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IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Norfolk Division

I/P ENGINE, INC.,)	
)	
Plaintiff)	
)	
v.)	
)	CIVIL ACTION NO.
AOL, INC., GOOGLE INC., IAC)	2:11cv512
SEARCH & MEDIA, INC., GANNETT)	
CO., INC., and TARGET)	
CORPORATION,)	
)	
Defendants.)	

TRANSCRIPT OF TRIAL PROCEEDINGS
DAY 3
(Afternoon session)
Norfolk, Virginia
October 18, 2012

BEFORE: THE HONORABLE RAYMOND A. JACKSON, and a jury
United States District Judge

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1 (Hearing commenced at 2:23 p.m.)

2 THE COURT: Good afternoon.

3 MR. CIMINO: Looks like we resolved all the
4 objections to the exhibits for Mr. Frieder, who is coming up
5 next. I think as my partner, Mr. Brothers mentioned, Dr.
6 Frieder has prepared a presentation with prelighting of
7 exhibits to help get through the complicated subject matter
8 as efficiently as possible, and we were wondering if it would
9 be possible to preadmit the exhibits in that?

10 I understand defendant has no objection to the
11 process of admitting them that way. They want to bring the
12 objection for the record. And the reason I suggest it, Your
13 Honor, is there is a couple of timelines, documents I'll be
14 moving through quickly. It will help us focus on the
15 substance.

16 THE COURT: Sometimes for purposes of clarity
17 showing the witness an exhibit as you go along is helpful. I
18 don't know. How many exhibits are you talking about
19 preadmitting?

20 MR. CIMINO: Maybe about 10, 15.

21 THE COURT: Ten or 15? There have been no
22 objection, to be candid with you, for the flow of testimony,
23 I'd much rather, if you would just show the exhibit to the
24 witness and admit it as you go along. It makes a lot more --
25 I think it makes the testimony flow a lot easier, but if you

1 want to do that, and there is no objection, I'll do it that
2 way, too. It is a little unusual, but if the defendant has
3 no objection to it, we will go forward.

4 MR. NELSON: If it speeds things up, Your Honor.

5 THE COURT: All right. Fine. When he comes up
6 in --

7 MR. NELSON: But with respect to -- we do have 402,
8 403 objections as the same as to PX-21, 22, 40 --

9 THE COURT: Which ones?

10 MR. NELSON: 21, 22, 40, 46, 51, 52, 55, 112, 117.

11 THE COURT: Why don't you just say all of them.

12 MR. NELSON: It isn't, though, that's the problem.
13 I can't say that.

14 THE COURT: That is 9. I thought he said he only
15 had 10 exhibits?

16 MR. CIMINO: Well, 19. I think I said 10 exhibits.

17 THE COURT: So far you've objected to 10. How many
18 more you got objections to?

19 MR. NELSON: Five.

20 THE COURT: You gentlemen fun laughing, but it is
21 not a laughing matter.

22 MR. NELSON: I'm not doing that.

23 THE COURT: No, I'm talking about the audience.
24 This is not a -- this is not a funny matter here.

25 MR. CIMINO: My understanding, Your Honor, is most

1 of the objections are for the record. They have already been
2 ruled on by Your Honor, and they are to preserve the record.

3 THE COURT: Oh, okay.

4 MR. NELSON: That is what it is, Your Honor.

5 THE COURT: These are the 403, 402 objections again?

6 MR. NELSON: 402, 403, Your Honor. This is the same
7 we had where we discussed earlier this morning with respect
8 to the misleading purpose of the use of the Markman document.
9 The additional five are 231, PX-232, PX-230, PX-338 and
10 PX-357.

11 THE COURT: Now, there is one danger here the Court
12 runs into, taking these as a group, that is context. I
13 cannot see the context within which these documents are
14 arising, and if I just simply overrule your objection en
15 mass, not being able to isolate them in context, it may very
16 well be inadmissible, depending upon the context. But I
17 cannot determine the way we are trying to go. I think maybe,
18 you know, out of an abundance of caution, for the record, I
19 don't think I can move all of these in if you've got
20 objections to all of them. Absolutely not, cannot do it,
21 even if it is going to call for time because the simple truth
22 is I cannot be sure that the Court is correct in overruling
23 the objection.

