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1 IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS 2 MARSHALL DIVISION 3 * FUNCTION MEDIA, LLC Civil Docket No. * 2:07-CV-279 4 VS. * Marshall, Texas * 5 * January 21, 2010 1:20 P.M. GOOGLE, INC. * 6 TRANSCRIPT OF JURY TRIAL 7 BEFORE THE HONORABLE CHAD EVERINGHAM UNITED STATES MAGISTRATE JUDGE 8 9 APPEARANCES: 10 FOR THE PLAINTIFFS: MR. MAX TRIBBLE MR. JOSEPH GRINSTEIN 11 Susman Godfrey 1000 Louisiana Street Suite 5100 12 Houston, TX 77002 13 MR. JUSTIN NELSON Susman Godfrey 14 1201 Third Avenue Suite 3800 15 Seattle, WA 98101 MR. JEREMY BRANDON 16 Susman Godfrey 901 Main Street 17 Suite 5100 Dallas, TX 75202 18 MR. ROBERT PARKER Parker, Bunt & Ainsworth 19 100 East Ferguson Suite 1114 20 Tyler, TX 75702 21 APPEARANCES CONTINUED ON NEXT PAGE: 22 COURT REPORTERS: MS. SUSAN SIMMONS, CSR MS. SHELLY HOLMES, CSR 2.3 Official Court Reporters 100 East Houston, Suite 125 24 Marshall, TX 75670 903/935-3868 25 (Proceedings recorded by mechanical stenography, transcript produced on CAT system.)

1 APPEARANCES CONTINUED: 2 3 FOR THE DEFENDANTS: MR. CHARLES VERHOEVEN 4 MS. AMY CANDIDO Quinn Emanuel 5 50 California Street 22nd Floor 6 San Francisco, CA 94111 7 MR. EDWARD DEFRANCO Ouinn Emanuel 8 51 Madison Avenue 22nd Floor 9 New York, NY 10010 MR. HARRY L. GILLAM 10 Gillam & Smith 11 303 South Washington Avenue Marshall, TX 75670 12 P R O C E E D I N G S 13 COURT SECURITY OFFICER: All rise. 14 15 (Jury in.) 16 THE COURT: Please be seated. 17 Continue with redirect. 18 MR. NELSON: Thank you, Your Honor. 19 WALTER BRATIC, PLAINTIFF'S WITNESS, PREVIOUSLY SWORN 20 REDIRECT EXAMINATION (CONTINUED) 21 BY MR. NELSON: 22 Q. Mr. Bratic, when you are looking at licenses, 23 are all patents worth the same amount? 24 A. No, absolutely not. 25 Q. Why not?

Well, there are a number of factors that have 1 Α. to be evaluated and analyzed. For example, is the 2 3 patent you're looking at core or fundamental to the products at issue? 4 5 Does the patent contribute to and responsible for generation of billions of dollars in revenues and 6 7 hundreds of millions of dollars in profits? 8 Does that core -- can that technology be 9 designed around? What's the life of the patent? 10 11 There are a number of factors that have to be 12 considered, and you have to analyze them based on the specifics. 13 Thank you. 14 Ο. 15 Now, we talked about a couple of those 16 licenses right before lunch. I want to finish talking about the other two that were brought up on your 17 18 cross-examination. 19 The Hewlett-Packard agreement, that was a 20 cross-license? 21 A. It was. 22 Could Mr. Chen and Google's corporate Q. representative talk about the circumstances of those --23 24 of that agreement in detail? 25 Α. No.

1 Q. Was the technology even in the same relevant 2 field as this one? 3 Α. No. The Alcatel-Lucent agreement, was that a 4 Ο. 5 cross-license? It was. Α. 6 7 How does a cross-license affect whether you Ο. 8 can really compare two licenses? 9 Α. Well, right before the lunch break, I was 10 explaining when you have a cross-license, stuff's going both ways. In other words, patent rights are going both 11 ways, and it's very hard to unravel and figure out what 12 the value of the license would have been or the license 13 14 terms would have been if it was just going one way. 15 Could Google testify in its binding testimony Q. 16 about the circumstances of that agreement? 17 Not about the details, no. Α. 18 MR. NELSON: Let's bring up Paragraph 109 19 of your exhibit report that was used during your 20 cross-examination. 21 Α. Yes. 22 (By Mr. Nelson) The latter two sentences were Q. 23 highlighted, but let's highlight actually the first two sentences of your conclusion. 24 25 You concluded -- or you had spoken to

Mr. Dean, and what did Mr. Dean believe to be an 1 2 appropriate royalty rate here? 3 He believed it should be 20 percent. Α. Is that also what he testified to on the 4 Ο. 5 stand? Α. Yes. 6 7 And right here, it talks about the Q . 8 industry-wide profits. 9 Α. Right. 10 Q. You're aware that he gave more reasons than that for his -- for why on the stand today -- excuse 11 me -- yesterday, correct? 12 Α. 13 Yes. 14 And did you actually use the rate that Ο. 15 Mr. Dean requested? 16 Α. No. Why not? 17 Q. 18 Well, it was just one of a number of data Α. 19 points I considered, but, obviously, my conclusion is 20 that I think a reasonable royalty rate is 12 percent, 21 not 20 percent. 22 Regardless of where the starting point would Q. have been, what conclusion would you have reached or did 23 you reach about what the appropriate reasonable royalty 24 25 rate is here?

In my opinion, it's 12 percent for all the 1 Α. 2 reasons I've discussed. 3 If Google is correct, that it's 25 percent of Ο. the profits, have you done a calculation? 4 5 You started to do this on the cross-examination. Have you done a calculation of what 6 7 25 percent of the profits would be under that 8 calculation? 9 Α. Yes. **REDACTED BY ORDER OF THE COURT** 10 Ο. Mr. -- excuse me -- Google's counsel also started talking about some of these acquisitions and the 11 employees and everything, the technology, the location. 12 13 Do you recall that testimony? 14 I do. Α. 15 With respect to Applied Semantics first, are Q. 16 you aware whether Google has ever stated under oath that it never used the Applied Semantics technology? 17 18 Α. Yes. I'm aware of that. 19 MR. NELSON: Let's bring up the 20 deposition testimony of Susan Wojcicki in a different 21 case. And let's zoom in the bottom -- yeah, there we 22 go. 2.3 (By Mr. Nelson) Mr. Bratic, did you rely on Q. 24 this testimony in the formation of your opinion? 25 This testimony, and there was a document or Α.

two I saw of Google's. 1 2 Ο. And what does this say? 3 The witness, which you said is Ms. Wojcicki, Α. says: I don't believe the program -- I don't believe 4 5 Google's program changed from the acquisition of Applied Semantics. 6 7 Q. And then what was the next question? 8 Α. And then the next question was: From a 9 technical standpoint, you don't believe that Applied 10 Semantics' technology was used, or do you? I do not believe that the technology was used. 11 The technology being Applied Semantics' technology. 12 Are you aware whether in that case 13 Ο. Ms. Wojcicki was Google's corporate representative? 14 15 It's my understanding. Α. 16 We also talked about not just for the Applied Q . Semantics' transaction, but for other acquisitions all 17 18 the other things that came with the acquisition? 19 Α. Yeah. Facilities, employees, yes. 20 Were you able, in your analysis, to separate Q. 21 out the value of the patents and the technology with the patents from everything else? 22 2.3 Α. Well, yes, because that's what Houlihan-Lokey 24 was hired to do. As I testified yesterday, they were 25 hired to assign a value to all the assets acquired, not

just the technology and patented technology, but, for 1 2 example, the workforce that they'd get, experienced 3 workforce, any research facilities or property they owned, buildings, whatever. 4 5 That's what Houlihan-Lokey's job was. So they separated it all out, and that's why I was able to 6 7 isolate and focus on the technology rate charge as 8 applying to the technology. 9 Q. Let's please turn -- Mr. Verhoeven, Google's 10 counsel, also questioned you about the Stanford license. 11 MR. NELSON: Can we bring up Plaintiff's Exhibit 318, I believe? 12 13 (By Mr. Nelson) Do you recall that testimony? Ο. 14 I do remember that discussion. Α. 15 Yeah. Ο. 16 MR. NELSON: Let's please go to -- I think it's 8.1, which is the relevant terms. 17 18 Α. Yes. 19 (By Mr. Nelson) You were asked whether this 0. 20 license was worth \$100,000, and you said it was not. 21 Α. 160,000. 22 Excuse me. \$160,000. And you said it was Q. 23 not. 24 Α. Correct. 25 Why did you give that answer? Q.

A. Well, because if Google -- excuse me -- if Stanford thought this technology was worth \$160,000, they would have taken \$160,000. Instead, they took percent of the stock in Google with the expectation -hope and expectation that that stock would perform and do well.

7 And we know that at the hypothetical 8 negotiation that Function Media and Google would have 9 known that Stanford never took \$160,000 for that stock. 10 They took that investment and they turned it into \$335 11 million in profits.

12 Does that \$335 million include what Stanford Q . 13 ended up giving to the two inventors of the patent? 14 That number -- if you included that Α. No. 15 portion, that number would have been like \$450 million. 16 What rate did Stanford pay the two inventors Q. and the founders of Google? 17 18 Α. 28 percent of the benefits they got from 19 Google. 20 MR. NELSON: Approach, Your Honor? 21 THE COURT: Yes. (Bench conference.) 22 2.3 MR. NELSON: It's that time again. 24 THE COURT: Okay. 25 MR. NELSON: I expect it to go about

1 three minutes at that.

2 While we're up here, Mr. Verhoeven 3 brought up AdForce and whether it was a design-around. In Mr. Bratic's report, it's not an acquisition, but he 4 5 says that AdForce was bought for \$1 billion. I'd like to be able to rehabilitate him 6 7 on that point. If they're going to say that AdForce is 8 so important, I'd like to be able to say that AdForce 9 was actually purchased for \$1 billion in 1999. It's in 10 his report. It's not in the acquisition section, I 11 should say. 12 MR. VERHOEVEN: May I be heard, Your Honor? 13 14 THE COURT: Yes. 15 MR. VERHOEVEN: The reason I brought up 16 AdForce is because the witness said there was no acceptable substitutes. It has to do with the features 17 18 of the technology of AdForce and whether that would be 19 an acceptable substitute during the hypothetical 20 negotiation. 21 It has nothing to do with the purchase price of the entire company. It had to do with the 22 23 technological features. 24 THE COURT: I agree with that. Ιt 25 doesn't have anything to do with the purchase price of

the entire company, but the way that the testimony came 1 2 in suggested that this AdForce -- that it was out there 3 and they could have turned to it as a reasonable non-infringing alternative. You can -- you can prove up 4 5 they were acquired, but don't go beyond that. MR. NELSON: I'm sorry. 6 7 THE COURT: What are you asking? 8 MR. NELSON: I'd like to be able to use 9 it to say that it was purchased for \$1 billion. 10 THE COURT: Well, no. 11 MR. NELSON: Well, because --12 MR. VERHOEVEN: This is the same thing you've already ruled on. 13 14 MR. NELSON: The problem is that it's 15 come in and --16 THE COURT: It wasn't purchased by 17 Google, though. 18 MR. NELSON: That's absolutely correct. 19 And the issue is that Mr. Verhoeven just was questioning 20 and saying that it was a free license and all this stuff. 21 22 The point is, actually the technology was purchased for \$1 billion, and so if it's free --23 24 THE COURT: I'm sustaining the objection. 25 You're not going to go into that.













MR. NELSON: May I continue? 1 2 THE COURT: Yes. 3 (By Mr. Nelson) Mr. Bratic, you were also 0. questioned about the design-arounds, correct? 4 5 Α. I was. And you stated that you relied on Dr. Rhyne? 6 Q. 7 Α. That is correct. 8 What did you do to rely on Dr. Rhyne? Q. 9 Α. Well, as I mentioned in Court, I interviewed 10 him several times? 11 Did you rely on his testimony as well? Ο. I did. I relied on his -- my interviews of 12 Α. 13 him before I filed my report, and then, of course, I 14 relied on his testimony here in Court upon that subject. 15 Have you seen documents -- excuse me -- let me Q. 16 back up. 17 What did he conclude about the fundamental 18 importance of these patents? 19 Α. Well, he said they were -- excuse me -- he 20 said they were fundamental to the accused products. 21 And from -- based on your expert experience, Ο. not talking about the patents itself, but based upon 22 23 what Mr. -- excuse me -- Dr. Rhyne identified, the 24 automation, the scalability, have you seen evidence that 25 those factors are vitally important to Google here?

Α. Yes. 1 2 In conclusion, is it your opinion that Google Ο. 3 and Function Media would have agreed to pay 600 million in 2007? 4 5 That's not my opinion at all. Α. No. MR. NELSON: Let's go to Slide 5, I think 6 7 it is. 8 (By Mr. Nelson) What are we looking at here? Q. 9 Α. This is a slide I showed the jury and the 10 Court yesterday. And this was kind of the guidelines I said for the hypothetical negotiation and what the 11 12 parties would have agreed to. 13 And if you look here, what I said the parties would have agreed to -- Function Media and Google would 14 15 have agreed to what products are going to be licensed, 16 which would be AdSense for Content Online and AdSense 17 for Content Online Mobile. 18 And they would agree to the royalty rate, not 19 the amount of the royalty, because on November -- I 20 mean, on July 3rd, 2007, they would not have known the precise amount of the revenues. So they would agree on 21 that information. 22 2.3 I'm sitting in here in Court now looking back, 24 getting an accounting for the amount of usage Google has 25 enjoyed. And Google has generated over \$5 billion in

sales of accused products over the last two and a half 1 years. 2 3 So when you apply the agreed-upon royalty rate, in my opinion, of 12 percent times the over \$5 4 5 billion in accused sales Google has enjoyed from the use of these patents, that gives you a royalty of \$607 6 7 million. 8 Why do you think that -- the 12-percent rate Q. 9 that you have concluded is appropriate here, why do you 10 think that's reasonable? Well, I discussed a number of different 11 Α. 12 factors I've considered. I've considered industry royalty rates in the 8 to -- 8- to 13-percent range. 13 14 15 REDACTED BY ORDER OF THE COURT 16 I've considered the research that -- the 17 18 research that Mr. Dean had been doing at Function Media 19 in the early 2000s and leading up to the issuance of the 20 patents where he had been studying the industry royalty 21 rates in this industry in a range of 8 to 10 percent. 22 So -- and I've considered the significance, the fundamental nature of these patents as they relate 2.3 24 to the core products, AdSense for Content Online, 25 AdSense for Content Direct.

