he talks about -- he talks about 17 displaying content on a screen, yes. 18 Q. Does the term pre-defined area mean the same 19 thing as viewable area? 20 A. It could be, yes. 21 Q. What do you mean it could be? 22 A. Well, if you -- if you're -- if you define 23 your pre-defined area as the viewable area, then it's 24 the same. 25 Q. And when might it not be the same?	40 1 I think he mentioned the term -- I'm not sure if he 2 mentioned the term viewability or not, but he certainly 3 referred to it, but as I recall, didn't refer to a 4 viewability test. Some of that I'm thinking I got from 5 Smedley's declaration, but I think the term viewability 6 came up, but not the term viewability test. 7 (EXHIBIT 2045 WAS MARKED FOR 8 IDENTIFICATION.) 9 MR. GREENLEAF: Q. Share my screen again. So 10 I'm showing you Paragraph 113 of your declaration, 11 Exhibit 2045. 12 Do you see that? 13 A. Yes. 14 Q. It says Badros does discuss viewability. You 15 see that? 16 A. Yes. 17 Q. What does viewability mean? What in this -- 18 let me scratch that. 19 What does viewability mean in the context of 20 Paragraph 113 of your declaration? 21 A. Well, as I look at what Badros -- and as I -- 22 as I mentioned, he did discuss it. When I say he 23 mentioned it, and Smedley mentioned it also. So my -- 24 my reading of that is that it's the ability of a -- of 25 a -- of an ad or some content that is called from server

41 1 and placed on the ad content page is, in fact, viewable. 2 Q. What do you mean by viewable? 3 A. Well, in the simplest form, it would mean that 4 it's viewable to a -- to a user. It's not hidden by 5 something. It's not in the corners of an area, but it's 6 viewable by, ultimately, a user. 7 Q. And so when you say viewable in this context, 8 you're saying that it's in view as opposed to an 9 opportunity to see, correct? 10 A. I'd have to think about that. Certainly 11 viewability -- certainly viewability refers to whether 12 or not the ad contents that displayed is -- is viewable 13 by a user, but ultimately it's -- the viewability gets 14 back to the user's ability to the view that content. 15 Q. So I just want to clarify that viewable does 16 not mean that you're able to view it. It means that 17 you're actually viewing it in the terms of Paragraph 18 113? 19 A. Yeah. 20 Q. Is that correct? 21 A. I have to think about that because, I mean, 22 conceivably, you could have a -- an ad on a page and if 23 no one was looking at the monitor, then it would -- no 24 one would see it. So it might be in view, but not by a 25 user, but it would be viewable. I'm not sure how to	43 1 client browser, correct? 2 A. Well, in the one situation, you're describing 3 a static event. In the other example you gave, you're 4 displaying how it occurred. So displaying it on the 5 screen is displaying. How it gets to the screen is 6 where the server is involved. 7 Q. Yeah, so I'm just trying to get a common 8 understanding between you, me, and the record of what 9 display means. Because it seems to me in an earlier 10 answer, you implied that the word displayed was simply 11 the function of downloading an ad to the web page and 12 does not -- and the ad does not necessarily have to be 13 seen or -- 14 A. Yeah. 15 Q. -- displayed on the screen itself. It could 16 just be downloaded to the client device and maybe it's 17 below the fold, but you seem to be implying that in that 18 context, if an ad appeared below the fold, it is still 19 displayed, but then in another context you seem to 20 answer that the word displaying means to show 21 information on a screen. 22 So my question is whether display means the 23 information actually appears on the user's screen or 24 whether display means that the information is just 25 downloaded to the web browser.