24 MR. CIMINO: That is fine, Your Honor.

25 THE COURT: We will do it the old fashioned way.

1 You question him, and you create this exhibit, and you move
2 forward, and I'll have to overrule it or admit it based upon
3 the context.

4 MR. CIMINO: I believe all the objections have been
5 ruled on already.

6 MR. NELSON: You have ruled on the same -- my
7 argument is not going to be any different, Your Honor, than
8 it has been the last four times that we've discussed it.

9 THE COURT: It's the same argument with respect to
10 each document?

11 MR. NELSON: That is correct, Your Honor. So in
12 terms of context, I really don't think it will change the
13 context, Your Honor.

14 THE COURT: All right. Well, I tell you what. Here
15 is what we are going to do. The Court will overrule the
16 objection to the admissibility of these documents, but the
17 Court reserves the right to reverse itself anytime it wants.
18 Now, if I get the wrong feeling about it, I'll reverse it and
19 it will be out in a hot second.

20 MR. NELSON: Okay, Your Honor.

21 THE COURT: So I'll permit you to introduce those
22 documents, noting his objections on the grounds indicated,
23 and the Court finds within the context it is wrong, the Court
24 will reverse the ruling, simple as that.

25 MR. NELSON: Now, there is three remaining

1 objections as to the demonstratives, Your Honor. We resolved
2 the rest of those this morning with Your Honor's ruling on
3 the scope issues. There is PX-85, which purports to compare
4 a Google figure to a figure in the patent to argue
5 infringement, which under Federal Circuit case law,
6 particularly the Zenith Labs v. Bristol-Myers, 19 F.3d
7 1418 --

8 THE COURT: While he is arguing, you can have a
9 seat.

10 MR. CIMINO: Yes, Your Honor.

11 THE COURT: Okay.

12 MR. NELSON: It's an infringement actually
13 overturned because the accused product was compared to an
14 embodiment in the patent. So to have your technical expert
15 get up and argue infringement based on a comparison of a
16 figure from a document, from the defendant concerning the
17 accused products to a figure in the patent and say, hey,
18 these look the same, has been ruled impermissible and
19 misleading to the jury and verdicts have been overturned on
20 that basis. To be --

21 THE COURT: Okay.

22 MR. NELSON: We can show you, I think, the figure.

23 THE COURT: All right. Let me see it, the
24 particular two, so I can see what you're doing. Which one
25 are you talking about?

1 MR. NELSON: It is PDX-85. It is on the screen now,
2 Your Honor. So as you can see, this is in the middle. If
3 you go to the previous slide, in the middle of the
4 discussion, the infringement analysis, the comparison here of
5 the accused product -- and I don't think this is a very
6 accurate depiction, but nonetheless, I understand that would
7 be a matter for cross-examination, but the comparison of one
8 to the other here is misleading to the jury, and, in fact,
9 invites error in the record because it is the only thing that
10 you, for purposes of infringement finding, that you compare
11 the accused product to in the claims of the patent and not
12 the figures or the embodiment in the patent.

13 THE COURT: Okay. All right, counsel. Your
14 response to that one?

15 MR. CIMINO: Your Honor, this figure comes before
16 the infringement analysis. Dr. Frieder is going to provide
17 an explanation of the patent, and an explanation of the
18 accused product. These drawings -- one drawing comes from
19 the patent and one comes from the accused product, and he's
20 going to use this to explain how the products work.

21 If you take a look at the next slide, he starts with
22 an analysis of the claim. One more. He then goes into the
23 analysis of the claim and start his infringement analysis.
24 This is background to help the jury understand what they are
25 looking at. And they didn't send the case or raise the case

1 so I haven't seen that. But this is not going to be there's
2 infringement because they look the same. It is background to
3 give them the fundamentals to understand the infringement
4 analysis, which comes with plenty of evidence and plenty of
5 documents and no comparison of anything but the claims to
6 their own documents.