I've considered that these products have 1 2 generated billions, over \$5 billion in sales since 3 infringement began, but over \$8 billion since they first launched the product. And they've generated hundreds of 4 5 millions of dollars in profits as well. And I've also considered, according to 6 7 Dr. Rhyne, that there are no substitutes. There are no 8 ways of teaching the fundamental nature of these patents 9 with the exception of practicing these patents. 10 And that's an example of a lot of things I 11 considered. 12 Q. And have you also considered what we talked 13 about just a couple of minutes ago in the closed courtroom? 14 15 A. Yes. Those data points and those reference points as reasonableness checks. 16 17 Based on all of that data that you've Ο. 18 considered, could you please summarize one more time 19 what was the rate you concluded was reasonable here? 20 In my opinion, the royalty rate would be 12 Α. 21 percent of the sales of the accused products. 22 MR. NELSON: Thank you. 2.3 THE COURT: Recross? 24 MR. VERHOEVEN: Three brief points, Your 25 Honor, if I may.

THE COURT: Yes, please. 1 RECROSS-EXAMINATION 2 3 BY MR. VERHOEVEN: Mr. Bratic, when I showed you the invoices 4 Ο. 5 from this company, CRA -- by the way, you're a 6 consultant there; is that right? 7 Α. I'm a consultant to CRA. I'm not an employee. 8 Q . Do you get paid by them? 9 Α. Well, I receive payments from them. 10 Q. Right. 11 But I'm not an employee. I'm not a salaried Α. 12 employee. What percentage of your \$600 per hour do you 13 Ο. 14 get paid for them when you do these things? 15 Once it's paid to CRA, I receive all of it. Α. 16 Q. A hundred percent? 17 Yes. Α. Okay. You testified you didn't know the 18 Q . 19 amount to the CRA invoices, right? 20 Α. I didn't know the precise amount, because I've never seen the invoice. 21 22 Okay. But then when Counsel got up and did Q. 23 redirect, you testified that you did know what the expert invoices were for Google's experts. 24 25 I didn't know the invoices. I knew what the Α.

general amount was. I was told sometime before trial. 1 2 Ο. And you said you knew it was more than your invoices, right? 3 That's what I recall being told. 4 Α. 5 And how did you know that if you didn't know Q . the amount of your invoices? 6 7 Α. Oh, because I was told what this amount was. 8 Q . When were you told? 9 Α. Right before trial. 10 Okay. Now, you testified on redirect that Q. it's very important, when you're looking at patent 11 licenses, not only to just read the patent license, but 12 13 you need to talk to people who negotiated it, and you 14 need to know the details; specifically what do they 15 cover; how are the patents covered; how important are 16 they, right? 17 I didn't quite say that. Α. 18 You didn't say that? Q. 19 Α. I didn't say you need to talk to the people 20 who negotiated the license. You needed to learn about 21 it. 22 Okay. You need to learn about what the people Q. who negotiated the license, why they are negotiating, 23 24 how important it was to them, right? 25 Α. Right.

Okay. Now, you relied on a royalty figure 1 Q. based on over a hundred licenses. 2 3 Do you remember that? That was one of the things I considered. Α. 4 5 Q. Yeah. Α. Yes. 6 7 You relied on it, right? Q. 8 Α. I relied on it as a data point. 9 Q. And you didn't talk to anybody about anything 10 regarding the negotiation of any of those licenses, did 11 you? 12 No, I didn't. Α. 13 And you didn't even read any of those Ο. 14 licenses, did you? 15 No, I didn't. Α. 16 You didn't take any efforts to figure out Q. whether they were bare licenses or whether they were 17 18 software licenses, did you? 19 Α. No. We talked about that. I knew they included software licenses. 20 21 And you didn't even look to see if they Ο. 22 related to the technology in this case, did you? 2.3 Not specifically to the patent technology. Α. 24 But you relied on those licenses, didn't you, Ο. 25 sir?

Yes, I relied on them as one of many data 1 Α. points. 2 3 But you didn't rely on the actual licenses Ο. that Google negotiated, did you, sir? 4 5 I did rely on some of them. Α. Didn't rely on the Meyer license agreement? 6 Q. 7 Α. No. That wasn't a license agreement. That 8 was an asset purchase agreement. 9 Q. Did you rely on any of the four agreements 10 that I showed you? I relied on parts of them, sure. 11 Α. 12 Which ones? Q . 13 Well, Hewlett-Packard Development Corporation, Α. 14 I relied on parts of that agreement. I relied on parts 15 of VoiceAge agreement. I think you and I talked about 16 that. I relied on -- I think you've always raised the AOL agreement. 17 18 MR. VERHOEVEN: Sorry, Your Honor. Ι 19 apologize. 20 Q. (By Mr. Verhoeven) Did you rely on the fact 21 that Google licensed the Meyer agreement for 3.5 22 million -- or purchased the Meyer patents for 3.5 23 million? 24 Α. No. 25 Q. Yes or no?

1 Α. No. 2 Ο. Did you rely on the purchase price for the 3 Hewlett-Packard license, yes or no? Did you rely on the license payment for the 4 5 Hewlett-Packard license, yes or no? Not the amount, no. 6 Α. 7 And you didn't rely on the amount of the Q. 8 VoiceAge license agreement, which was a maximum of \$2 9 million per year, did you? 10 Not on that amount, no. Α. And you didn't rely on the Alcatel-Lucent 11 Ο. 12 license agreement, which was \$6 million per year, did you? 13 14 That's correct. Α. 15 Instead, you relied on these industry licenses Q. 16 that you never read, correct? 17 A. That's not entirely true. 18 You relied in part on them, didn't you? Q. As a small part. I told you I looked at a lot 19 Α. 20 of data points. 21 Ο. Now, let's go to the last point. 22 MR. VERHOEVEN: Let's go to Plaintiff's 23 Slide 14 that was just up. 24 Q. (By Mr. Verhoeven) Okay. We just looked at 25 this.







THE COURT: We're not anywhere close to 1 2 where I would break. May we have a stipulation to those 3 making motions for judgment as a matter of law until the afternoon break. They would be deemed to be timely 4 5 made. 6 MR. VERHOEVEN: We could do that, but we 7 would -- we would like to be able to file a brief, if 8 that's --9 THE COURT: No, no. 10 MR. VERHOEVEN: I would prefer to do that 11 so we don't take up the Court's time. 12 Here's what I would suggest, Your Honor, 13 and I'll do whatever you want to do. But I want to be 14 careful and make sure we've put in the record our 15 arguments so there's no question about waiver after the 16 verdict comes in. 17 And so we'd like to file a paper, and it 18 may make the most sense to do argument once the Court 19 has the paper. But I'll do whatever you want. I'll 20 argue this afternoon, if you'd like or --21 THE COURT: Well, for present purposes, I just want to continue on with the testimony until the 22 2.3 break. 24 MR. VERHOEVEN: No problem with that. 25 THE COURT: We'll sort this out at the

break about whether -- you know, whether and to what 1 2 extent you want paper. 3 MR. VERHOEVEN: We can. Your Honor, just so you know, I was going to head back to get some 4 5 witnesses ready for tomorrow. Mr. DeFranco will be here. 6 7 THE COURT: Okay. You may be excused. 8 MR. VERHOEVEN: Okay. He'll address it 9 with you. THE COURT: That's fine. 10 MR. VERHOEVEN: That's fine with us. 11 12 THE COURT: Okay. Then in that case, 13 I'll go ahead -- you rest in front of the jury. I'm going to let them know what that means, and then I'm 14 going to invite Google to call its first witness. 15 16 MR. TRIBBLE: We are -- of course, our validity part of the case, we're going to do in 17 18 rebuttal. 19 THE COURT: I understand. MR. TRIBBLE: You understand? 20 21 THE COURT: I got you. Well, I assume you're going to do it in response to their 22 23 case-in-chief. 24 MR. TRIBBLE: I guess I'll wait until and 25 see how it comes in.

THE COURT: I understand. I understand 1 2 that. 3 Okay. Y'all can step back. MR. VERHOEVEN: Thank you, Your Honor. 4 5 THE COURT: Okay. Thank you. 6 (Bench conference concluded.) 7 THE COURT: All right. Ladies and 8 Gentlemen of the Jury, you've heard Mr. Tribble state 9 that the Plaintiff rests. That's what we call a 10 milestone in these types of cases. You've heard all of the evidence in the 11 Plaintiff's case, in what's call the Plaintiff's 12 case-in-chief. And we're now going to enter the phase 13 14 of the trial that is the Defendant's case-in-chief. 15 So with that, the Defendant may call its 16 first witness. 17 MR. DEFRANCO: Yes, Your Honor. Our 18 first witness is Susan Wojcicki. 19 THE COURT: Okay. Come around, ma'am, 20 and be sworn first. 21 (Witness sworn.) 22 THE COURT: Okay. If you'll come right 23 Speak into the microphone and try to keep around here. 24 your voice up, please. 25 THE WITNESS: Okay.

MR. ANDERSON: Your Honor, we have some 1 2 exhibits, if that will be okay. 3 THE COURT: Yes. MR. DEFRANCO: May I proceed, Your Honor? 4 5 THE COURT: Yes, please. 6 SUSAN WOJCICKI, DEFENDANT'S WITNESS, SWORN 7 DIRECT EXAMINATION 8 BY MR. DEFRANCO: 9 Ο. Good afternoon. Would you please state your full name for the 10 11 record. 12 Yes. Susan Wojcicki. Α. 13 And, Ms. Wojcicki, where do you work? Ο. 14 I work at Google. Α. 15 And please tell us what your position is at Q. 16 Google. 17 My position is VP of Product Management. Α. VP stands for? 18 Q. 19 Α. Vice President. 20 And is that a fairly senior position within Q. 21 the company? 22 Α. Yes, it is. 2.3 Would you just tell us who you report to as a Q. Vice President at Google? 24 25 Yes. I report to Jonathan Rosenberg, who is Α.

Senior Vice President at Google. 1 2 Ο. Now, can you tell us -- I take it there are 3 some committees within the company of Google? Α. Yes. 4 5 What's the most senior-level committee in the Q. 6 company? 7 Α. The most senior-level committee in the company 8 is the Operating Committee, and that's a committee that I sit on. 9 10 Q. About -- can you just tell us about how many people are on the Operating Committee of Google as a 11 12 corporation? 13 Α. There are about 15 people. 14 And if you would, please describe for us Ο. 15 generally what that committee does. 16 Α. That committee is responsible for all decisions in the company, and that committee has a head 17 18 of each department on that committee. 19 Q. Now, Google, as a company, has been around for 20 some number of years; is that correct? Yes. It was founded in 1998. 21 Α. 22 And are there a couple of individuals who are Q. 23 considered to be the founders of the company? 24 Α. Yes. Sergey Brin and Larry Page. 25 And are they both still with the company? Q.

Α. Yes. 1 2 Ο. And you -- I'm sorry. 3 They're both still with the company, and Α. Yes. 4 I am with the company, too. 5 Okay. Sergey Brin, Larry Page, the two Q. 6 founders? 7 Α. They are the two founders. Yes. 8 Q . And you work with them at Google today? 9 Α. Yes. I work with them often. 10 Q. Let's go back a little bit in time. How long have you worked at Google? 11 I've worked at Google for 10 and a half years. 12 Α. 13 And we should probably just cover your 0. 14 educational background briefly. If you wouldn't mind 15 describing that for us, please. 16 Sure. I have an undergraduate degree from Α. Harvard University. I graduated in 1999 -- sorry --17 18 1990. It was a long time ago. I have a master's in economics from UC-Santa 19 20 I graduated in 1993. And I have an MBA from Cruz. 21 UCLA. I graduated in 1998. 22 We're going to deal with a lot of terms today. Q. I'm going to ask you what some of the terms you use mean 2.3 24 just so everybody knows what we're talking about, okay? 25 You said an MBA. Could you just tell us what an MBA is,

please? 1 2 Α. An MBA is a Master's of Business 3 Administration. 4 Ο. So three degrees. Are any of those -- would 5 you classify any of those as technical degrees? Α. 6 No. 7 Do you manage people with technical degrees? Q. 8 Yes, I do. Α. 9 Why don't you please just give us a general Q. 10 sense of the number of people you manage, just in very general terms what they do for the company, so we can 11 get some sort of sense for what your day-to-day work is 12 like. 13 14 I manage about 125 people, and the people I Α. 15 manage are product managers. Product managers are responsible for designing the next generation of 16 products that we have. 17 18 And my -- the product managers on my team are 19 responsible for designing AdWords and AdSense and all 20 our advertising products. 21 All of the -- all of Google's advertising Ο. products? 22 2.3 Yes, all of Google's advertising products. Α. 24 Okay. Well, you've used a term -- a few names 0. 25 of products that we've heard in this case, and I just
want to make sure we're all on the same page, if we 1 2 start now. 3 AdWords, can you just give us a sentence of what AdWords is? 4 5 A. So AdWords is an advertising product where if you have a website and you want to drive users to your 6 7 site, you can write a description about your product, enter your website URL, and put in a bid of how much you 8 9 want to pay for users to come to your site. 10 And then whenever anyone clicks on your ad, 11 you pay for it on a cost-per-click. So you pay -- for example, if you bid 35 cents, then you can -- every 12 13 single time someone clicks on the ad, you would pay 35 cents for a user to come to your site. 14 15 Okay. We're going to -- that's great. Q. Thank We're going to talk about that in some more detail 16 you. in a little bit. 17 18 But can you just tell us -- we've heard about 19 two different parties in this case. We've heard about 20 advertisers who use one interface and publishers who use 21 a different interface. 22 Are you with me? 23 Α. Yes. 24 Can you tell -- can you tell us which of those Ο. 25 two use -- use the AdWords product?

The advertisers use the AdWords product. Α. 1 Okay. Let's -- let's just now briefly cover 2 Ο. 3 AdSense. That's another category that you mentioned. Can you -- can you just give us a sentence or two of 4 5 what Google's AdSense product is or products are? Yes. So publishers use the AdSense products, 6 Α. 7 and publishers use the AdSense product by putting a 8 little piece of code on their site. So they copy and 9 paste something, and they put it on their site, and that 10 little piece of code can -- enables it so that Google serves ads on the site that are dynamically targeted to 11 12 the content on the page. 13 So if the page is about flowers, the ads will be specifically about flowers. 14 15 Now, AdSense for Search, there are Ο. subproducts, or is that an umbrella term for a number of 16 products within that? 17 18 A. So AdSense for Search is when Google serves 19 ads on search results, and those search results are on other websites. 20 21 Ο. And are you aware that that product is not at issue in this case? 22 23 Α. Yes. 24 Okay. There is another product in the -- in Ο. 25 the AdSense group that is at issue in this case.