42 1 define it any -- any differently, but certainly it's 2 different than displaying an ad or serving an ad as 3 opposed to having the ad be viewable. Those would be a 4 distinction. 5 Q. What's the difference between displaying an ad 6 and having the ad be viewable? 7 A. Well, of course, that's the subject of the -- 8 of the '329, in my mind, but if the browser is rendering 9 an HTML and there's a call to an ad, and it calls the ad 10 from the server and the server displays the ad on the 11 page, and at that point the ad is displayed and very 12 often counted as an impression, but it may not be -- it 13 may not have a -- it may not be viewable from the 14 standpoint of viewability because of either its 15 placement, its size, how long it's on the -- how long 16 it's basically being displayed, where it is on the web 17 page itself. So there's a distinction between what I'll 18 call ad viewability and ad displaying. 19 Q. So we established earlier that display means 20 to show information on a screen, correct? 21 A. Yes. I mean, I would agree with that -- with 22 that definition, not knowing the context of it, but yes, 23 I would agree with that. 24 Q. And showing information on a screen is 25 different than serving an ad or serving information to a	44 1 A. He problem I have in responding is that 2 we're -- we're confusing a static operation with 3 actually how it actually occurs. For example, I believe 4 I did say that if content is shown on a screen, that in 5 the simplest terms, that would be display. Now, the 6 issue of how that display gets there is where the 7 browser and the server come into play. 8 Q. Well, served is in the past tense. So I'm not 9 necessarily clear on what you mean by static operation, 10 because both display -- the activity of displaying and 11 the activity of serving occur over a small period of 12 time of non-zero, correct? 13 A. Well, if I look at your -- what we're talking 14 about the term display, display as static. Now 15 displaying, how the display got there is not static. 16 Whether it occurred in four thousandths of a second or 17 a minute, it's still one is static and one deals with 18 how the display arrived there in the first place. So 19 I'm not sure where your -- you know, what's not clear 20 about it. For me, it's -- it is clear. So maybe I'm 21 just not explaining it clearly. 22 Q. Well, the same way that display and displaying 23 are static in, I guess, maybe non-static, serving and 24 served are also -- you know, I think I said that 25 opposite so let me say serving -- sorry. Served and

45 1 serving are both static and non-static respectively, 2 correct? 3 A. Well, I'm not a linguistic expert, but I 4 distinguish between serve and serving, but, again, I'm 5 not a linguistic expert on those terms. 6 Q. So an item that has been served is now static, 7 correct? 8 A. Well, unless what's been served has some 9 dynamic component, but if you're displaying a single 10 unit, a single ad, if it's been served, then it may be 11 displayed. It might not be viewable yet, but, in fact, 12 if it was served to a specific web page and it was 13 rendered by that browser, then it would be displayed. 14 MR. GREENLEAF: Okay. I need to take a break. 15 We'll take the 45-minute break now. I guess this will 16 be lunch. Go off the record. 17 (The deposition was in recess from 10:59 to 18 11:42.) 19 MR. GREENLEAF: Q. Let's go back on the 20 record. Bob, how was your break? 21 A. How was my break? 22 Q. Yes. 23 A. It was fine. Thank you. I did some walking. 24 I'm not on a treadmill, like apparently you are. 25 Q. Did you talk to anybody during the break?	47 1 So let me try to use as an example. The ad could be 2 flipped so fast, no one could see it. 3 Q. When you say flipped, you mean inverted? 4 A. No, flipped means the ad was changed rapidly, 5 and in a banner ad there's a numerical -- there's a 6 number you can put into it that will actually determine 7 how many ads are flipped in a matter of seconds. That's 8 one of the issues of impressions. So let me use that as 9 an example. If an ad was shown to the -- to on the 10 page, then I would consider that ad to be displayed. It 11 was actually served by the server. 12 Q. Wait, I want to just clarify that. Second 13 here. Let me re-read your answer. You said as an 14 example, if an ad was shown on the page -- 15 A. Yeah. 16 Q. -- then I would consider that to be displayed. 17 It was actually served by the server. So we use three 18 different words there. We have shown. 19 A. Right. 20 Q. We have displayed, and we have served, and you 21 seem to be using them all in the same way. So I want to 22 know -- I want to get the nuanced difference between 23 those words, which I think you do have a nuanced 24 difference, right? 25 A. Yes, if the -- if the ad was shown in the