7 THE COURT: So this embodiment here you have comes
8 from the patent?

9 MR. CIMINO: It's the main figure of the patent that
10 was discussed in opening, and then the only figure that we
11 can find about AdWords.

12 MR. NELSON: This is a figure -- oh, excuse me, I'm
13 sorry.

14 THE COURT: The Court's concern, as long as those
15 figures are not used to suggest that in some way you have
16 infringement because these figures look comparable here and
17 they are the same thing, because he is right, without me
18 seeing the case, I know that is not the way you go about
19 appropriate analysis of a claim. That is not the way you go
20 about it. I haven't seen the case, Mr. Nelson, but what he
21 is representing is that his focus will be on the claims, and
22 his figure is simply being used for demonstrative purposes to
23 explain how the patent works.

24 MR. CIMINO: Well, the figure is an animated, and it
25 shows the process steps, and the process steps are all in

1 sync to help show where everything happens.

2 THE COURT: Let me ask you something. Why do you
3 need both figures? Why do you need both of them?

4 MR. CIMINO: Well, he goes through the patent first
5 and shows the patent figure, and then goes through AdWords
6 and shows AdWords. And so that they -- and then this figure
7 is, figure on the right is AdWords. Then the side by side to
8 show where things are happening, but they are happening in
9 the same place.

10 THE COURT: But you know something, despite the
11 understanding of what you want to do, the Court can see how
12 that could be potentially misleading. The jury is overthrown
13 in comparison to those figures. I mean, you know, that is
14 going to be the natural reaction to a person certainly not
15 skilled in the art.

16 I mean, I'm saying what you are saying, but that
17 doesn't mean the jury is necessarily going to take it that
18 way. He can explain how AdWords works using the patent. But
19 if you put those two figures up there, it's visual, and the
20 Court believes that may be impossibility, that they may focus
21 on those visual similarities as opposed to focusing on his
22 explanation of the claim.

23 MR. CIMINO: So he is going to be comparing the
24 patent to AdWords, and that is what this is doing. He then
25 talks about infringement and focuses on the claim elements.

1 But the Figure 9 on the left is the embodiment of the claims,
2 and Figure 9 is AdWords. So it is to show that they are --
3 that the process is taking place at the same places.

4 THE COURT: Okay. Figure 9 is from the patent and
5 Figure 1 is from AdWords?

6 MR. CIMINO: That's right, Your Honor.

7 MR. NELSON: Actually, Your Honor, if I might,
8 Figure 9 is not from the patent. It has been changed. They
9 put grill on there, and that's the search result. None of
10 that is in the patent. And this figure is the one that has
11 spidering on it, Your Honor.

12 It's the same figure, except for they cover that up
13 here. So this is not a figure from the patent. It is a
14 figure where they have taken things from the Google figure on
15 the right and put them on top of things in the -- well, look
16 here.

17 Look at where it says, on the figure on the left,
18 that purports to be a figure in the patent where it says
19 search, results, grills, best grills, choosing a grill, and
20 then we look over here at Google Figure 1, results, grills,
21 best grills, choosing a grill, that isn't in the patent. Go
22 up a little further, grill, that is not --

23 THE COURT: Do you agree it's not identical to the
24 patent?

25 MR. CIMINO: That's correct. The labels and the

1 coloring were added by Dr. Frieder.

2 THE COURT: All right. Objection sustained. You
3 can find some other way to do it.

4 MR. NELSON: Now, then while we're on this topic,
5 PDX-102, here we have exactly the same thing. And look --
6 this is in the middle of the claim analysis, and it says,
7 "Google's internal documents prove infringement," and then
8 takes the figure from the patent and compares it to the
9 Google internal documents. This is right in the middle of
10 the claim analysis. If we go to the previous few slides and
11 such, you know, it talks about claim 10. Can't this claim be
12 a collaborative element.

13 So, yes, PDX-92 is where they start the analysis of
14 claim 10. You can see it is right in the middle of the
15 analysis, and the title of the document is "Google's internal
16 document infringement," and then side-by-side comparison of a
17 figure from the patent with highlighting, and then trying to
18 use those same colors on a Google document.