Is that AdSense for Content? You're aware of 1 2 that? 3 Α. Yes. Now, again, just -- just remind us, AdSense 4 Ο. 5 for Content, that's on which side: The publisher or advertiser side? 6 7 A. AdSense for Content? 8 Q. Yes. 9 Α. Is on the publisher's side. 10 Ο. Okay. We talked about AdWords. That's on 11 the --Advertiser's side. 12 Α. 13 Okay. So those are the two products that are Ο. 14 at issue in the case; you're aware of that? 15 Α. Yes. 16 There's also a third AdSense for Mobile. Q. 17 Can you just -- is that for mobile phones, 18 that product? 19 A. Yes. So that would be for ads that show on 20 mobile phones. 21 Q. And does that work in conjunction with a product that the advertisers would use to put in ads? 22 23 A. Yes. Advertisers participate in AdWords and 24 then their ads can appear on mobile phones on AdSense 25 for Mobile.

Q. Okay. Great. Thanks for the background. 1 2 Let's -- let's go back in time again a little bit for 3 just a moment. Let's talk about the early days of Google, okay? 4 5 Α. Sure. Can you just tell us the approximate year --6 Q. 7 part of a year when Google was founded? 8 Α. Google was founded in 1998. 9 Q. And you mentioned the founders Sergey Brin and 10 Larry Page. 11 Did you know both of those individuals back 12 then? Yes, I did. 13 Α. And we've heard a little bit about --14 Ο. 15 MR. DEFRANCO: Maybe we can put up --16 why -- why don't we put up a graphic, if you don't mind. If you have it handy, I think it was marked DX Demo 03. 17 18 Q. (By Mr. DeFranco) You weren't here, but this 19 was shown in opening statement. 20 Can -- can you identify the two individuals in the photo for us, please? 21 22 A. Yes. That's Larry Page on the left and Sergey 23 Brin on the right. 24 Q. And back in that timeframe, whose house was 25 that?

That was my house. I lived there. 1 Α. 2 Ο. And did the founders of Google work out of 3 your house then? Yes. The founders of Google worked out of my Α. 4 5 house. It was their office; it was their first office; and I lived in the house. And I lived there until 1995. 6 7 Ο. And both -- '95. This is '98? 8 Α. Sorry. I lived there until 2005. 9 Ο. No worries. No worries. 10 So just give us a sentence or two what -- in this timeframe, what Larry and Sergey were doing. I 11 think we heard they were students. 12 13 And how did it come about that they began to work in your garage? 14 15 So Sergey and Larry were students, and they Α. wanted to start a search engine, and they were -- wanted 16 to find their first office space. And it was really 17 18 hard to find office space at that time, because there 19 just wasn't a lot of office space. And so I had just 20 bought a house, and I offered for them to rent part of 21 my house. 22 And so they entered through the garage, and they worked out of a couple of rooms. And I actually 23 24 lived in the house while they were working and getting 25 the company started.

Q. Okay. And did they have any employees in the 1 very, very early days when they were working in your 2 house; do you remember? 3 They started with one employee, and they hired 4 Α. 5 and had about five employees. And at that point, it got a little crowded, and they moved to a larger office 6 7 space in Palo Alto. 8 And just tell us timeframe-wise about how long Q. 9 did they work in your house before they moved out. 10 They worked in my house for about four months. Α. Now, can you tell us what -- what sort of 11 0. product or technology they were working on back in 1998? 12 13 When they first started, they were working on Α. a search engine, and it was -- it was called Google 14 15 then. And it's -- it's similar to the search engine that we know today where you enter terms and you get 16 17 search results back. 18 Q . And is there a name for that product? 19 Α. Search and google.com, which is our main 20 property. 21 In the early days, '98 and '99, was Google in Ο. the advertising business? 22 2.3 A. Google didn't generate any revenue from the 24 advertising business at that time, although we started 25 to work on our advertising systems in 1999.

Now, were there other search engines around at 1 Q. the time? 2 3 Α. Yes. There were lots of other search engines at the time. 4 5 And what is it that made you decide to join Q. them as a startup? At some point, you did that. What 6 7 made you decide to do that? 8 Α. So there were a lot of other search engines. 9 In fact, when I joined, everyone said why does the world 10 need another search engine. And their response was, well, the world needs a better search engine, a better 11 12 way for people to find information. 13 And the reason I joined, even though it was a really small company and there was a lot of risk, was 14 15 because I thought they had a much better service and that the search that they had just worked much, much 16 better than the other search engines that were out there 17 18 at the time. 19 Okay. Now, when you joined the company, what 0. 20 was your first position? 21 Α. My first position was marketing manager. 22 And generally, what did you do in that Q. 23 position? 24 So I was responsible for marketing the product Α. 25 and letting people know that Google was a search engine.

1 At the time, no one knew that.

Q. Okay. And just in very general terms, how did 3 Google make money in the early days?

A. So the first revenue streams that we made were
from licensing our search to other portals. So, for
example, Netscape was our first customer. AOL would be
an example of another large customer that would license
our search.

9 And so we also did site search where we 10 provided search over just a specific site. And then, 11 lastly, we started working on advertising.

Q. Okay. I think that you -- let's take an example. If you can just tell us a little bit about what you remember about the Netscape business deal with Google at the time in the very early days.

A. Sure. So Netscape was the first deal that we did, the first big deal where we gave our search to a provider. And because it was one of our first deals, we gave it to them for free in exchange for marketing and for driving traffic back to google.com.

21 Q. Okay. I think if my memory is right, at your 22 deposition, you were asked about another early business 23 deal.

24 Was it Red Hat?

A. Yes, I was asked about Red Hat.

Q. Can you just give us a sentence or two about 1 2 Red Hat? Yes. So Red Hat was a -- was a web search 3 Α. deal where we paid for them on a CPM basis, or that was 4 5 the -- the basic way that we paid for that. CPM, what does that stand for? 6 Q. 7 Α. So CPM means cost per thousand. It really 8 should be CPT, but M is thousand in Latin, and it's an 9 old advertising term. It's not a term Google invented. 10 It's a term advertisers used to pay -- to mean the cost to show this advertisement a thousand times or this 11 search a thousand times. 12 13 Okay. Now, at some point, Google got serious Ο. in being in the advertising business; is that right? 14 15 Yes. So -- yes, so it was always part of the Α. 16 plan, but we actually had a product or we started working on a product in 1999. 17 18 Q. Okay. And at what point did -- did you start 19 working on Google's advertising products? 20 Α. So I started working on Google's advertising products for real in 2002. I came back from maternity 21 22 leave, and I wanted a new project, and I decided to switch over to the advertising side of the business. 2.3 24 But it really was an evolution from my previous work, 25 because I had been working with a lot of websites that

put search on their site. And Google's business evolved 1 2 to not just putting search on their site, but also 3 putting search and ads on their site. So like the AOL deal, for example, we didn't 4 5 just license the search. We licensed the search and the ads. So I began working a lot more with advertisements 6 7 and advertisers. 8 Q. Now -- now, back then, were there other 9 companies in the internet advertising space? 10 Α. Yes. There were a lot of companies in the 11 internet advertising space. It wasn't -- it wasn't a new field back then? 12 Q . 13 No, it was not a new field. It was already a Α. very competitive field. 14 15 Now, is there something known as google.com? Q. 16 Α. Yes. There is google.com. 17 And briefly, is that a web page? Q. 18 So google.com is a site. When you go there, Α. 19 there's a page and a search box, and you can search for 20 pretty much anything you want. 21 Well, let's -- let's look at -- let's look at Ο. what was marked before as DX Demo No. 4. And if I'm 22 right -- well, you can see; it's got a copyright date 23 24 that you can see from there. 25 It should be on your screen, too. It's hard

to read, but it looks like it's '97/'98. 1 2 Α. Yes. 3 Is that an early search screen? Ο. Yes. This is an early search screen. 4 Α. 5 Q. Okay. Α. This is an early version of google.com. 6 7 Now -- now, search is -- just in a sentence, Q . 8 what is search? 9 A. So search means you can go and you can type 10 anything into that box. So you can type Marshall, Texas, in there, and you'll get a whole bunch of pages 11 about Marshall, Texas. 12 13 Really, you could type anything into that box, 14 and you'll get ten results of different pages on the web 15 that will give you information about the topic that you 16 just typed in. 17 Okay. And did there come a time when Google Q. 18 was serving ads on search results? 19 Α. Yes. 20 Q. Okay. 21 MR. DEFRANCO: I think -- I think if I've 22 got it right, that should be DX Demo -- what's been 23 marked as DX Demo No. 6. 24 (By Mr. DeFranco) Is this -- is this an Ο. 25 example of what you're describing to us?

Yes. So this is a page where a user has typed 1 Α. in the term Mavericks. And what you see on the 2 left-hand side are the search results. So it's on the 3 left-hand side, the scores, the first page, NBA, Dallas 4 5 Mavericks. None -- none of the content on the left-hand 6 7 side are paid, but what you see on the right-hand side, 8 which is in the green box, that's paid. So that means 9 that first result, the one by ticketsliquidator.com, you 10 can see that in the green below, that's an advertisement. So that advertiser is paying if a user 11 clicks on that ad. 12 13 Q. Okay. So, again, this is -- these are sites 14 you might go to that are related to the topic that you 15 put in? 16 Yes. So those are sites that are related to Α. 17 Mavericks. And no one has paid for those results to 18 show. 19 Q. Now, those are advertisements over there? 20 Yes. So the green box are advertisements on Α. 21 the search page. 22 Q. Okay. Now, this -- this is AdSense for Search; is that right? 23 24 Α. So when the -- yeah. Yes. 25 Q. I'm sure there's a better question in there,

but I think you know what I'm getting at. 1 Yes. So AdSense for Search is when we show it 2 Α. 3 on another site. So like AOL, if we showed -- if you saw the same page on AOL, yes, that would be AdSense for 4 5 Search. So yes. Now, at some point, the scope of Google's 6 Q. 7 advertising business expanded, right? 8 In other words, this is AdSense for Search. 9 This product is not at issue in the case. Do you understand that? 10 A. Yes. 11 There's another product at issue in the case 12 Q. 13 that deals with both advertisers, as we see here, and publishers; is that correct? 14 15 Α. Yes. 16 Q. And what's the name of that product? A. AdSense for Content. 17 18 And do you remember generally when the work on Q. 19 AdSense for Content began? 20 A. So I remember it and I personally started 21 working on it in 2002, although some of the underlying 22 technology that was used was started much earlier, and that, I didn't work on. 23 Did -- did the technology for AdSense for 24 Ο. 25 Content -- that's the one that includes publishers

now -- was it in any way related to or based on the 1 2 AdSense for Search technology that Google already had? 3 Well, the -- the advertisers come in through Α. the same system. So the advertisers come to Google 4 5 and -- to show up on Google and to show up on other search sites, and those same advertisers can then appear 6 7 on a content site. 8 Q. Okay. Now, there's been some -- there's been 9 some discussion in this case about who was the -- who 10 was the first person to come up with the idea for AdSense for Content, generally. 11 12 You're aware of that? 13 Yes, I am. Α. 14 And do you know who that was? Is there one Ο. 15 Is that you, if there was? Can you just person? 16 explain that to us? I think it was many different people's ideas. 17 Α. 18 There were many different people who were working on it. 19 And it was an old idea. It had been around for a while. 20 So I believe there are many people who think they are a 21 key contributor to AdSense for Content. 22 Q. Now, we're going to hear from another witness, 23 Jeff Dean, soon. 24 Do you work with Jeff Dean? 25 Α. Yes, I do.

Q. Would you say that he's one of those 1 2 contributors? 3 Yes. So Jeff is a distinguished engineer at Α. Google, and he is one of the contributors who worked on 4 5 it very early on, on the technical side. And generally -- I think you said you got back 6 Q . 7 from maternity leave. You wanted to get into 8 advertising. 9 Were you thinking about AdSense for Content 10 and how to make the product, you know, just more appealing to advertisers when you were discussing your 11 ideas and your contribution to the project? 12 A. So when I came back and I started working on 13 it, I -- as I mentioned, it had been an idea that had 14 15 been around for a while, but we hadn't done -- we hadn't actually -- there wasn't an effort to really try to 16 expand it. 17 18 And so I started thinking about how we can 19 really scale this up and working -- started working with 20 the technologist and started thinking of how can we serve and grow this business. 21 22 Q. Okay. Now, to just -- just remind us, do you 23 write software? 24 Α. No. 25 Q. Do you design product at the technical --

products at the technical level? 1 2 Α. I design products at a high level, not at a 3 detailed technical level. Ο. Okay. Are there people that work for you that 4 5 do the technical work? Α. Yes. 6 7 Ο. One of those is Jeff Dean? 8 So Jeff doesn't work for me, but he is a Α. 9 distinguished engineer. He's one of our best engineers 10 at Google, and he is one of the people who worked on this early -- on some of the early AdSense for Content 11 work. 12 13 Now, I think at your deposition, you Ο. mentioned -- and I -- I'm not even going to try to 14 15 pronounce the gentleman's name, but I remember his first name was Paul, and he worked on Gmail, and you mentioned 16 something about him in the context of early -- the early 17 18 idea for AdSense for Content. 19 Could you tell us that, please? 20 Α. Sure. 21 So Paul Buccheit is an engineer at Google. He's one of the early Gmail engineers at Google, so he's 22 one of the Google engineers who built Gmail. And he 2.3 24 started testing putting ads on Gmail. 25 And it was just a test for -- for Googlers,

1 for people who work at Google, for our internal e-mail 2 system that later became Gmail, but he put ads on those 3 pages, and people started seeing that the ads were 4 really useful and relevant.

And so everyone in the company became aware of serving ads on pages that were not search pages on content pages. And that's what -- that's one of the things Paul Buccheit did.

9 Q. Okay. Now, is there any philosophy or focus 10 at Google as to, you know, who to make the happiest in 11 the ad surfing process?

12 Do you understand that?

13 A. Yes, I do.

So all of our products, including our 14 15 advertising products, are really designed for users with the idea that if we do the right thing for our users, 16 then they'll come to our search site, they'll do more 17 18 searches, and they'll get more relevant information. 19 So even our advertisement needs to be designed for 20 users, because advertisers only get paid if a user 21 clicks on it, and we only get paid if a user clicks on 22 So everybody is motivated to serve relevant it. advertising for our users, and that's a basic principle 23 24 to everything that we do.