46 1 A. No, I did not. 2 Q. Okay. So prior to the break, we were talking 3 about the terms display, view, viewability, served, et 4 cetera. Do you recall that discussion? 5 A. Yes. 6 Q. So I'm trying to -- just getting a common 7 understanding of what these terms mean. Viewable, does 8 that mean that it is -- it is shown on the screen, or 9 does that mean that it's capable of being shown on a 10 screen? 11 A. Well, let me try to give you an example 12 because I was thinking about this as I was walking, and 13 I want to -- I want to answer the question, but I want 14 to try to give an example that might be helpful. In the 15 period, roughly, I don't know, 2000 and '02 '03, '04, 16 '05, somewhere in that period of time, I was doing some 17 seminars for the American Management Association, and it 18 was a two-day seminar, and one of the segments was on 19 Internet advertising, and it was specifically on banner 20 ads. And the audience consisted of marketing people, 21 you know, maybe not C level, but D level. 22 One of the things that I did during the 23 seminar was show a web page with a banner ad and show 24 how the banner ad, go up to view source and show how the 25 banner ad, you could change a number and flip the ad.	48 1 banner ad spot, it would have been displayed now. 2 Q. When you say shown, does that mean appears on 3 the screen? 4 A. Yeah, appears -- 5 Q. Or does that mean -- 6 A. Excuse me. Yes, appears on the screen. 7 Q. Okay. 8 A. So it appeared on the banner. The banner is 9 on the screen. So on the banner, there's an ad being 10 displayed. Now, the ad is being displayed because, as 11 the number increases, it goes over to the server and 12 brings in new ads. So those ads were displayed. They 13 were displayed by a call to the server, but for the most 14 part, they were not viewable. 15 Q. They flipped quickly? 16 A. Because they're rotated too rapidly, right. 17 Q. Yeah. 18 A. So we have -- in that example, we have 19 display. We have the server, its role, and we have the 20 fact that because they're being rotated too fast, 21 they're not viewable. 22 Q. Okay. So let's say that I have a web page 23 displayed on my screen, and the ads are flipping, as 24 you've described it. So each of those would be 25 displayed even though they only appeared for let's say

49 1 half a second. So every half a second you change an ad 2 and hundreds of ads are going by you very rapidly. You 3 say that those are displayed, but they aren't viewable; 4 is that correct? 5 A. Yes, I would -- I would characterize it in 6 that way. They're displayed. They're not viewable 7 because they're displayed too fast. 8 Q. Okay. And so let's say that the banner is at 9 the top of the web page and I scrolled down on the web 10 page such that the banner area is no longer on the 11 screen. Would those ads continue to be flipped despite 12 the fact that they were not displayed on the screen? 13 A. Well, they would continue to be flipped 14 because that's a code issue. They would be displayed on 15 the screen even though you couldn't see it because it 16 would now be in part of a screen that was not viewable 17 to the user. 18 Q. Yeah, so this is where my confusion comes in. 19 So earlier we were talking about displayed on the screen 20 and now we're talking about displayed off the screen. 21 So how do I know when you use the word display are you 22 referring to on-screen or off-screen? 23 A. Actually, I was going back to your example 24 where you actually, as I understood your question, you 25 said if you scroll down and now the banner was not	51 1 says, well, I actually meant this. 2 So -- so, again, display to you means that it 3 just downloaded to the web page. It does not 4 necessarily have to be on the screen, correct? 5 A. Okay. Let's describe the screen. I assume, 6 for example, when you say screen, you mean, for example, 7 the part of a monitor you can see, or do you mean the 8 whole monitor display screen? 9 Q. Well, what's the difference between those two? 10 A. Well, for example, if in the example you were 11 actually suggesting where you scroll down and now the 12 banner ad is not visible, from a purely technical point 13 of view, a person would argue that because the code is 14 still being interpreted by the browser, it's being 15 displayed, but it's not on the part of the screen that 16 you can see. 17 And by the way, I agree with you that words 18 are important. I certainly hope this case isn't decided 19 on parsing of words. I hope it's decided on the merits 20 of the case, but I think these definitions are important 21 and I think that to -- to define them out of context 22 sometimes is difficult. That's why I tried to give you 23 the example of a banner ad where you had -- where you 24 had serving the ad. You had displaying the ad, and you 25 had, let's say, viewing the ad.