19 THE COURT: Well, I think the Court, to be
20 consistent, I just sustained the first one, the Court is
21 going to sustain the second one. Find some other way to do
22 it without going -- using the figures in this way.

23 MR. CIMINO: I understand, Your Honor.

24 THE COURT: All right.

25 MR. CIMINO: Dr. Frieder has analysis on the claims.

1 This is a rebuttal point to arguments that Google has made.

2 THE COURT: Well, I tell you what. You may have to
3 wait for their expert to testify and then come back and try
4 using it again later. You just may have to wait and see. I
5 can tell you something, Mr. Nelson. I just sustained your
6 objection, but depending on what you do, they might be right
7 back up here again.

8 MR. NELSON: No, I understand, Your Honor.

9 THE COURT: Something called opening the door.

10 MR. NELSON: Yep. I'm familiar with that.

11 THE COURT: Okay.

12 MR. NELSON: So then the only other one is --

13 THE COURT: You mean you have another one?

14 MR. NELSON: Yes, sir.

15 THE COURT: Which one are you concerned about now?

16 MR. NELSON: PDX-98. This one -- this is attorney
17 argument with --

18 THE COURT: Hold on.

19 MR. CIMINO: We have taken off the slide.

20 MR. NELSON: This isn't here anymore? Okay.

21 Resolved.

22 THE COURT: Okay. You mean we can go forward now?

23 MR. NELSON: Yes, Your Honor.

24 THE COURT: Thank you. All right.

25 MR. CIMINO: Your Honor, may I confer with opposing

1 counsel for one second?

2 THE COURT: Okay.

3 MR. CIMINO: We are just going to modify one of the
4 slides.

5 THE COURT: All right. That will be fine. All
6 right. Bring them in.

7 (Jury in at 2:38 p.m.)

8 THE COURT: You can have a seat. Record will
9 reflect all jurors are present. Does counsel agree?

10 MR. CIMINO: Yes, Your Honor.

11 MR. NELSON: Yes, Your Honor.

12 THE COURT: All right, Mr. Cimino.

13 MR. CIMINO: Your Honor, we are going to, agreement
14 of counsel and approval of the Court, we would like to
15 preadmit the exhibits of Dr. Frieder that I'll be using in
16 his presentation today.

17 THE COURT: All right.

18 MR. CIMINO: The PX numbers are PX-338, PX-117,
19 PX-229, PX-115, PX-7, PX-51, PX-95, PX-55, PX-302, PX-52,
20 PX-357, PX-112, PX-21, PX-22, PX-338, PX-40, PX-46 and
21 PX-180. I believe I got them all, Your Honor. I might have
22 miscounted the first time. But I can double-check during
23 Mr. Frieder's examination.

24 THE COURT: The Court finds 18, but we will go with
25 what you have. All right. Based upon the Court's prior

1 discussion with counsel, those exhibits, PX-338, 117, 229,
2 115, 7, 51, 95, 55, 302, 52, 357, 112, 21, 22, 338, 40, 46
3 and 180 are admitted with the precaution the Court has
4 raised.

5 MR. CIMINO: Thank you, Your Honor.

6 (The documents were received in evidence and marked
7 as Plaintiff's Exhibit Nos. PX-338, 117, 229, 115, 7, 51, 95,
8 55, 302, 52, 357, 112, 21, 22, 338, 40, 46 and 180.)

9 THE COURT: All right. Call your next witness.

10 MR. CIMINO: Your Honor, Plaintiff I/PE calls its
11 infringement expert, Dr. Ophir Frieder.

12 (Witness was sworn.)