25 Q. Okay. Let me -- let me just back up, because

I want to be sure that we're clear, and sometimes my 1 2 questions aren't terrific, okay? 3 Α. Sorry. No, no. Just to step back. 4 Ο. 5 Α. Uh-huh. We're talking about the AdSense for Content 6 Q. 7 system. Are you with me? 8 Α. Yes. 9 Now, you told us earlier, there is -- there's Q. 10 one part of that, the advertiser's side. That's AdWords; is that correct? 11 12 Yes. Α. 13 And there's another part of that. There's the Ο. publisher's side that's the --14 15 Α. AdSense. 16 Q. -- AdSense -- right, the AdSense for Content 17 side. 18 You used a word that may have confused us. 19 You said users. And were you referring -- when you said 20 users and making them happy and focused on -- and 21 focusing on what they want to see, were you referring to 22 advertisers or publishers? 23 So I was referring to the people -- to Α. 24 neither. I was referring to the people who come to 25 google.com, the people who are not advertisers or

publishers, but the people who come looking for 1 2 information at google.com. 3 Q. Right. So we've got the system people, and then we've got the people who are actually on the web, 4 5 going to pages, seeing advertisements; is that right? Correct. 6 Α. 7 Do those people -- by the way, do they have Q. 8 any financial stake in the game? 9 A. No. They just want to find the right information. 10 11 Q. Okay. And remind us again, between advertisers and publishers, just very simply, who pays 12 13 the money and who gets the money? 14 A. Okay. So advertisers pay. Advertisers pay 15 every single time someone clicks on their ad, and 16 publishers pay -- get paid. 17 Advertisers get paid whenever anyone clicks on 18 the ad. So publishers generate revenue by having ads on 19 their site, and advertisers pay by -- pay when users are 20 sent to their site. 21 Q. Okay. 22 MR. DEFRANCO: Let's put up -- because it makes it a little more interesting, let's put up -- it's 23 been marked as DX demo No. 8. 24 25 Q. (By Mr. DeFranco) Now, is this -- is this a

page of what you might see when using -- doing the 1 search, and AdSense for Content has been run? 2 3 Α. Yes. And can you just describe for us generally 4 Ο. 5 what you see on this page? So this is a page, the Ultimate Bass Fishing 6 Α. 7 Resource Guide. And so a user may go here looking for 8 bass fishing information. And what you see on the 9 left-hand side where it says Ads by Google -- and that's 10 highlighted now -- those are the ads. And so where it -- the first ad, FLW Outdoors 11 12 on VERSUS, this advertiser pays every single time 13 someone clicks on their ad. And you'll notice that these ads are targeted to the content of the page. 14 15 So Google has looked at the content of the page, we figured out dynamically what this page was 16 about, that it was about bass fishing, and we served ads 17 18 that are targeted to that specific page, and we've 19 looked in our database of millions of ads, found the 20 right ads, and served them to this page in less than a 21 second. 22 Okay. Now -- now, when you say -- let's --Q. let's just break that down for just a second, okay? 23 24 I'm -- I'm a user, okay? I'm at home on my desktop 25 computer.

1 Α. Yes. 2 Q. And I could put in -- I could put in a search 3 query at google.com, or -- well, that's probably not a 4 very good example. 5 I put in a query that comes up with a page of 6 results, and it gives me advertisements; is that 7 correct? 8 Α. For AFC? 9 Ο. Yes. 10 Α. Yes. 11 Let me back up. Let me back up. Let me slow Q. 12 down. 13 Let's say I type in cnn.com or some other 14 publisher's page. 15 Are you with me? 16 Yes. Α. 17 Now, after I type that in, you said that 0. 18 Google targets ads to the specific content of the web 19 page that I want to look at; is that basically right? 20 Α. Yes. So Google looks at the page, figures out what that page is about -- not the site, but the page --21 22 and then from that page, figures out the key concepts, 23 sends that to our ad system, and figures out the right 24 ads to serve on that page. 25 Q. Okay. Now, when I'm -- when I'm using my

browser --1 2 Α. Yes. -- if I -- if I have a -- if I have a slow --3 Ο. if I have a very slow system and the web page that I've 4 5 asked for comes up and is displayed in my browser --Α. Yes. 6 7 -- is it possible that I might not see an ad? Ο. 8 Yes, it's possible you might not see an ad. Α. 9 Q. And is that because the Google system is 10 trying to figure out what ad to display on a particular -- what ad to send to the user's browser? 11 12 Yes. So Google is sending ads to the user's Α. 13 browser. 14 And if it's -- today computers are pretty Ο. 15 fast? 16 Α. Yes. So pretty often, you don't see any sort of 17 Q. delay. It comes up, and I'll see the search -- I'll see 18 19 the page that I asked for, and I'll see the 20 advertisements on the side; is that fair? 21 Α. Yes. You don't notice the difference, but Google is sending the ads to the user's browser. 22 23 Now, if -- if -- if I have two different Q. 24 people who want to look at the same bass fishing page --25 Α. Yes.

-- is it possible that they might not see the 1 Q. 2 same advertisements? 3 Yes, that's very possible. Α. And why is that? 4 0. 5 Because every single time a page is called up, Α. we run a new auction. And every single time we run a 6 7 new auction there may be different ads that we consider 8 for that page, and so there are often different ads 9 shown on the same page. 10 Now, you used the word targeting. We're going Q . to talk about it a little bit more later on with some 11 other witnesses. Is -- is that also called contextual 12 13 targeting? 14 Α. Yes. 15 And -- and that's -- that's analyzing the page 0. 16 that the user wants to go to, to see what information is 17 there? 18 Yes. It's analyzing the page, figuring out Α. 19 from this page dynamically what this page is about, bass 20 fishing and about catching -- and about spinner bait tips, for example, and then serving ads related to those 21 two topics. 22 Okay. Now, I don't want to get into the --23 Q. 24 we're going to get into the details more later with 25 other witnesses, but very -- very generally, you talked

1 about the auction process?

2 A. Yes, we run an auction.

Q. You talked about some contextual targeting. 4 Does that have anything to do with figuring out what ads 5 might be relevant to the page that the user has asked to 6 go to?

A. Yes. So when we look at the page, there will
8 be -- and we figure out the pages about bass fishing,
9 there are a lot of ads in our system. We have millions
10 of ads.

11 So if you look here on this page, we're only 12 serving five ads. So the question is, out of millions 13 of ads, which is the right ads to serve?

And so we have a lot of complicated systems that figure out which are the five best ads to serve on this page. And we look -- we run an auction based on how much the advertiser is willing to pay and how related we think that ad is.

Q. Now, for contextual targeting, whatever it is -- and I don't want to get into a lot of detail about the information, but whatever information is put in by -- by the advertiser, for contextual targeting for that -- for that type, is there any guarantee that the advertiser is going to see their advertisement at any particular site that's shown on the user's browser?

No, there's no guarantee that the ad will 1 Α. 2 appear in any specific page at any specific time. 3 And you -- you mentioned part of that is the Ο. auction process and how much they're willing to pay, for 4 5 example? Α. 6 Yes. 7 Okay. How about for -- there's another type Q . 8 of targeting. What is the other type of targeting 9 called? 10 Α. Placement targeting. And how is -- how is placement targeting 11 Ο. different than contextual targeting? 12 13 So placement targeting is where the advertiser Α. I would like to appear on these sites. 14 can say: 15 So on the bass fishing, if I'm -- if I'm one of the bass fishing advertisers, I can say: I would 16 like to appear on fishing.com, bass fishing.com, but 17 18 it's not a guarantee that your ad will appear there. 19 It's just a recommendation. And you still need to be --20 to bid enough, and you still need to compete in that 21 auction for the ad to appear. 22 In fact, one of the number one questions we get from our advertisers is, how do I make my ad appear? 23 24 Well, why not just let advertisers decide in Ο. what user's browsers, when they see a page, their 25

1 advertisement is going to appear?

A. So the reason we -- there are many reasons why
3 we can't do that.

So one of them is that the whole system benefits when we serve the most relevant ad on that page. And so Google is the one that's deciding what is the most relevant one -- ad to serve, because there are millions of ads that we could choose from.

9 And there are a lot of complicated things like 10 there could be more than five advertisers that want to 11 appear on this page. What if there are a hundred that 12 want to appear on this page? How would Google decide 13 which of the five? And what if some want to pay \$10, 14 but some want to pay \$1?

So there's a lot of complexity to decide which ad needs to appear on which page.

Q. And in determining which ad is best suited to a particular page, does Google focus on any one of the three players we've talked about: The advertiser, the publisher, or the user, who's going to a -- to a -using their browser to go see a web page?

A. So we focus on the user. And the reason we focus on the user is because, when the ads are relevant to the user, then the user is more likely to click on the ad.

If the users are more likely to click on the 1 2 ad, then the publisher is going to make more money. And the advertiser is going to get a more qualified lead 3 to their site if the ad is relevant for those set was 4 5 users. Okay. I have a few minutes left. I want to 6 Q . 7 shift gears, okay? 8 Α. Okay. 9 Ο. Now, let's talk a little bit about the 10 economic side of the business, okay? 11 Α. Sure. 12 Q . And -- and you're an economist, right? 13 One -- let's start with the types of publishers there And you haven't been here. There's been talk 14 are. 15 about two different types of publishers, I believe. 16 Can you tell me those, what the -- what the two types of publishers are that Google deals with? 17 18 Α. Online and direct. 19 Ο. Okay. What are online publishers? 20 Α. Online publishers are publishers that come in 21 through an online interface. They sign up via the 22 online interface. They get the little piece of code, which is just really like a few lines of text that they 23 24 copy and paste and put on their page. 25 Okay. And --Q.

The direct --Α. 1 2 Ο. Sorry. Go ahead. 3 Okay. The direct are the publishers where we Α. have a direct sales team that goes out and speaks to 4 5 them and says: Would you like to become an AFC partner? And then we usually do a contractual deal with those 6 7 publishers. 8 Q. Now, one of those two publishers is using the 9 automated Google system; is that correct? 10 Α. The automated sign-up, yes. Ο. Yes. 11 12 And which publisher is that? Online. 13 Α. 14 Okay. That -- that -- that's a good point. Ο. 15 Can you just -- the -- the direct publishers don't use 16 an interface to sign on and -- I'm sorry. 17 The direct advertisers don't use a system to 18 sign on and show their ads; is that correct? 19 Α. The direct advertisers --20 Yeah. Q. 21 Α. -- or publishers? Let's talk -- let's talk about the -- I'm 22 Q. sorry. Let's move back to the direct publishers. 23 24 Excuse me. 25 The direct publishers don't use an interface;

is that right? 1 2 A. No. The -- we have a direct sales team, and 3 the direct sales team is -- there's a person who goes out and speaks to the publishers. 4 5 Q. Okay. Let me back up, because I don't want there to be any confusion. 6 7 Α. Okay. 8 I -- I'm thinking two questions ahead, and Q . 9 that's not good. 10 Α. Okay. 11 Two different types of publishers: Online and Q. 12 direct, right? A. Yes. 13 You're aware that there's -- one of those two 14 Ο. types are at issue in the case, right, the online --15 16 online publishers? 17 Are you aware of that? 18 Α. Yes. 19 Q. Those are the publishers that use the 20 interface to put in their information, right? 21 Α. Yes. 22 There are something -- there's something Q. 23 different. Direct publishers, right? A. Yes. 24 25 Q. Do they use the interface?

1 Α. No. Okay. And -- and do they still -- are they 2 Ο. 3 still able to act as Google publishers, even though they don't use the interface? 4 5 Α. Yes. And can you just tell us generally -- you 6 Q. 7 don't have to give us an exhaustive list, but why might 8 a publisher choose to be a direct publisher as opposed 9 to an online publisher? 10 So a publisher may choose to be a direct Α. publisher because they may, for example, already have a 11 12 deal with Google for search, like AOL, for example, and 13 also -- that would be one reason. 14 The second reason why they may choose it is 15 because they want to know what their -- the period of 16 time, and they want some kind of commitment. They want 17 to know Google will serve ads on my site for the next 18 two years at this revenue share number. 19 Q. Okay. 20 MR. DEFRANCO: Your Honor, I'm almost 21 done, but I need to ask to have the courtroom cleared. 22 Okay. I've got another line THE COURT: of questioning that involves some highly confidential 23 24 information. I'd ask you to leave at this time. SEALED BY ORDER OF THE COURT 25






























Now, tell me your position again. You're the 1 Q. 2 vice president of product? 3 I'm the vice president of product management. Α. And the products that you manage, they include 4 0. 5 AdSense for Content, correct? Α. Correct. 6 7 Both AdSense for Content Online, which has --Ο. 8 which is at issue in this -- this patent case, and also AdSense for Content Direct, which is not at issue in 9 10 this case; is that right? Α. Yes. 11 12 Q . Have you read the patents that are being asserted in this lawsuit? 13 14 No, I have not. Α. 15 Well, as product manager for the accused Q. products in this case -- I mean, first of all, let me 16 17 say, you've applied for patents in the past, haven't 18 you? 19 MR. DEFRANCO: Your Honor, I apologize. May we have a brief side-bar? 20 21 THE COURT: Yes. 22 (Bench conference.) 2.3 MR. DEFRANCO: Briefly, Your Honor, we 24 have four Google witnesses coming up. I'm not going to 25 speak about Google's patents. We had a discussion in

chambers the other day, and I don't see how that's 1 relevant, and we don't think that Google patents should 2 be part of the case. We're not going to get into patent 3 4 applications. 5 MR. TRIBBLE: I'm not --6 THE COURT: I understand that the 7 questioning is, I assume, about the importance of patents and something at high level --8 9 MR. TRIBBLE: Yes. THE COURT: -- is that correct? 10 11 MR. DEFRANCO: I understand that. Thank 12 you. (Bench conference concluded.) 13 14 (By Mr. Tribble) You've applied for patents Ο. 15 yourself, haven't you? 16 Α. Yes. Okay. And did any business person at Google 17 Q. 18 come to you, as the product manager for the accused 19 products in this lawsuit, hand you the two patents being 20 asserted in the case so that you could look at them and get some idea of whether Google -- Google is infringing 21 22 these patents? 2.3 Α. No. 24 And just so it's clear, you have not offered 0. 25 any opinion in your testimony today that Google does not

infringe the two patents being asserted against it, have 1 2 you? 3 I didn't discuss the patents. Α. And you're not offering any opinion as to 4 0. 5 whether the patents are valid or not, are you? I wasn't discussing the patents. 6 Α. 7 Okay. Let's talk about Google -- you started Q . 8 your testimony --9 MR. TRIBBLE: Can we put the Defendant's 10 demonstratives up again, the one with the garage? 11 (By Mr. Tribble) The -- Google started out as Ο. a small company, right? 12 Α. 13 Yes. 14 Just like Function Media; is that fair to say? Ο. 15 I don't know that much about Function Media, Α. 16 but we're both -- I mean, if they're a small company, then -- most companies start small. 17 18 Q. Well, Google started with just two people. 19 Α. Yes. 20 And they came up with a revolutionary new Q. technology that they protected through patents, didn't 21 22 they? They did patent one piece of it, but that was 23 Α. 24 just one piece of the technology. And I'm not a lawyer; I'm not an expert on anything to do with patents. 25

Q. Are you talking about the Stanford -- the 1 patent that was licensed in the Stanford license that 2 3 we've heard about? No, I'm not. 4 Α. 5 So you're talking about the search patent? Q. I only know about one patent that Google 6 Α. 7 applied for, which is our page rank patent. 8 Q. And that's the technology that's used for its 9 search engine, correct? It is one of many, many technologies. 10 Α. But that was their -- their first patent, 11 Ο. right? 12 13 A. I'm actually -- I don't know. I don't work in 14 patents. 15 Okay. Well, just -- you were at Google in the Q. 16 very early days, because they started in your garage, 17 correct? 18 Α. Yes. 19 Q. Just two people who had invented a 20 revolutionary new technology to do searching. 21 Α. Yes. 22 Okay. And in the early days, Google made its Q. money, its very first money -- by the way, Google was 23 24 unprofitable in the early days, wasn't it? 25 A. Yes, it was.