50 1 visible, would it still be displayed. Well, it will be 2 displayed somewhere, but you can't see it. 3 Q. Okay. So displayed to you means served to the 4 browser and not necessarily on the screen, correct? 5 A. Well, again, you're kind of what I call 6 parsing -- in your example, you scroll down. So now the 7 banner was not visible to the user. Now -- 8 Q. To the extent it was ever visible, I think you 9 said. 10 A. In my example, it was visible at one time. 11 Q. The area was, but not the ads? 12 A. Well, the ad was being rotated very fast. So 13 the ad wasn't -- the ad was being displayed, but not 14 viewable to the user because it was rotating too fast. 15 Now, if the code is still operating, even though you 16 scrolled down, that code is still working. It's just 17 not on the part of the screen that you see. 18 Q. Uh-huh. I understand the idea. And you're 19 right. I am parsing the words because I think that's 20 what lawyers do and that's what this case is ultimately 21 going to turn on is the parsing of words. So I think 22 it's important that we have an understanding of what 23 we're talking about so that the record is clear and we 24 don't get into an argument about, well, you said display 25 and we thought it meant this, but then the patent owner	52 1 Q. Okay. So, again, what I'm trying to get a 2 consistent set of terms for us to agree on that display 3 just means downloaded to the web page and not 4 necessarily appearing on the user's screen? 5 A. Well, first, it's not -- I don't characterize 6 it as being downloaded, but I suspect you could use that 7 term. I use the term rendering, and as far as the 8 screen goes, if the screen is -- if the entire screen is 9 seen by the user and the ad is in the viewable portion 10 of the screen that the user is seeing, then, in my mind, 11 that ad has been displayed. It may or may not be 12 viewable, but it's been displayed. 13 Q. What do you mean by the viewable portion of 14 the screen? 15 A. Well, for example, if you have a web page, for 16 example, that doesn't fit on the size of the screen, 17 right -- and when I use screen, I really mean let's call 18 it the -- to be precise, to me, that's the zero comma 19 zero left-hand pixel upper left hand corner of a browser 20 window down to the -- whatever the size of the window 21 is, 640-by-40 pixel down in the lower right-hand corner. 22 Now, but if the web page is designed, and some 23 are, where you have to scroll down to see them are -- 24 see the entire content, then we have an issue with is 25 the ad actually being displayed, but you just can't see

53 1 it because you haven't scrolled down there yet. In 2 other words, the browser is not necessarily just not 3 rendering only what you're scrolling down to. It may 4 have rendered that, but it's just sitting in -- almost 5 like in a vacuum until you scroll down and see it. 6 There's a -- I don't know -- there's a term 7 like -- by the way, I -- I certainly agree with what 8 you're saying and, of course, I think this entire 9 discussion basically lays a foundation for why you need 10 a viewability test in the first place. 11 Q. So what term would you use for an ad that is 12 displayed off the screen versus an ad that is displayed 13 on the screen? 14 A. I would use that term. 15 Q. Which term is that? 16 A. The terms you just used. 17 Q. I did not use a term or just -- 18 A. I thought you did. 19 Q. On the screen and off the screen? 20 A. Exactly. 21 Q. Okay. What about viewable? How do you define 22 viewable? 23 A. Again, you mean? I mean, that's the subject 24 of this discussion, but, for example, that -- of course, 25 that to me is essentially why we are here about the	55 1 patent use the word viewable? 2 A. I believe they do. Again, I have to go back 3 to my report, but I think we looked at one of the 4 paragraphs where I did mention that the term viewable 5 was used, yes. 6 Q. Does the word viewable mean something 7 different in the Badros patent versus the '329 patent? 