13 OPHIR FRIEDER, called by the Plaintiff, having been
14 first duly sworn, was examined and testified as follows:

15 DIRECT EXAMINATION

16 BY MR. CIMINO:

17 Q. Good afternoon.

18 A. Good afternoon.

19 Q. Could you please introduce yourself to the jury.

20 A. My name is Ophir Frieder.

21 Q. And where do you live?

22 A. I live in Chevy Chase, Maryland.

23 Q. And why are you here today?

24 A. I'm here as an expert witness for I/P Engine.

25 Q. Dr. Frieder, what is your current occupation?

1 A. I am a -- I'm the McDevitt Professor of Computer Science
2 and Information Processing. I am the Department Chair of the
3 Department of Computer Science at Georgetown, and I am the
4 Professor of Biostatistics, Bioinformatics and Biomathematics
5 in the George University School of Medical Center.

6 Q. Thank you. I'd like to discuss in a little bit more
7 detail your qualifications to be here today. So let's first
8 start with your current occupation. What is a McDevitt
9 Professor?

10 A. McDevitt Professor is an endowed chair. It's the highest
11 endowed chair at Georgetown University.

12 Q. And endowed means what?

13 A. Endowed chair is a distinguished honor position.

14 Q. And how many professors in the computer science
15 department at Georgetown hold that title?

16 A. One.

17 Q. Do any other professors at Georgetown outside of computer
18 science hold that?

19 A. There are four in total, three besides me.

20 Q. And how long have you held that title?

21 A. About two years.

22 Q. And it lasts for how long?

23 A. It lasts until I leave Georgetown University. It's a
24 permanent position.

25 Q. And you also said you're chair of the computer science

1 department; is that right?

2 A. That is true.

3 Q. What activities or responsibilities do you have as the
4 chair at the computer science department at Georgetown?

5 A. Chair is an administrative position. I have about 16
6 faculty and about a hundred students. I basically run the
7 department or whatever that entails.

8 Q. And the students are just undergrad?

9 A. No. The students are Bachelor's degree, which is
10 undergrad, and Master's degree and Ph.D. students.

11 Q. You also mentioned that you hold the title Professor of
12 Bioinformatics?

13 A. That is right.

14 Q. Does that relate to search at all?

15 A. Bioinformatics is the search of medical informatics or
16 medical data or biological data, genes, and the like. So
17 that is what I do, yes.

18 Q. Do you have a primary area of research currently?

19 A. Yes. My primary research is information retrieval or
20 basically search technology.

21 Q. When you say information retrieval, does that differ from
22 search?

23 A. It's an overall encompassing of it. It's basically, if
24 you have a request, and can you fill the request, I search
25 for data. And it can be structuring, it could be

1 unstructured, it could entail databases, it could entail
2 image processing components of it. So it is kind of the
3 umbrella of it.

4 Q. It all sort of relates back to looking for information?

5 A. It all relates to looking back for information.

6 Q. And what are you currently working on in your research?

7 A. I work on a variety of search problems. I work right now
8 on basically being able to have context sensitive search, so
9 if you basically know an area you are looking at, what could
10 you focus in on more. I am working in the area of
11 pharmacovigilance, which is -- pharmacovigilance is basically
12 the detecting of medical -- the adverse effect.

13 So if you are taking a drug, and when they do
14 testing for a drug, they sometimes use -- they always use a
15 small group, and what happens is that periodically they
16 release it and there's problems in the mass market. So what
17 we do is we look for things such as on the social media, on
18 blogs, on query logs to determine what are the adverse
19 effects before they actually hit a large population.

20 Q. So that research is then related to --

21 A. It is purely search. What you are doing is you are
22 looking on things like Facebook and Twitter and query logs
23 from various different places and basically if there's a
24 problem.

25 Q. Let's move to your education. Can you please describe

1 your education for the jury.

2 A. I have a Ph.D., a Master's and an undergraduate. I
3 should have said it the other way around; undergrad, Master's
4 and Ph.D. in computer science and engineering from the
5 University of Michigan.

6 Q. When did you earn your Ph.D.?

7 A. I officially got my Ph.D. in 1987.

8 Q. While you were in school did you have a particular
9 interest in search?

10 A. My area of interest was multiprocessor databases and
11 architecture, so, yeah, basically it was a search.

12 Q. How does multiprocessors relate to search?

13 A. Multiprocessors and multicomputers, these are big
14 machines spread on some interconnection network or either
15 inside one box or many boxes, and basically database is a
16 search. So you have technology that basically deals with
17 finding information on a large spaced environment, in this
18 case with parallel environment.