Didn't have a lot of equipment? 1 Q. Well, certainly, a lot less than we have 2 Α. 3 today. Fair enough. 4 Ο. 5 The -- and the way Google made its money in the beginning was it licensed its patented search 6 7 results; isn't that right? 8 Α. I don't know if the search results were 9 patented or not. 10 Q. Okay. You were in charge, though, of 11 licensing to customers search results; is that fair? 12 No, I was not. Α. 13 Okay. You're aware that Google's first Ο. customer was Red Hat. 14 15 Α. Yes. 16 And the way Google made money is, they Q. 17 licensed their search results to Red Hat; isn't that 18 right? 19 Α. Yes. 20 And the way Google got paid for licensing its Q. 21 search results to Red Hat was it got paid for -- a 22 certain amount of money for every thousand searches that 23 they sent to Red Hat; isn't that right? 24 Α. Yes. 25 And so Google, for its technology, it wanted Q.

to be paid -- as the technology was used, paid over 1 2 time; isn't that right? 3 A. That -- that first deal was mostly a CPM deal, was a CPM-based deal, yes. 4 5 Yes. And so the more their technology was Q . used, the more their customer used their technology or 6 7 made off of their technology, the more they would pay 8 Google over time, right? 9 Α. For Red Hat. Is that a yes? 10 Q . 11 Α. Yes. Q. Okay. And even though Google was very small 12 back then --13 14 Although the Netscape deal was different. Α. 15 -- they -- I wanted to ask you some questions Q. 16 about some other things you said. I think they'll come up in these documents. 17 18 MR. TRIBBLE: Why don't we take a look at 19 Defendant's Exhibit 319. 20 Your Honor, I have --21 Α. Do I open this binder? 22 (By Mr. Tribble) I'm sorry. We don't use a Q. 23 binder. 24 MR. TRIBBLE: Your Honor, may I approach? 25 THE COURT: Yes.

(By Mr. Tribble) And I just wanted to walk 1 Q. 2 through some things that you said. 3 So you have AdSense Direct and AdSense Online, correct? 4 5 Α. Yes. And it's fair to say that -- you referred to 6 Q. 7 Paul Buccheit; is that right? 8 Α. Yes. 9 Q. And you said earlier that -- that AdSense was an old idea. Isn't that what you said? 10 A. Well, it had been around for a while before we 11 started working on it. 12 13 Q. Let me ask you, didn't you say in your 14 deposition that the genesis was Paul Buccheit when he 15 started putting ads on Google's Gmail application? 16 A. So I said that he was one of the people that had that idea early on. 17 18 Q. Do you remember how early? 19 Α. I don't remember the exact date, no. 20 Okay. Can you take a look at Defendant's Q. 21 Exhibit 319? Is this a Google document titled Overview of AdSense for Content? 22 23 Yes, it looks like it. Α. 24 Can you --Q. 25 Α. Yes.

Q. -- turn to the third page? 1 It says right here in the first bullet point: 2 3 Paul Buccheit put ads on his e-mail as a proof of concept while developing Gmail in late 2002. 4 5 Did I read that correctly? 6 Α. Yes. 7 Do you now recall that when this -- the first Q. 8 time ever that Google had put ads on a consent page --9 do you recall now that it was a proof of concept, an 10 experimental development in late 2002? So that's what I'm reading in this document. 11 Α. I don't know if Rama, who is the author, verified that 12 with Paul. 13 14 Q. Let's look at the next bullet point. 15 Launched in March 2003. Did he get that date 16 right? Was AdSense launched in March 2003? I don't remember the exact dates, but --17 Α. 18 but -- it was launched in 2003, but I don't remember 19 about March specifically. 20 Q . Okay. Oh, by the way, you were talking about Google -- and there's been a lot of discussion about 21 22 this. 2.3 Mr. Verhoeven, in opening -- I guess he's --24 he's not in the courtroom right now, but the -- there's 25 been a lot of discussion about Google sends ads to a

browser or something, right? 1 2 Α. Yes. 3 Okay. Take a look at the second page. Ο. By the way, who is Mr. Ranganath? 4 5 Mr. Ranganath is an engineer that works on Α. AdSense for Content. 6 7 Ο. Okay. And do you see in the presentation, it says at the top, what is it AdSense? And that includes 8 9 AdSense for Content, correct? 10 Α. Yes. And what is AdSense? 11 Ο. 12 Yes. Α. Doesn't the first bullet point -- it says: 13 Ο. Show AdWords ads on websites of AdSense partners, 14 15 correct? 16 Α. Yes. And so the AdWords ads, those are the ads 17 Ο. 18 entered in by the advertisers. The AdSense partners are 19 the people that sign up to publish ads, and it's on 20 their websites that you're putting the ads, isn't it? 21 Α. It may appear that way to users, but it's the browser where the ad appears. 22 2.3 But these are Google's own words to an Q. internal group of Google employees, correct? 24 25 Α. Yes. But I think that that from a -- from a

user standpoint, there are -- from a user standpoint, it 1 2 looks like it's on the page, but the browser is actually 3 calling a lot of different things. And so I don't think he meant this as a technical document. 4 5 Wasn't he using website in -- as a virtual Q . location? If website were defined to be either a 6 7 physical or a virtual location, then Google would be 8 sending ads to the websites. 9 Would you agree with that? 10 No, I wouldn't. And I don't know -- it's hard Α. to know what he meant when he wrote this or if he meant 11 a virtual website. I don't know what that would mean. 12 13 Ο. Now, I guess --14 MR. TRIBBLE: Just give me a second. 15 Your Honor, may I? 16 THE COURT: Yes. 17 (By Mr. Tribble) Now, the -- Exhibit 1690, the Q. 18 first page of this -- this is an e-mail from you to 19 Sergey Brin on September 5, 2002, correct? 20 Α. Yes. And so this is -- you were sending him a --21 Ο. a -- a strategy presentation regarding the upcoming 22 23 AdSense, correct? 24 Α. Yes. 25 The -- it says content targeting GPS. GPS is Q.

a Google product strategy meeting, correct? 1 2 Α. Yes. 3 Ο. And it's referring to the AdSense product, right? 4 5 AdSense for Content product. Α. And you oversaw the preparation of this, 6 Q . 7 didn't you? 8 Α. It was a long time ago, but I believe so. 9 Q. Okay. Let's turn to the page that ends 164 in 10 the bottom right. 11 This was your big idea summary slide, correct? 12 Yes. Α. 13 And so you call it a big idea; you don't call Ο. 14 it an old idea; fair to say? 15 Yes, that's true. Α. 16 And then the basic idea summary -- do you see Q . 17 that? 18 Α. Yes. 19 Ο. The first -- the first bullet point under the 20 basic idea -- this is the basic idea of AdSense, isn't it? 21 22 Well, it's one of the ideas. Α. 2.3 So an important idea is the contextual dynamic interpretation of the page in serving the ads 24 25 dynamically.

I understand. Google's position is that the 1 Q. important thing about AdSense is the contextual 2 3 targeting, right? Well, that's what makes -- yes, that's what's 4 Α. 5 important. Okay. But in the basic idea -- and you 6 Q. 7 mentioned that, but in the basic idea summary, the very 8 first point is to extend Google's ad syndication to 9 publisher's content pages, right? 10 Α. Yes. And at this time -- and that was something 11 Ο. new. The AdSense product, for the first time, was 12 13 allowing Google to serve ads on other people's websites 14 in an automated fashion; isn't that right? 15 Well, it wasn't totally new. And if you Α. actually look at the -- another slide in this 16 presentation, I say we're already serving ads on content 17 18 page. 19 Q. Yes, but that's on your search product, right? 20 No, on content pages. Α. 21 0. Which -- which page are you looking at? 22 It's the one that ends 169, deal time. Α. Deal 23 time was not a search provider. They were a content 24 provider. 25 Q. Who else? Anyone else?

There were other Ecommerce providers. 1 Α. But at this time, prior to this, you didn't 2 Q. 3 have an automated way to automatically format ads according to the specialized look-and-feel rules of each 4 5 publisher, did you? I'm not sure I know what you mean by that. 6 Α. 7 Okay. Fair enough. You haven't read the Q. 8 patents. 9 Skipping ahead, the -- by the way, on the --10 maybe you can clear something up. 11 On the Applied Semantics deal --12 Sure. Α. 13 -- Google used none of that technology, Ο. 14 correct? 15 Α. No -- I mean, yes, we used none of their 16 technology. 17 Google made absolutely no use of any of Ο. 18 Applied Semantics's technology? 19 Α. Not for AFC, not for AdSense for Content, 20 although Jeff Dean will be here later, and he was one of 21 the engineers who built the systems, and he can --22 probably will be a better witness on that topic. But I 23 do not believe we used their technology, no. 24 Q. Okay. I wanted to get back to this. You said 25 that one of the design-arounds was that you could move

all the online users to -- to AdSense for Content 1 2 Direct; isn't that right? 3 Α. Yes. MR. TRIBBLE: And do we have 4 5 Exhibit 1696? (By Mr. Tribble) Isn't it true -- isn't it 6 Q. 7 true that AdSense for Content Direct is losing money? In what timeframe? In -- I'm not sure I 8 Α. 9 understand your question. Hadn't it been losing money? 10 Q. I'm not aware of it losing money. 11 Α. 12 MR. TRIBBLE: Can you pull up Bratic 13 Slide -- oh, we'll come back to that. We might have to clear the courtroom. 14 15 THE COURT: Yes. 16 MR. TRIBBLE: Thank you. 17 THE WITNESS: Thank you. 18 MR. TRIBBLE: In fact, Your Honor, I'm 19 going to go ahead and give her, if you allow it, three 20 more exhibits that go right along with this topic. THE COURT: Yes. 21 22 (By Mr. Tribble) Perhaps you can explain Q. 23 something to us. 24 It is true -- you will agree, at a minimum, 25 that the profit margins are higher for AdSense Online

versus AdSense Direct. 1 2 Α. No. 3 Okay. Do you have the -- Exhibit 1696? Ο. Yes, I do. 4 Α. 5 Okay. And this is an e-mail from your boss to Q. the top person at the company, Sergey Brin, or at least 6 7 he's copied on it, forwarding a presentation that you 8 had put together titled AdSense Business Review, 9 correct? 10 Α. Yes. Okay. And you and I reviewed this document 11 Ο. just, what, two weeks ago? 12 Α. 13 Yes. 14 Okay. And this was in November of 2003. Ο. 15 Α. Yes. 16 Okay. And so first, I want to talk about --Q. at that timeframe -- let's turn to Page 718. 17 18 And this is discussing the product performance 19 on Online Direct versus -- excuse me -- AdSense Direct 20 versus AdSense Online, is it not? 21 Let me just go to that site. Α. 22 Certainly. Q. 2.3 Α. Yes. 24 Okay. And underneath your graph, you say: Ο. 25 Online RPMs outperform Direct, correct?

1 Α. Yes. 2 Ο. And this is talking about AdSense Online 3 outperforming AdSense Direct. Α. Yes. 4 5 And the difference is, AdSense Direct, those Q. 6 are the large customers, and you have account managers 7 and engineers that work on those -- on that advertising 8 for those customers, correct? 9 Α. Yes, we have account managers, but no -- but 10 no dedicated engineers. 11 Okay. But you have staff that assists the Ο. preparations of ads and things like that. 12 Yes, but we do for Online as well. 13 Α. 14 Okay. Well, for Online, you do have an Ο. 15 automated system that does automatic formatting. You'll 16 agree with that, won't you? 17 No. We have a system that shows the -- Google Α. 18 shows the ad on -- in the user's browser, and Google 19 does the UI for the ad. 20 Q . Does the formatting of the ad? 21 Google -- yes. Α. 22 Q. Okay. 23 Google does --Α. 24 Ο. Excuse me. I'm sorry. 25 Sorry. I was just repeating. Yes, Google Α.

does the formatting of the ad. 1 2 Ο. And it does it automatically, doesn't it? 3 Α. Yes. And that's in AdSense for Content Online, 4 Ο. 5 right? Α. It's the same system that serves both of them, 6 7 Online and Direct. 8 So Google serves the same ad on a -- and decides for both Online and Direct. It's the same 9 10 back-end system. O. There's manual intervention in the AdSense 11 Direct system, isn't there? 12 A. There's also manual intervention on the 13 14 Online. So there can be optimization for both. We have 15 account managers for Online as well. 16 Q. I think we've heard some other testimony about that, but in comparing AdSense Online versus AdSense 17 18 Direct, you did say that for AdSense for Content Online, 19 there's a lack of comparable alternatives, did you not? 20 Yes. I wrote that in 2003. Α. 21 And you wrote, there is no competition from Ο. other advertisers, correct? 22 23 Yes, but I don't believe those to be true Α. 24 today. 25 Okay. Now let's go to the next page. Q.

Do you see this chart here? 1 2 Α. Yes. 3 These are your words? Q. Yes. 4 Α. 5 And you were talking about the automated Q . 6 competitive advantage of AdSense Online, right? 7 Α. Yes. 8 Q . You said it had faster penetration. That's 9 faster penetration into the website market, right? 10 I'm not sure what I meant in 2003. Α. You said better monetization. 11 Ο. 12 Yes. Α. 13 Q. That means more money, right? 14 Α. Yes. 15 In fact, Google often refers to AdSense for Q. 16 Content Online as its monetization engine, correct? 17 No. It's AdSense, not AdSense for Content Α. 18 Online. 19 Q. Just AdSense generally? 20 Α. AdSense generally. 21 Including AdSense for Content Online? Ο. 22 Α. Yes. 2.3 Okay. And the -- and the other advantage, Q . 24 better margins via a low-cost structure --25 infrastructure, correct?