8 A. I don't know offhand. I mean, whether or not 9 the definitions are in the patent on the -- on the term 10 viewable the -- the concept of the -- of the definition 11 of the word viewable to me is -- would be the same when 12 we're using the term viewable as opposed to viewability 13 or something else like that. 14 Q. What's the difference between viewable and 15 viewability? 16 A. I think one is a -- is a term and the other is 17 a -- is a measure. 18 Q. Can you explain that more clearly, please? 19 A. I actually thought it was clear, but I guess I 20 could explain it in another way. Again, I have to be 21 very careful here, as I'm sure you understand, because 22 context in terms is very important, but when I -- in my 23 mind, when I think of the term viewable, I conceive of a 24 situation where the ad is -- is viewable to me. I can 25 see the ad. In the context of viewability, because my
54 1 viewability test, but if an ad is, let's say, off the 2 screen -- and this is a very technical precise term 3 because the browser may have rendered that ad, but it's 4 beneath the screen size that a person sees, and they 5 don't see it until they scroll down. 6 So that ad technically could be -- could be 7 rendered but not seen because it's in a part of the web 8 page that's beneath the -- let's say the fold of the 9 monitor screen. 10 Q. You give me a lot of verbiage there. Can you 11 give me a concise definition of what viewable means? 12 A. I think that you have to look at it in 13 context, and that's what I tried to do. I don't think I 14 can do any better than that. 15 Q. And the context of the '329 context, can you 16 give me a concise definition of the word viewable? 17 A. I'm not sure how concise the definition is, 18 and I'm sure there are -- there are some of the other 19 people have given probably better definitions than I 20 would, but viewable kind of relates to the whole idea of 21 a viewability test and measuring the viewability of an 22 ad, and that is the test itself. So I think the 23 measurement is the key to whether or not an ad is, in 24 fact, viewable. 25 Q. So do you agree that both Badros and the '329	56 1 ability to see the ad would be different depending on 2 where the ad is placed, the time it's on the screen, the 3 size of the ad, that would relate to viewability of the 4 ad. 5 Q. So you agree -- all right. It's your opinion 6 that Badros does not enable a person of ordinary skill 7 in the art to create a viewability test, correct? 8 A. I might say it a bit differently, and the way 9 I read Badros and the way I looked at what Smedley 10 talked about, the same issue, it's that they recognize 11 the importance of viewability, but didn't define how to 12 do it well enough that a POSA could, in fact, implement 13 a viewability test. 14 Q. And what do you mean by Badros recognized the 15 importance of viewability? 16 A. I don't mean anything specifically clever. I 17 just mean that he mentioned it and Smedley mentioned it 18 too. 19 Q. So, for example, Badros discusses time during 20 which the document space is not viewable on the user's 21 computer may not be told against the time for a current 22 ad or a current document. That is discussing the 23 importance of viewability, correct? 24 A. Well, yes, I guess what I'm saying is if they 25 mentioned it in a report or the patent or as Smedley

57 1 did, that they wouldn't have mentioned it if it wasn't 2 important unless they said I'm mentioning it, but it 3 doesn't matter, and I don't think they said that. 4 Q. Do you know difference between a predictable 5 and an unpredictable art? 6 A. The last word was art, predictable art and 7 unpredictable art. 8 Q. Yes. 9 A. I may have seen those terms before, but as I 10 sit here, I don't -- I don't recall. I mean, I 11 certainly could understand the difference between 12 predictable and unpredictable, but I don't know what 13 they mean relative to art or in the context of the 14 patent. 