19 Q. When did you first get interested in search?

20 A. Probably about 1985.

21 Q. What was your first position as a professor?

22 A. I was an Assistant Professor at George Mason University
23 in 1990.

24 Q. Have you been a professor ever since?

25 A. I have been in the -- I was an assistant professor and

1 then I got promoted and became associate professor, and I got
2 promoted and became a full professor, and then I got the
3 normal endowed chairs and I got a McDevitt. So if you
4 consider all that as professor, then, yes, the answer is yes.

5 Q. Are you familiar with the term TRC --

6 A. Sure.

7 Q. -- as it relates to search?

8 A. Yeah. Sure.

9 Q. Can you explain to the jury what TRC is?

10 A. TRC is a acronym. It stands for the text retrieval
11 conference. It is a gathering sponsored by NIST, I believe
12 it started with the National Bureau of Standards, but they
13 changed their name to the National Institute of Standards
14 Technology. It is a Government organization, and the
15 Department of Commerce has tried to improve the quality of
16 search.

17 So it's an international forum that people they --
18 not compete, they submit their systems for evaluation, and de
19 facto come out as a competition, even though it is not
20 supposed to. It is an international competition, happens
21 every year.

22 Q. You participated in TRC?

23 A. I have participated in TRC since 1993, with a possible
24 exception of two years, somewhere between '93 till today.

25 Q. What kind of things have you done with TRC?

1 A. TRC's got a lot of things in it. I have done standard
2 search, which we call ad hoc search. It basically means you
3 issue a query, and you get a result, and they evaluate your
4 result. I've done corrupt tact, meaning if you had problems
5 like OCR or spelling errors, significant errors, and how you
6 search those documents. I have been involved in a biomedical
7 search, and I have been involved in a basically Arabic
8 search. We build a system for Arabic search from
9 cross-language you issued in English, you found Arabic
10 documents that you are looking to analyze them. I have been
11 involved in creating the legal track, the data for the legal
12 track, which they have for evaluating legal documents.

13 Probably it. Maybe I am missing one or two things.

14 Q. Have you developed any search systems in an academic
15 setting, maybe have moved on to industry or --

16 A. I have actually developed several of them. I
17 developed -- the answer is yes.

18 Q. Please explain a couple examples for the jury.

19 A. So we developed the system, called it AIRE, A-I-R-E, for
20 advanced information retrieval engine. It is your standard
21 search engine basically to operate on your documents. It was
22 licensed eventually to Harris Corporation, which is fairly
23 large defense contractor. They took it for use to their
24 internal purposes and for the Government programs.

25 I also developed a system called the SQL generator,

1 which is for XML oriented documents. Those are documents
2 that's got some structure in them. That was developed for
3 bid systems, and they developed it to -- they placed it in
4 their own customers, and from what I was told, it is used by
5 dozens of -- and I quote -- dozen of customers, dozens of
6 analysts and dozens of places worldwide daily.

7 And I developed a system for NIH that was basically
8 done for -- to support a search of the National Center For
9 Complimentary Alternative Medicine, and that was deployed.

10 Q. Dr. Frieder, you mentioned in your discussion, and I
11 believe it is probably going to come up when we discuss the
12 patents, as well, structured and unstructured text. Can you
13 explain what you mean by that?

14 A. I'm sorry. I will try to avoid -- basically structured
15 text is -- structured is something that basically like a
16 phone number, age, height, address and the like.

17 Unstructured are words or phrases in the document that
18 basically come out in sentences of various nature. So that
19 is the difference of them.

20 Q. Okay. Have you worked as a consultant in the industry?

21 A. Yes, I have and still am.

22 Q. Have you developed any search systems that you could tell
23 the jury about, maybe an example or two, maybe developed with
24 industry?

25 A. So a joint with industry, I developed a system called a

1 sentinel. This was with Harris Corporation. Sentinel is an
2 engine that basically does multiple information retrieval
3 engines put together and then integrated and provides a
4 visual interface so you can, quote, fly through space, and
5 therefore you can find the relative documents as though
6 you're flying through space. It gives a much more intuitive
7 feel for it.