Α. Yes. 1 2 Ο. Those are all advantages of AdSense; is that 3 fair? Yes. That's what I wrote in 2003. Α. 4 5 But I also, in my deposition two weeks ago, said there's been a lot of debate about the margins of 6 7 Online versus Direct, and depending on how you look at 8 the data, there are different opinions about that. 9 THE COURT: Let's pick up there after our afternoon recess, okay? 10 11 Now, Ladies and Gentlemen, be back ready to come in the courtroom at 3:35. 12 13 Remember my prior instructions. Don't 14 talk about the case. 15 COURT SECURITY OFFICER: All rise. 16 (Jury out.) 17 THE COURT: All right. Y'all have a 18 seat. 19 If you'll do me a favor and try to listen 20 to his question. If you can answer it yes or no, then 21 please answer it yes or no, and I promise you, I'll let 22 Google's lawyer to ask you some follow-up questions. Ιf 23 you're unable to answer yes or no, just say, I can't 24 answer yes or no, okay? 25 THE WITNESS: Okay.






























































THE COURT: Please be seated. 1 You can proceed. 2 3 MR. DEFRANCO: I can go ahead. (By Mr. DeFranco) We were talking about these 4 Ο. 5 early days of Google. Do you remember that? Yes, I do. 6 Α. 7 You were -- the set-up was a small company, Q. 8 like Function Media, couple of people trying to get a 9 business going. Do you remember that? 10 11 Α. Yes. 12 Q. How many of those were there in Silicon Valley 13 would you say over the years? Last ten -- you've lived 14 there for ten years? 15 Α. More. There are a lot of them. 16 If you knew which ones were going to be 17 Q. 18 successful, would you invest in them? 19 Α. Everybody would. 20 And what makes it unpredictable whether a Q. 21 business is going to be successful? 22 Lots of things. It's really hard to know Α. 23 which company will be successful. And let's -- let's talk specifically about the 24 Ο. 25 early days of Google. The Netscape deal, did Google

make money from that deal? 1 2 Α. No. 3 Was there any -- and I'll get this wrong --Ο. CPC or CPM, or whatever it was, was there any sort of 4 5 relationship where Google got a piece of every bit of action that was going on? 6 7 Α. No. 8 Q. Why? 9 Α. We gave them the search for free, and they 10 give us advertising that drove back. And it was because we wanted users to know about Google. 11 12 So you gave away the technology. At that Q. 13 time, this is the technology that led you, as you said, 14 to join that company. 15 By the way -- to join that company, you gave 16 it away to Netscape, right? 17 Α. Yes. 18 Now, Red Hat, they -- they paid you money, Q. 19 right, on some basis? 20 Α. Yes. 21 On a transaction basis, right? Ο. 22 Α. Yes. 2.3 Very -- in general terms -- we haven't seen a Q. document that shows the number, but you were asked about 24 25 that, and it was compared to the situation here.

Can you just -- do you remember very generally 1 2 about how much money that Red Hat deal -- relationship 3 generated for the Google founders in the early days? So I remember that number to be less than a Α. 4 5 hundred thousand. Less than a hundred thousand dollars? 6 Q. 7 Α. Yes. 8 So you're saying whatever the basis was, Q. 9 impressions, CPMs, CPC, on an ongoing basis, all that 10 money added together was less than \$5 million, right? 11 Α. Definitely. 12 It was less than $\frac{2-1}{2}$ million, right? Q. 13 Α. Yes. 14 It was less than a million dollars, right? Ο. 15 Α. Yes. 16 And it was closer to a hundred thousand Q. 17 dollars? 18 Α. Yes. 19 MR. DEFRANCO: Thank you very much. 20 THE COURT: Recross? 21 MR. TRIBBLE: Just a couple, Your Honor. 22 RECROSS-EXAMINATION 23 BY MR. TRIBBLE: 24 Q. You're aware that at least according to Walt 25 Bratic's calculations in the AOL deal --

















out some exhibits? 1 2 THE COURT: Yes. 3 JEFFREY DEAN, DEFENDANT'S WITNESS, SWORN DIRECT EXAMINATION 4 5 BY MR. DEFRANCO: You have the privilege of being our last 6 Q. 7 witness today, Mr. Dean. 8 Why don't you start for us and say your full 9 name for the record, please. My name is Jeffrey Dean, but everyone calls me 10 Α. 11 Jeff. Dean is a familiar name. Are you any relation 12 Q . 13 with Michael Dean, the inventor on the patents in this 14 case? 15 Not that I know of. Α. 16 Have you ever met him before? Q. 17 No. Α. 18 Where do you currently work, sir? Q . 19 Α. I work at Google in Mountain View, California. 20 And do you have a title at Google? Q. 21 I'm a Google fellow. Α. What is a Google fellow? 22 Q. 2.3 A Google fellow is -- we have a series of Α. 24 ladders on our technical ladder, so I'm in our 25 engineering organization. I write software.

143

And Google fellow is the top of nine job titles or 1 2 something on the technical ladder, sort of parallel to a 3 vice president on our management chain. Do you have any engineer -- well, how many 4 0. 5 engineers generally does Google have? We have about 10,000 people in our engineering 6 Α. 7 organization. 8 Q. That's worldwide, right? 9 Α. Worldwide. 10,000. 10 Q. Α. Yes. 11 12 Q. Okay. And do you supervise currently any of 13 those employees? 14 Oh, no. Α. Why not? 15 Q. 16 Because I'm not in the management side of Α. things. I'm in the technical software development side. 17 18 And so I typically work on small projects. I don't 19 supervise people formally but work with a group of maybe 20 five or six people. 21 And there are -- I'm sure you're aware there Ο. 22 are a couple of products at issue in this case, AdSense for Content, AdWords, AdSense for Mobile. Are you aware 23 of those products? 24 25 Α. Yeah.
1 Q. Now, do you currently work on those products today? 2 3 Α. Not currently. When was the last time you worked on any of 4 Ο. 5 those products? In early 2003. 6 Α. 7 So -- I'm sorry. When did you join Google? Q . 8 In mid 1999, in August. Α. 9 Q. Okay. So you're going to tell us about the 10 early days of Google and some of the products we're talking about, right? 11 12 Α. Sure. 13 Now, when did you join Google? Ο. 14 In August of 1999. Α. 15 And what was your first position when you Q. joined the company? 16 17 I was a software engineer. That's what Α. 18 everyone in the engineering group was. 19 Q. And what were you -- well, I should -- I 20 should do this for completeness. 21 Can you just tell us, please, about your educational background? 22 23 Sure. Α. 24 So I went to collegiate at University of 25 Minnesota where I studied economics and computer

Then I went on to graduate school at 1 science. 2 University of Washington, and I got a Ph.D. in computer 3 science there in 1996. And, again, you joined Google in 1999? 4 Ο. 5 Α. Yes. And when did you become a fellow? 6 Q. 7 Α. I believe it was 2006. 8 Is that some form of distinguished position at Q. 9 Google in any way? 10 So as I said, it's the top level of our Α. technical ladder. There are four Google fellows 11 12 currently in our engineering group. 4 out of 10,000 --13 Ο. 14 10,000. Α. 15 -- company-wide? Q. 16 It's one level above a distinguished engineer. Α. 1999 -- you weren't here, obviously, a moment 17 Q. 18 ago, but the company was just getting started then; is 19 that right? 20 Α. That's correct. 21 Ο. And when you when you came, about how many 22 employees did Google have? 2.3 We had about 25 people. Α. 24 And out of how many -- out of 25 people, how Ο. 25 many were engineers; do you remember?

About 12 or 13. Α. 1 And what did -- what did you do when you -- so 2 Ο. 3 about half when you first joined? Α. Yeah, roughly. 4 5 And what did you work on when you first joined Q . 6 the company? 7 Α. When I showed up, someone who was in my office 8 said, We need an ad system. You should work on an 9 advertising software system to place ads and show ads. 10 And can you just tell us a little bit about Q. the first advertising system you worked on? 11 12 Sure. Α. 13 So I and two other people who started soon 14 after me started working on a system to show ads on 15 Google search result pages. So when a user does a 16 query, maybe they search for running shoes or for Mexican restaurants or something, we wanted to be able 17 18 to show ads next to those search results. 19 And so we were trying to build the system 20 to -- when the user types in a query, figure out what 21 ads would be relevant and then show them on the page. 22 Now, when you say -- remind us. Google.com, Q. 23 is that the Google search home page, web page, whatever? 24 Α. Yes. Yes. 25 And the ad system was designed for use with Q.

1 that; is that right?

2 A. Yes, that and for other search syndication3 partners.

Q. Now, we've heard the term search technology.
Would you tell us what -- just describe that for us
generally. In other words, you put in a -- put some
words in a search page. What happens?

8 A. Sure.

25

9 So the sort of key pieces behind a search 10 engine are a crawling system that goes out and fetches 11 all the web pages in the world that it can find and then 12 an indexing system that builds an index that's kind of 13 like the back of a book where you have a list of 14 where -- which documents contain which words.

So if I have a search for running shoes, I want to find all the pages that have the word running and then all the pages that have the word shoes and find all the ones that have both of those words by using the index that gets built.

And then you want to find which pages sort of are most related to running shoes. Maybe they have the word a lot or they have it in a bigger font or lots of people talk about this page in the context of running shoes.

So you want to find all the relevant pages,

find which ones you think are most relevant, and then 1 2 select those and show those as your first 10 results for 3 your search result page. And you said something to the effect, when a 4 0. 5 user would put in a search, and they would get pages, right, that related in some way to that search, terms --6 7 ads would appear; is that right? 8 Yes. So the advertising system was trying to Α. 9 find ads that were relevant to that query as well. 10 And did Google work with -- in dealing with Q . ads early on, did it work with other websites? 11 Yes. We had --12 Α. 13 NonGoogle websites? Ο. 14 Α. Yes. 15 So part of our early business at Google was not running -- not just running our own web page at 16 17 google.com for doing searches, but there were a lot of 18 other search engines on the web who wanted to provide a 19 search facility but didn't want to build their own sort 20 of software to do that. 21 And so we would outsource -- they would outsource their search service to us. So, for example, 22 Netscape was another prominent web company that wanted 23 24 to offer a search service. 25 So when people would go to Netscape's web

149

pages and type in a query, then they would send that 1 2 query to us, and we would handle the searching and also 3 selecting advertisements to show. And then they would -- we would send it back to Netscape, and they 4 5 would show it. Now, in the -- in the early days for 6 Q. 7 google.com, did the ads that would appear after I put in 8 a search as a user of the internet, would they relate to 9 the search that I did? Do you remember? 10 Yes. That was always part of our goal with Α. 11 the advertising system, was to make the ads relevant. 12 So if you have an ad for, you know, running shoes, it 13 would be good to show ads for Foot Locker or other places you could get running shoes and not for a place 14 to buy a car or a place to get a credit card, because we 15 believe that advertisements should be relevant to 16 whatever it is -- information the person is looking at 17 18 so that they don't get annoyed, but they're actually 19 useful to people. 20 Now, let's -- let's just look at a -- a Q. 21 document briefly. 22 MR. DEFRANCO: Let's take a look, please, 23 at DX315. 24 Α. Okay. 25 (By Mr. DeFranco) It should be in your binder Q.

150

there. 1 2 Α. Yes. 3 And it's going to be the same drill Ο. 4 everybody's seen with documents. 5 Do you recognize that? I do. 6 Α. 7 Can you just tell us what this is briefly? Q. 8 Α. Sure. 9 So whenever you're building a software system, 10 it's good sort of engineering practice to write up a document in English that describes what the goals of the 11 system that you're trying to build are. So that's sort 12 13 of the objective section. The background section often has information 14 15 about why you're building what you're building. It will 16 have things like, roughly, how the system works so that if someone else wants to then modify the software you've 17 18 written, they can read this document and get kind of an 19 overview. 20 Think of it sort of an outline written in 21 English for people wanting to understand the software 22 you've written. 2.3 Now, the first -- the first sentence, if I Q. 24 have this right, of that document --25 MR. DEFRANCO: Maybe we can focus on

that. 1 2 Ο. (By Mr. DeFranco) It reads something like --3 MR. DEFRANCO: Well, I can read it now. 4 Thank you. 5 (By Mr. DeFranco) The advertising system is Q . responsible for deciding what advertisements should be 6 7 placed within pages that are generated by the Google 8 website. 9 Do you see that? 10 Α. I do. Now, can you tell us generally what you meant 11 Ο. by that at the time? 12 Α. 13 Sure. 14 So that's just sort of the highest level goal 15 of what the advertisement system is trying to do. It's trying to figure out what ads we should show, in terms 16 of when we're going to place them on ads on google.com 17 18 web property. 19 Ο. Now, what, if any, focus did Google, at this 20 early time, have on the user experience, the person 21 putting in the search? 22 A. So as I said, we believe that ads should be 23 relevant to what the user was looking for. They'll be 24 helpful and useful to users if they pertain to the 25 information that that user is seeking at the moment.

And they also shouldn't be sort of flashy and 1 They should be kind of fairly unobtrusive, 2 gaudy. clearly labeled as advertisements, as opposed to sort of 3 being hidden, the fact that it's an advertisement versus 4 5 a nonadvertising link. We believe that -- you know, for all of our 6 7 search results, we'd like the page to return quickly. 8 So that means that the advertising system also has to 9 figure out what ads needs to be shown quickly. And so 10 that was one of the objectives for the system, was to return, you know, results quickly and so on. 11 12 Q. Who was responsible for designing this early 13 Google advertising is? 14 A. I and two other people designed it. I wrote 15 probably most of the text in this document. Other people made a few small modifications over time to it. 16 Q. You write software yourself? 17 18 Α. Yes, a lot of it. I mean, with a group of two 19 other people. 20 Q. Were you writing more software back then even 21 than now? 22 Α. No. I still write lots of software. It's 23 great. 24 How long did it take to write this software; Ο. 25 do you remember?

A. We went from, basically, nothing to sort of a 1 2 functional system in about a month and a half or two months. Yeah, we were working pretty long hours then, 3 and we were working pretty fast. 4 5 So it was about two months. And then, obviously, the system continued to evolve. This sort of 6 7 laid the framework for a lot of other enhancements to 8 the advertising system over -- over the years that were 9 done by a number of other people. Did it work? 10 Q. 11 Α. Yeah. I mean, you could type in queries and 12 get in -- get ads back. That was the goal. A lot of the hard work was building up an 13 14 advertiser base, which, you know, we designed the 15 software to handle lots of advertisers, but there was a 16 lot of other work on the business side and so on to build up a collection of advertisers. 17 18 Q . Thank you. 19 Let's go to another document. Let's go to 20 Exhibit 389. 21 Α. Okay. 22 This one is a little harder to read, but it Q. says: Content-based ad serving system. 23 24 Do you see that? 25 I do. Α.