15 Q. Do you have an opinion of whether the '329 16 patent is related to a predictable or an unpredictable 17 art. 18 A. No, I mean as I've said, I don't -- I don't 19 have familiarity with the term predictable art. I don't 20 think I mentioned it in my report, and I don't call -- I 21 don't recall reading it. I may have, but I don't 22 recall, as I sit here. 23 Q. When you reviewed Badros, did you presume that 24 it was enabled? 25 A. Presume what was enabled?	59 1 have to explain to the person of ordinary skill in the 2 art how to write code to make a timer to be enabled? 3 A. I don't know. I'd have to -- I'd have to 4 think about it. I'd have to know all the context. I 5 don't think I could just answer hypothetically yes or 6 no. 7 Q. So the '329 patent has to use a timer to 8 determine whether the ad has been displayed for a 9 pre-defined period of time, correct? 10 A. I believe it uses a timer, yes. 11 Q. Is there code in the '329 patent describing 12 how to code a timer? 13 A. I'm not sure. I reviewed some of that code 14 with Igor, as I mentioned earlier, just generally, and I 15 don't recall if the timer even was discussed. 16 Q. Does the '329 patent have to disclose code to 17 make a timer for the claims to be enabled? 18 A. Yeah, I'm not -- I'm not sure if that -- if I 19 have to be a lawyer to answer that particular question 20 the way it's phrased. So I'm not sure how to answer 21 that question. 22 Q. Did code exist prior to 2009 to time things on 23 a web browser? 24 A. Yes. 25 Q. Prior to 2005, did code exist to time things
58 1 Q. The disclosure in Badros. 2 A. I'm still lost. What disclosure are you 3 talking about about being enabled? 4 Q. Badro's discussion of the importance of 5 viewability. Did you presume that it was enabled to 6 produce a viewability test? Sorry. Let me scratch 7 that. 8 When you reviewed Badros, did you presume that 9 it sufficiently enabled a person of ordinary skill in 10 the art to develop a viewability test? 11 A. I think I -- well, first, I didn't presume 12 anything, but as I -- as I recall, Badros discussed 13 viewability and Smedley referred to it also, but in no 14 case was there adequate information provided by Smedley 15 and/or Badros that a POSA could implement a viewability 16 test. 17 Q. Do you agree that the knowledge of the prior 18 art and routine experimentation can often fill in gaps 19 and extrapolate beyond what's disclosed in the prior art 20 document depending on the predictability in the art? 21 A. Well, it sounds like a very general question, 22 which the answer would have to be, you know, certain 23 things like that are possible. 24 Q. Say, for instance, a prior art document 25 discussed a timer in 2005. Would the prior art document	60 1 on a web browser? 2 A. That I'm not sure about, but in the example 3 that I gave you earlier, when I talked about the banner 4 ad being rotated, there was a timing element in that, 5 but I don't know exactly when timers first became a part 6 of a browser. 7 Q. Would it surprise you to learn that timers 8 have been available for web browsers in the '90s? 9 A. Well, I don't propose to know everything about 10 browsers in the '90s. So I don't know if I'd be 11 surprised or not. 12 Q. You took a Javascript boot camp at one point 13 in your career, correct? 14 A. I did. 15 Q. When was that? 16 A. It was an eternity ago. To be more specific, 17 at least 10 years ago. 18 Q. That was after 2000, then? 19 A. Yes, right. 20 Q. So prior to that you had very limited 21 knowledge of JavaScript, correct? 22 A. Yeah, I'm not even sure if it was around 23 before 2000, but most of my work before 2000 was in 24 website development. I did direct groups of people -- I 25 did direct a group of 18 C++ programmers to build a

61 1 product that I marketed, but most of my -- most of my 2 personal work was actually building websites with -- 3 with HTML, and I oversaw people that did other things 4 and other code, but that was my personal experience. 5 Q. Was there any code in the portions of the '329 6 patent that you reviewed with Igor that runs a timer? 7 A. As I said, I don't -- I don't believe that 8 came up on our discussions. It may be there. It may 9 not be there, but it didn't come up in my discussions. 10 Q. I'm going to share my screen. All right. 11 Bob, this is U.S. Patent No. 6,317,782 to Himmel. Do 12 you see that on your screen? 13 A. I do. 14 Q. So I showed this to Igor and Alan too. Have 15 you seen this patent before? 16 A. It doesn't look familiar. I'd have to check 17 to see in my materials if it was on my list, but I 18 generally, you know, looked at Smedley's list too, but 19 it doesn't look familiar to me. 20 Q. Yeah, it's not on your list. So you cannot 21 recall ever seeing this patent? 22 A. Not only I don't recall, I'm pretty sure I 23 never saw it. 24 Q. All right. On the screen here I have U.S. 25 Patent No. 7,567,916. Do you see that?	63 1 Q. And it says that JavaScript first appeared in 2 December 4, 1995. Do you see that? 3 A. Yes. 4 Q. Do you have any reason to doubt that it first 5 appeared in December 4, 1995? 6 A. Well, I think Wikipedia is a reasonably good 7 source. I have no reason to doubt it. 8 Q. So JavaScript was well-known by 2005, correct? 9 A. Again, I don't know how well-known it was in 10 2005. Most of the work that I was doing was really with 11 HTML. Most of the programmers that I worked with were 12 doing that also, but I have no reason to doubt that it 13 was -- that it was used, no. 14 Q. So it's your opinion that when Badros was 15 filed in 2005, that it would not have enabled a person 16 of ordinary skill in the art to produce a viewability 17 test, correct? 18 A. Yes. 19 Q. And you understand that the person of ordinary 20 skill in the art is defined as a hypothetical person who 21 knows basically everything that's in the prior art, 22 correct? 23 A. Yeah, I'm not sure about the everything 24 component, which would be, you know, a lot of material, 25 but certainly the prior art that's -- you know, that's
62 1 A. Yes. 2 Q. This is to the inventor Koeppel. Have you 3 ever seen this patent? 4 A. I have the same answer. I don't believe it 5 was in the materials that I reviewed. It doesn't -- the 6 name doesn't ring a bell, so I don't recall ever seeing 7 it. 8 Q. On the screen I have U.S. Patent No. 8,135,616 9 to Callaghan. Do you see that? 10 A. Yes. 11 Q. Have you ever seen this patent? 12 A. Again, I don't have the materials I reviewed 13 in front of me, but it doesn't look familiar to me. 14 Q. Did you do any research for prior art patents 15 or printed publications disclosing viewability tests 16 other than what was provided to you from the IPR? 17 A. I think -- I think you asked me if I did do 18 any independent research, and I believe I answered no. 19 The only prior art that I looked at was the documents 20 listed in -- I'm not sure if I even looked at all the 21 documents in the IPR, but certainly all the documents in 22 Smedley's declaration. 23 Q. On the screen I have the Wikipedia page for 24 JavaScript. Do you see that? 25 A. Yes.	64 1 been advanced by Smedley in his and the IPR that they 2 would be aware of those things, yes. 3 Q. Let me ask it a different way. A person of 4 ordinary skill in the art thinks along the line of 5 conventional wisdom in the art and is also presumed to 6 be aware of all of the pertinent art, correct? 7 A. The pertinent art, yes. I would agree with 8 that. 9 Q. Is JavaScript part of the pertinent art, as it 10 relates to the '329 patent? And let me re-ask that 11 question. 12 The art that's pertinent to the '329 patent 13 includes JavaScript, correct? 14 A. Again, I don't want to get into a definition 15 of art, but certainly JavaScript is included in the '329 16 patent. 17 Q. And a patent need not disclose things that the 18 person of ordinary skill in the art would already know 19 for the patent to be enabled, correct? 20 A. It sounds -- it sounds correct, but I'm just 21 not sure what the assumptions are for what this POSA 22 already knows. 23 Q. Yeah, so at what time period did you evaluate 24 the knowledge of the person of ordinary skill in the art 25 when doing your analysis for your declaration?