1 Q. And it's -- it's got -- you can -- you should 2 have a binder in front of you, if you need to see it. 3 Α. I do. Now, have you seen this document before? 4 0. 5 Α. Yes. And who wrote this document; do you know? 6 Q. 7 I and several other people, who were working Α. 8 on this particular system, wrote the text of the 9 document. 10 Ο. And were these all Google employees at the 11 time? 12 Α. Yes. 13 And it says: With input from many others. Q. Do you know what that was referring to? 14 15 A. Yes. This was a fairly complicated system, and so, you know, we had various side discussions with 16 people about one or more aspects of it, and so it's 17 18 always nice to give credit to other people, even if 19 they're too lengthy to name. 20 So we, yeah, put that in. But they were all 21 Google employees that we had these discussions with. 22 Now, it says: A content-based ad system. Q. Do you see that? 23 24 Α. Yes. 25 Q. How is that different from any ad serving that 1 Google did before this project?

2	A. So in the original advertising system where we
3	were trying to figure out what ads should appear on
4	search result pages, the information you have from at
5	hand is the the query that the user typed in.
6	So if they typed in running shoes, you're
7	going to look for advertisers who wanted to advertise on
8	running shoes and related keywords, maybe running shoes
9	or Nike or soccer shoes or those kind of related
10	keywords.
11	So you have the user's query to use in guiding
12	what advertisements to select.
13	But in a content-based ad system, you're
14	trying to show ads on web pages that weren't the result
15	of a query. It's just an article about knitting or an
16	article about, you know, how to repair your car.
17	And you have a lot of text on the page, and
18	you want to show relevant ads that are related to
19	whatever the topic of the page is. You know, for a
20	knitting page, you want to show maybe a yarn supply
21	store's ads, or a car part store, you want to show car
22	magazines or something like that.
23	And so it uses the text of the page to
24	understand what the topics of the page are about and
25	then targets ads to those topics.

So you took us through their two systems, 1 Q. The -- if I have this right -- correct me if I'm 2 right? wrong -- the google.com advertising system; is that 3 right? 4 5 Α. Yes. And the second and different -- what became 6 Q. 7 AdSense for Content; is that correct? 8 Α. Yes, correct. 9 Ο. Now, was there any -- was there any contextual 10 targeting in the google.com search advertising? Other than the query that the user typed in 11 Α. and sometimes the user's location, no. We were just 12 13 using the inputs the user gave us. 14 Q. Now, in your personal -- your personal 15 experience at the time, did you -- in your work with 16 google.com, did you see anything that led you to start thinking about the relevancy of ads that users would 17 18 see? 19 Α. Well, I -- whenever you're working on an 20 advertising system, one -- one of our goals for Google's 21 ads was that they should always be relevant to the 22 context in which the user is seeing them, so be it the result of a query or be it some web page that we're 23 24 trying to place ads on. 25 Now, when -- we're -- this document is about Q.

157

AdSense for Content, right? 1 2 Α. Yes. 3 Do you remember, just very generally, about Ο. when you started working on that? 4 5 Yes. This was kind of mid 2002, July or Α. 6 August. 7 And who wrote the first -- what would you call Ο. 8 it -- prototype, sample? 9 Α. Right. 10 So the way this sort of more formal design and 11 system came about was, at -- I had put together a 12 prototype system that was originally motivated because I 13 was doing some work on our search algorithms, so trying to figure out what -- you know, what factors we should 14 15 consider when trying to decide, is this page relevant for this user's query. 16 17 And as part of that, I was looking at a 18 collection of pages -- of web pages that I had selected 19 from our index. I picked a thousand web pages, and that 20 was a good number. I could flip through those in about an hour, hour and a half. 21 22 And I was trying to look at what information 23 we could use on the page to improve our -- our search 24 results. And one thing I noticed in doing that was that 25 a lot of the pages had kind of big, flashy, gaudy banner

158

1 ads, the kinds you probably get annoyed by when you're 2 reviewing pages, and they weren't very relevant to the 3 content of the page.

So they were pretty untargeted. They were things like a big ad for -- you know, maybe you want a credit card or a home mortgage on pages about knitting or, you know, car parts.

And so I thought that we could do a lot better 9 job of getting more relevant ads that would be both 10 better for the people -- the publishers and better for 11 users, because they would see more relevant information 12 in context.

And so I put together a prototype system that would do fairly simple things to try to use the text of the page in order to select ads that were relevant to that text.

Q. Now, we've heard some talk, I'll tell you, about early contributors who came up with the idea. The technology you just described, that stuff, is -- was that your early contribution to this product?

21 A. Yeah.

So I put together this prototype and then showed it to a few other people in the company and said, you know, I think we could really select more relevant ads by looking at the text of the pages. And the prototype was kind of a clunky thing. It wasn't really meant to be a release product. So it was only an internal thing for people to look at at my desk.

5 What it would do is it would go out and fetch the contents of the web page that you wanted to show ads 6 7 on, and then it would sort of analyze the text of the page, figure out what ads would be good ones to put on 8 9 that page but wouldn't actually put them on the page, 10 because we didn't have a spot on the page to put them. We would just put them in another window kind of next to 11 12 the other -- the other page.

13 Q. And about when did you start working on the 14 prototype?

15 A. That was in July, I think, late July.

16 Q. Of what year?

17 A. Of 2002.

Q. And how many people were helping you?
A. I kind of did it myself. It took about three
or four days to put this together, and then I kind of
showed it to my office manager and a few other people.

22 Q. Three or four days. An hour a day, two hours 23 a day?

A. No. It was probably, you know, five or sixhours, something like that. Not all my time, but a fair

amount of it. 1 2 Ο. And when you were done with that, you had a 3 prototype; is that right? Α. Right. 4 5 Prototype means a system to test to see if Q. it -- well, let me ask you, what does a prototype mean? 6 7 So it's kind of a -- whenever you're doing Α. 8 software engineering or other kinds of engineering, you 9 want to build something that maybe doesn't focus on some 10 aspects of the problem, if you were trying to build a real product, but sort of is a proof of concept, so you 11 12 can demonstrate that, yes, if we use the text on the 13 page, we can get relevant ads through these techniques. But, for example, it wasn't very fast. So it took a 14 15 long time to analyze the text of the page. You'd load up the page and then five seconds later, you would 16 get -- it would figure out what ads it wanted to show 17 18 and then show them up in another window. 19 So it wasn't a very smooth experience, but you

20 could tell that once it had finished computing what ads 21 it should show, that they were relevant. You know, 22 you'd load up a knitting page, and in your other window, 23 you'd see knitting ads and things like that.

24 So it was a little clunky. You know, that's 25 sort of how software develops over time, is you start 1 out with the unknowns, try to isolate those, and then 2 you can worry about, you know, making whatever you did 3 faster and better and smoother and polishing all the 4 corners.

5 Q. Did it work?

A. Yeah. I mean, it was, as I said, clunk -- it was a prototype, but it pretty clearly demonstrated that this was a good idea. The techniques were going to work and give us relevant ads.

10 And what do you mean by give us relevant ads? Q. I mean, just looking at the pages that you 11 Α. would -- you know, you could try out any URL on this 12 prototype. So you could load it just like a browser. 13 You could say, I want to go to this page, and it would 14 15 load up the text of that page. And then it would, you know, figure out what ads. 16

And you could, you know, load 10 pages that you picked out of -- out of thin air. You could say, oh, I'll try this -- you know, this great car part site or this great Mexican restaurant, and the ads were relevant.

Q. Let's go back to that document, please, for asecond.

24 MR. DEFRANCO: Can we blow up this part? 25 This is really hard to read.

The bottom part, just --1 Α. 2 Ο. (By Mr. DeFranco) Okay. I just -- I want to 3 take a couple of minutes to go through this. Α. Okay. 4 5 And you may talk even faster than I do, so Q. let's just keep the answers a little short, because I 6 7 want to make sure I've got it, okay? 8 Α. Okay. 9 Ο. Just in a sentence or two -- it talks about the overall architecture that we envisioned. Do you see 10 11 that? 12 Α. Yes. 13 In very general terms, what were you Q. 14 describing there? 15 So one of the key problems in doing this Α. content-based system is figuring out how to get the 16 content into the ad system so that -- into the AdSense 17 18 system so that we could analyze the text of the page, 19 figure out what ads are relevant, and then show those to 20 the user. 21 And so there were two different schemes we 22 came up with, and this -- these -- I apologize for my 23 diagrams. They're a little clunky. But these two 24 schemes show two different ways that we could accomplish 25 that.

Two different ways you could accomplish what? 1 Q. 2 Getting -- basically, getting the text of the Α. 3 page that the user is trying to view to our advertising system, analyzing that, deciding what ads are relevant, 4 and then eventually sending those ads back to the user. 5 Okay. And what does this show about where the 6 Ο. 7 ads could be sent to? 8 Α. So the two different schemes actually have two different flows of how the -- the information gets to 9 10 our ad system and then back to the user. 11 So in scheme one, we have a user on the left. 12 They want to view a web page, so they make a request to 13 the server that is hosting that web page. Maybe it's a site about knitting. And so that knitting site has the 14 15 text for the -- whatever page they're trying to view. And as part of putting together the text they're going 16

17 to send back to the user, they would then send an ad 18 request to Google saying, here's some text. Please give 19 me relevant ads to insert into the thing I'm going to 20 send back to the user.

So they make a request to Google. Google sends back some ads. The content provider then takes those ads, formats them, sends them back to the user -well, inserts them into the text of the page that they're -- eventually, that they then send back to the

user, and then the user's browser shows the page, just 1 2 like whenever you view a web page. 3 So that's scheme one. Ο. So let me see if I got this right. 4 5 So the -- let's convert this to some terms we're using in this case, okay? 6 7 Are you with me? 8 Α. Sure. 9 Content provider, we've used advertiser, Q. 10 publisher. Is it one of those two? It is publisher in this case. 11 Α. And that's -- the Google content ad system, is 12 Q. 13 that all Google's technology to figure out what ads to 14 match the content on the page and run that auction, that 15 instantaneous process? Is that what that is? 16 Α. Yes. That's all software running on our machine -- on Google's machines in our data centers. 17 18 Q. So this doesn't show advertisers, right? 19 Α. No. 20 This is showing ads and how they can get to Q. 21 the publisher's site; is that correct? 22 Right. This is sort of assuming the Α. advertisers have already entered their advertising 23 24 information. This is just what happens when we want to 25 show a web page.

1	Q. And in scheme one, where is the advertisement
2	from Google being sent to?
3	A. It's being sent back to the publisher.
4	So the publisher makes the request to Google's ad
5	system. We figure out what ads are relevant, send back
6	information about those ads, and then the publisher, in
7	this case written as the content provider, then sticks
8	those into the text of the page and sends the whole
9	thing back to the user.
10	Q. Let's do scheme two.
11	A. Okay.
12	Q. Is that a different way of doing it?
13	A. That is a different way of doing it, yes.
14	Q. Okay.
15	A. Okay. So
16	Q. Take take it slow.
17	A. Okay. So in scheme two, the user makes a
18	request to the content provider, the publisher that's
19	arrow one there just like they did before.
20	The content provider, in this case, the
21	knitting site, sends back the text of the knitting page
22	that the user requested, say. Included in scheme
23	two, included in that result page is a little bit of
24	code that is sent back to the user's browser.
25	So when the user's browser tries to display

this page -- so it's going to show it on their screen --1 it comes across the code that the content provider 2 3 inserted into that page. And that code is going to make the user's 4 5 browser send a request directly from the user to Google to get ads to insert on to -- into a frame on the page. 6 7 So there's a little spot reserved on the page. 8 The user's browser sends the request saying, what ads 9 should I put in this spot, and then the ad system 10 returns the ads directly to the user's browser, sticks them in the spot reserved on the page on the screen, and 11 that -- and then the user's browser sort of -- the user 12 13 perceives this as a page with ads on it, but really it's 14 two separate requests that are happening. 15 There's one slot on the page, kind of a 16 rectangle, that's going to hold the ads, and what 17 trigger is filling that in is a request from the user's 18 browser. 19 Ο. Now, those are two different ways of doing it, 20 Two different ways of -- of publishing an ad or right? 21 sending an ad from Google --22 Α. Correct. 2.3 -- out, right? Q. 24 Α. Yes. 25 Q. One is, it goes to the publisher's site --

Α. Yes. 1 -- right? 2 Q. 3 A. Uh-huh. 4 Those arrows up there? Ο. 5 Α. Yeah. 6 The other is that it goes to the user's Q. 7 browser, right? 8 Α. Correct. 9 Q. Now --10 A. Directly. Q. Sir? 11 12 A. Directly. Directly, yes sir. 13 Q. 14 Those are two different -- there's two 15 different technologies behind that, right? 16 Α. Yes. 17 Did -- did you pick one of those two? Q. 18 Α. Yes. 19 Q. Which one? 20 For the vast majority of publishers, we use Α. scheme two. 21 Well, we're talking about AdSense for Content. 22 Q. 23 Okay. Α. Q. For all AdSense for Content. That's the 24 25 product at issue here.

1	A. Okay. So we use scheme two.
2	Q. For AdSense for Content
3	A. Yes.
4	Q is that correct?
5	A. Yes.
6	Q. Is there a is there any reason from a
7	technical perspective, is there something meaningful you
8	can tell us about why, as the person designing this, the
9	technology, the software, you considered these two
10	alternatives and picked the one where it goes to the
11	user's browser?
12	A. Sure.
13	It turns out that scheme two is a lot easier
14	for the publisher. What they end up having to do is
15	just put a little bit of code into each web page where
16	they want ads to appear.
17	And they don't have to end up making a request
18	to Google dealing with what happens when that request
19	takes a long time or finding where the AdSense servers
20	are. All they have to do is paste a little bit of text.
21	So it's like copying and pasting. And that's all they
22	have to do, and then it's much simpler for the
23	publisher.
24	And since we wanted to have, you know, tens of
25	thousands of different publishers around the web doing

this, it didn't make sense to us that we would force 1 2 each of them to do this fairly complicated technical 3 integration that they'd have to do in scheme one. And instead, we went with scheme two, because it's much 4 5 easier for them. Time is of the essence, right? 6 Q. 7 Exactly. Α. 8 You're talking about getting the ad and the Q. 9 publisher's page to the user's browser as quickly as 10 possible, so there's no delay; is that right? 11 A. Correct. 12 And you picked which scheme again? Q . Scheme two. 13 Α. 14 Well, let's turn -- let's turn away from that Ο. 15 technical document. Let's -- let's take a look at --16 you mentioned code that the publisher pastes on their web page, right? 17 18 Α. Yes. 19 Ο. Do you remember that? 20 Α. Uh-huh. 21 Ο. And I want to show you that code and walk you 22 through it briefly. 2.3 Α. Okay. 24 But, generally, what does that code do? Ο. 25 That code, basically, identifies which Α.

publisher this is, has some information about how large 1 an advertising area, like this many inches wide and this 2 3 tall, how many ads they'd like to place in that -- in that advertising slot. 4 5 So it, basically, just tells -- when we --Google receives the request, how many ads to generate, 6 7 whose account to credit, when a user clicks on an ad, 8 things like that. 9 MR. DEFRANCO: Can we put up, please, No. 10 112, Demonstrative 112? 11 Ο. (By Mr. DeFranco) Okay. This -- this says: Your AdSense unit code. 12 13 Do you see that? 14 Α. Yes. 15 Can you tell us what that is, please? Q. Sure. 16 Α. So this is the code that the advertise -- the 17 18 publisher would paste into the pages where they would 19 like AdSense for Content ads to appear. 20 And the nice thing is, publishers don't have to really understand that. They just have to cut and 21 paste it into the pages where they would like to appear. 22 23 Q . And just take a minute so we have it -- so we 24 have it in the record. 25 Α. Okay.