65 1 A. I think I used the filing date. I think it 2 was April of 2009. 3 MR. GREENLEAF: So Badros was filed in 2000 4 and -- well, let me just confirm that. Scratch that. 5 (EXHIBIT 1003 WAS MARKED FOR 6 IDENTIFICATION.) 7 MR. GREENLEAF: Q. The Badros patent was 8 published on May 25, 2010, but was filed on June 15, 9 2005, and I'll just share my screen just so we're all on 10 the up and up. All right. So we have the Badros 11 patent, Exhibit 1003, on the screen. Do you see that? 12 A. A little hard to read, but yes, I can see it. 13 That's better. Thank you. 14 Q. And it was filed June 15, 2005, correct? 15 A. Yes, that's what it says. 16 Q. So when you evaluated whether Badros enabled 17 the person of ordinary skill in the art to produce a 18 viewability test, when -- at what date did you consider 19 whether Badros's patent was enabled? 20 A. I don't -- I don't -- I don't know that I 21 considered the date that it was enabled as much as I 22 considered what a POSA would know on the date of the 23 3/29 filing date. 24 Q. You understand that under the U.S. patent law 25 that a prior art reference may not be enabled as of its	67 1 Q. So the only way to implement the viewability 2 test is with client-side code, correct? 3 A. Well, again, I have to say that I'm not aware 4 of it. I'm not aware of it, but somebody may have been 5 able to do it. I've not seen it. As far as I can see, 6 viewability tests have to be implemented on client-side 7 code because the server can't know what's going on on 8 the web page. 9 Q. Is a user computer considered to be a client? 10 A. I don't -- I don't consider a computing device 11 to be the client. I mean, maybe some people do. I 12 consider it to -- I consider the client to be more a 13 software-type application. 14 Q. And where does the client software-type 15 application exist? 16 A. Where does the client-side software 17 application exist? Client side exists on the user's 18 computer. Could be an app, could be downloaded, it 19 could be -- exist temporarily on the user's computer 20 when the browser is being initiated. 21 Q. And Badros teaches downloading code to the 22 user computer to implement at least a portion of its 23 function, correct? 24 A. What function? 25 Q. Well, you agree that Badros discusses
66 1 filing date or publication date, but may become enabled 2 sometime later? 3 A. If you tell me that's patent law, then I'll 4 assume you're correct. 5 Q. You did not understand that aspect of U.S. 6 patent law when you were generating your opinions for 7 your declaration? 8 MR. BERTEN: I'm going to interpose an 9 objection to the extent that you're characterizing the 10 full body of U.S. patent law. 11 MR. GREENLEAF: Q. Let me re-ask the 12 question. When you formed your opinions in 13 Exhibit 2045, did you consider whether Badros may have 14 become enabled later after it was filed? 15 A. I'd say no. I didn't consider that. Kevin? 16 Q. Yes. 17 A. My big monitor, I still have Igor's 18 declaration, and I want to just close it because I keep 19 looking over at it. Just want you to know what I'm 20 doing. 21 Q. Rather look at me, wouldn't you? 22 A. Preferably, yes. 23 Q. Thank you. Are you aware of any way to 24 implement a viewability test without client-side code? 25 A. No.	68 1 viewability but it's not enabled, correct? 2 A. I believe the way I would state it is that 3 Badros discusses viewability, but he doesn't discuss how 4 it's enabled. 5 Q. But Badros does disclose putting code on the 6 user computer, correct? 7 A. I'm not sure, as I sit here, because I'm 8 trying to remember some of the details of that patent, 9 and I don't -- I don't think I discussed this in my 10 report. I don't have my report in front of me, but it 11 seems like to me that what Badros talked about was a 12 server-side implementation for a viewability test. 13 Q. I'm going to share my screen. I have the 14 Badros patent here. Column 13. You see that, Bob? 15 A. I do. 16 Q. All right. And the user module you'll recall 17 is on the server, correct? 18 A. Yes, user module 40 is on the server, right. 19 Q. Okay. And then this paragraph starting on 20 Line 8, I'll read it. It says, "The code may be 21 effective to cause a time-multiplexed display of a 22 plurality of documents at the user computer 8, or 23 display device 18. For instance, user module 40 may 24 cause a time multiplexing program or system, e.g., 25 similar to that described for server two to exist and