Q. I'm sorry to make you do this work --1 2 Α. No. 3 -- but just take it line by line and tell us Ο. 4 what's shown there, please. 5 Α. Sure. So the first line says script type, text, java 6 7 It's just indicating that this is a little bit script. 8 of code that's going to continue until that's -- about 9 six lines down where you see a slash on the script. 10 So everything between there is code that I'll describe in a moment, okay? 11 12 So the second line -- second line says we're 13 going to set this variable called Google ad client to 14 this string. 15 So this is an identifier of which publisher 16 this is, so that when we figure out that an ad has been clicked on, we'll know which publisher's website this 17 18 came from, who to credit the money to their account. 19 So, basically, think of that as an account number in some sense. 20 21 Okay. The third line --22 And that's -- by the way, let me -- I'm sorry Q. to interrupt, but that's how you figure out how much to 23 24 pay the publisher? 25 That's partial -- that's how to figure out who Α.

1 to pay. 2 Q. Who to pay. 3 Α. Right. Got it. Go ahead. 4 Ο. 5 So the third line is actually not part of the Α. code. It's just a human comment, so that if you're 6 7 looking at the code, after you've pasted it in a month 8 earlier, you can remember what it is that this code 9 refers to. 10 So this says it's a 300 pixel. A pixel is one dot on a computer screen. So it's saying a 300-pixel 11 wide, 250-pixel high ad slot. So almost square, 12 13 probably about that big (indicates). 14 Q. All right. Can you take -- the next three 15 lines look similar. 16 Can you just take those three at a time? Α. Sure. 17 18 So those three identify information about how 19 big the ad slot is. That's the width and height number 20 lines. 21 And then the first line is actually some encoding of information, like how many ads they should 22 23 put -- try to generate for that slot and some other information. 24 25 Q. And I think we have a couple of lines. This

1 line here?

2 A. Yeah.

3 Can you tell us what that line is? Ο. So the next line says here's another bit of 4 Α. 5 code, but instead of having the code be right after this, we're going to say get the code from this other 6 7 place. And that place is identified by the http colon 8 slash slash, so on. 9 And that is actually another piece of code 10 that ends up using the information from the first five or six lines to actually make a request to Google. 11 12 And that second bit of code can be the same for all publishers all around the web. And so that's 13 why it's not replicated here, because we'd be 14 15 replicating it on a million different publishers. 16 In the last minute we have, I just want to Q . review this with you, please. 17 18 Α. Okay. 19 Ο. So this is pasted where, this code? 20 Α. This is pasted by the publisher onto any web 21 pages where they would like their ads to appear. 22 Q. And when this code -- when I say I want to go 23 to a publisher's website --24 Α. Uh-huh.

25 Q. -- what -- what -- what happens with this

Is there an action that's activated? 1 code? 2 Α. Right. So when you -- if you remember scheme 3 two, when you go to the publisher's website and they put this code into the web page text that is returned by 4 5 their website, then when the user's browser sees this code, it will trigger a request to Google saying please 6 7 give me ads for this publisher for this size advertising 8 slot, and Google will then send back ads and format them 9 and put them on. And where does Google send those ads? 10 Q. Directly to the user's browser. 11 Α. And is that the scheme that you showed us 12 Q . earlier that you chose? 13 14 Α. Yes. 15 Scheme two, right? Q. 16 Α. Scheme two. 17 O. That's scheme two? 18 Α. Yes. 19 Q. And is that scheme in use today for AdSense 20 for Content? 21 Α. Yes. 22 And has that scheme been used throughout the Q. 23 life for AdSense for Content since when it was first 24 introduced to today when people are using this as we sit 25 here?

A. Yes, absolutely. 1 MR. DEFRANCO: Your Honor, I'm not going 2 3 to finish today. Should I --THE COURT: Go until about 10 after. 4 5 MR. VERHOEVEN: Thank you, Your Honor. 6 Let's call up Demonstrative No. 33, 7 please. 8 (By Mr. DeFranco) This was something that was Q . seen earlier in the case. 9 10 Do you see -- does this describe generally -does this kind of depict that scheme two that you 11 12 discussed? 13 A. Yes. So you can sort of see it with a much better diagram than the one I drew in my document. 14 15 What happens is, a user's browser makes a 16 request to the publisher; in this case, cnn.com. And cnn.com sends back the text of whatever page they're 17 18 trying to view. 19 Then that -- when the user's browser gets that 20 bit of code that CNN has put into their web page, the user's browser will trigger a request to Google to fetch 21 the ads to put in on the little part of the page that 22 the publisher has -- has indicated where the ads should 23 24 appear. 25

Q. Now, if you were going to use scheme one, if

you were going to use the scheme where the ads don't go 1 to the user's browser, but they go to the publisher, 2 right, that was the scheme you decided not to use, what 3 would change about these arrows? 4 5 Α. Ah. So the arrows from Google to the user instead would go from Google to the media venue. And so 6 7 the flow would go internet users to media venue to 8 request the page down to Google to get the ads back to 9 the media venue and then back to the user. 10 Q. All right. 11 MR. DEFRANCO: Let's go back, please, to 12 Exhibit 389. (By Mr. DeFranco) And this is the design 13 Ο. document you took us through, scheme one, scheme two. 14 15 MR. DEFRANCO: Let's go to the second 16 page. Q. (By Mr. DeFranco) There's a section there 17 18 under detailed design, it says: Deciding which ads to 19 match to content. 20 Do you see that? 21 Α. Yes. 22 And it says there -- mine's hard to read --Q. 23 this is the heart of the system. 24 Do you see that? 25 Α. Yes, I do.

177

Is that referring to deciding which ads to 1 Q. 2 match to content? 3 Α. Yes. What content were you talking about there? 4 0. 5 Α. The text of whatever page is being viewed by 6 the user. 7 And what did you mean by the heart of the Ο. 8 system? 9 Α. Well, simply that since we wanted to get ads 10 that were relevant to whatever text or page the user was viewing, the -- the product was really going to succeed 11 or fail based on whether or not we could get very 12 relevant ads. 13 14 So if we could -- you know, whenever you view 15 a page about knitting, showed knitting ads, and whenever you viewed a Mexican restaurant ad page, get ads about 16 sort of Mexican food and cooking, that would be a very 17 18 compelling product for publishers, because they would 19 have more relevant ads that users would be more likely 20 to be interested in, and they would be able to make more money as publishers when people click on those ads. 21 22 MR. DEFRANCO: Your Honor, I'm afraid I'm going to have to ask -- we're getting into the technical 23 24 area. 25 THE COURT: Okay. We're going to have to

close the courtroom once again. We have about five 1 2 minutes in the day, so... 3 MR. DEFRANCO: Well, I apologize. Let me do it a different -- it's only five minutes. Let me do 4 5 it differently. THE COURT: Okay. 6 7 MR. DEFRANCO: I'm sorry. 8 THE COURT: You can proceed. 9 MR. DEFRANCO: Thank you, Your Honor. 10 (By Mr. DeFranco) Now, there's -- there's a Q. list of items down there. 11 Do you see that? And if you can't read it on 12 13 your page, I'm sorry it's so bad. 14 Α. No, no. I can read it. 15 Okay. Q. 16 The one, two, three, four? Α. 17 Q. Yeah. First, just tell us what those -- what 18 that list of items refers to. 19 Α. Sure. 20 So this is a sequence of steps that -- that 21 the system is going to go through when we have text and we're trying to figure out which ads are relevant. 22 So the first step is to sort of categorize the text of 23 24 the page so we understand what kind of topics it's 25 about.

And then we're going to use those categories in step two to decide what ads are relevant to those categories.

And in step three, we're going to essentially refine the initial set of candidates. So we're going to say, okay, this page is roughly about knitting and arts and crafts. And then we're going to select as candidates all ads that seem to be related to those y topics.

And then in step three, we're going to winnow that step down a bit more to use more information about how well the text of the ad matches the text on the page, use other kinds of information to winnow that set down a bit more and come up with an -- a final set of candidate ads that we think are relevant enough to show on the page.

And then in step four, we're going to end up running an auction to decide which advertisers are going to end up getting to have their ad displayed on this particular publisher's page.

21 Q. Now, those four steps, is that what happens at 22 the back end at Google when I say I want a particular 23 web page, like a bass-fishing page?

A. Uh-huh.

25 Q. Is that the process, these four steps, what
happens at Google instantaneously or very, very quickly 1 to figure out what ad to place in that particular user's 2 browser based on the page they're on? 3 Yes. That's sort of the high -- high-level Α. 4 5 steps that that system goes through to decide what ads. And is that -- is that the system that you 6 Q. 7 implemented? 8 Α. Yeah. I mean, I implemented the initial version in 2002 with about five or six other people, and 9 10 it's evolved a bit since then, but the overall process 11 is pretty much the same. 12 Q. Okay. Let's just finish up on a couple of 13 quick follow-ups to that. Did -- did -- I apologize if I asked you this. 14 15 How many engineers worked on setting up the system? 16 So I did the initial prototype myself, and Α. then once we decided that the prototype was promising, 17 18 we decided to turn it into a full-fledged group of 19 people working on a real production system. 20 We had about six or seven people working on this system to get it from, you know, where I had it at 21 22 the prototype to where we could actually launch it as a real product. 23 24 Six or seven people, are they -- was that Ο. 25 marketing sales, engineering, or --

No. That's just engineering. There are about 1 Α. 2 three or four other people who were not writing software but were otherwise involved in launching the product. 3 And about how long -- just very generally -- I 4 Ο. 5 don't want to pin you down, because it's a long time ago -- but very generally, how long did it take? 6 7 We went from the prototype to launching in six Α. 8 weeks. Actually, pretty proud of it. 9 Q. Prototype is the what again? 10 Α. That was the kind of half-baked little thing 11 on my desktop that you could view and would be kind of clunky in two windows. 12 O. And launch is? 13 We actually launched an extra -- another 14 Α. 15 publisher's website. So we were actually serving ads. And our first site was a site called howstuffworks.com. 16 We liked them, because they had lots of different kinds 17 18 of content, and so we could see how well the system was 19 working on lots of different kinds of pages. 20 Q. Now --21 THE COURT: Well, I think that's a good place to break for this evening. 22 2.3 MR. DEFRANCO: Thank you. 24 THE COURT: Ladies and Gentlemen, I'll 25 excuse you at this time.

Start back up at 8:30 in the morning. 1 Ι know y'all have been working hard and paying attention. 2 3 Please remember my prior instructions, and don't talk about the case. 4 5 And I call your attention to one of my earlier instructions, and that is this: You should not 6 7 read any internet or newspaper accounts or television broadcasts about the trial. 8 9 I understand you've been informed that 10 there have been some media reports about it, and should you see something in the newspaper or on the television 11 or on the internet, you should disregard it and not read 12 13 it. Please follow that instruction, okay? 14 Y'all are excused. Please travel safely 15 and have a nice evening. I'll see you in the morning. 16 COURT SECURITY OFFICER: All rise. 17 (Jury out.) 18 THE COURT: All right. 19 MR. DEFRANCO: Your Honor? 20 THE COURT: Yes, sir. Do you need --21 MR. DEFRANCO: I had a question. THE COURT: Sure. 22 2.3 MR. DEFRANCO: The JMOL, may we submit a 24 written paper? Is that okay? 25 THE COURT: Yes.

What I'm going to do is, with respect to 1 2 the JMOLs that you wish to make, I'll allow you to submit them on -- in writing, if you want to. I'll 3 allow you to make, you know, oral present -- a short 4 5 oral presentation, likewise, if you want to. But, otherwise, I'll just wait to get 6 7 your written submissions. 8 MR. DEFRANCO: Thank you, Your Honor. 9 THE COURT: Okay. Any objection to that 10 procedure from the Plaintiffs? 11 MR. TRIBBLE: No objection, Your Honor. 12 THE COURT: Okay. That's what we'll do. 13 Tell me this: The time I've got, 14 Plaintiff has used 10 hours and 24 minutes, and the 15 Defendant has used 6 hours and 33 minutes through today. 16 When do y'all anticipate being finished 17 with the testimony, or do you anticipate using all of 18 your 15 hours? 19 MR. TRIBBLE: It just kind of depends on 20 what they do, Your Honor. 21 THE COURT: Okay. 22 MR. DEFRANCO: We'll have a better answer, Your Honor, if that's okay. 23 24 THE COURT: Okay. That's fine. 25 I mean, I'm not -- we're in good shape,

given the schedule that I gave the jury. I just kind of 1 2 wanted to see where we were. If I could let them go tomorrow about 4:00, they've been working hard, and I'd 3 like to do that, if it looks like we're going to be 4 5 finished with the testimony on Monday. MR. TRIBBLE: I think we can make it. 6 I 7 mean, our crosses are going to be dramatically shorter. 8 That was just the first witness, and 9 perhaps --10 THE COURT: Cumulatively, it will be four and a half hours. 11 12 MR. TRIBBLE: Yes, it will, or less. 13 THE COURT: I know how long the total 14 will be, but I just -- I didn't know if we were on 15 schedule to give them a little bit of a break tomorrow 16 afternoon. 17 MR. DEFRANCO: Yeah. We'll do some 18 calculating tonight. 19 THE COURT: Okay. Very good. 20 All right. Thank y'all. Court's in 21 recess. 22 (Court adjourned.) 2.3 24 25

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2	CERTIFICATION
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4	I HEREBY CERTIFY that the foregoing is a
5	true and correct transcript from the stenographic notes
6	of the proceedings in the above-entitled matter to the
7	best of my ability.
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