8 I developed a system called QEIT, query elevation
9 information technique, or something to that effect. I always
10 forget the acronym. But QEIT was basically a system that
11 basically did advance -- a presentation in advanced ranking
12 of elements to be able to get better a result on top, and
13 that was for their Government customers.

14 Q. Are either of those systems patented?

15 A. They are both patented.

16 Q. How about awards and recognitions? Have you received any
17 recognitions in the area of search?

18 A. I am an ACM fellow, which is an Association for Computer
19 Machinery. It is basically a society, a professional society
20 for computer scientist. I am a fellow of that organization.
21 I am a fellow of the IEEE, which is the predominant one for
22 computer engineering, electrical engineering, somewhat
23 computer science, and I'm a fellow Of the IEEE. I'm a fellow
24 of the AAAS, which is the American Association For the
25 Advancement of Science. I'm bad with acronyms. And

1 basically that -- I'm a fellow of that. I have won the
2 ASIST, which is the association for -- American Society for
3 Information Science and Technology, the research award, which
4 is an award for -- they give one a year, and -- basically one
5 a year. And they basically give it for contribution for
6 information science or search, or the like, for more than 15
7 years, for a sustained period of more than 15 years.

8 I have won the IEEE Technical Achievement Award,
9 which is an award for -- for pioneering work in scaled
10 information systems, basically large scale search systems. I
11 have won the Harris Recognition Award for academic
12 contributions to industry.

13 Q. I think we have a fair amount of examples. You did
14 mention fellow. Could you explain what a fellow is, this
15 ACM, IEEE, AAAS? What is a fellow?

16 A. Basically a fellow is a designation of the member's rank.
17 It is approximately 1 percent of the community that gets
18 this; so 1 percent of the ACM, 1 percent of the IEEE, 1
19 percent of the AAAS, basically, roughly speaking.

20 Q. Thank you. Have you published any books in the area of
21 research?

22 A. Actually, I have published a couple, but the one I'm most
23 proud of is the book that I -- in 2007 award, an award for
24 best selling information systems track of a constringer,
25 which is a major publisher.

1 Q. How about publications you published, not books but
2 articles and technical journals in the area of search?

3 A. Regularly and continuously.

4 Q. How many do you think you have relative to search?

5 A. In search, 50 to a hundred.

6 Q. Okay. How about patents? Do you hold any patents where
7 you're the named inventor?

8 A. I do.

9 Q. About how many?

10 A. About nearly three dozen. A lot are issued and probably
11 a dozen in the process of still -- being going through the
12 USPTO, United States Patent & Trademark Office.

13 Q. So over 40 are filed or issued patents?

14 A. Yes, definitively.

15 Q. How many are related to search?

16 A. Oh, at least a dozen or more.

17 Q. And do you own those patents?

18 A. I do not.

19 Q. Who owns the patents?

20 A. Okay. So some of the patents are -- one is owned by the
21 U.S. Army, one is owned by the U.S. Air Force, some are -- a
22 lot of them are owned by industry today, which I consulted
23 for or was working at. The rest are owned by the
24 universities I was working at at the time.

25 Q. So in total how many years would you say that you've been

1 involved in the area of search and information retrieval?

2 A. Conservatively, 25, 25 years.

3 MR. CIMINO: Thank you. Your Honor, I'd like to
4 offer the testimony of Dr. Ophir Frieder as an expert in the
5 area of search and information retrieval in this case.

6 THE COURT: Do you wish to voir dire the doctor on
7 his credentials, counsel?

8 MR. NELSON: No. I'll just wait for
9 cross-examination, Your Honor.

10 THE COURT: All right. Ladies and gentlemen, you
11 may accept Dr. Frieder as an expert in the field of search
12 and information retrieval.

13 MR. CIMINO: Your Honor, Dr. Frieder has prepared a
14 presentation to help move through the complex subject matter
15 and explain his opinions. Is it okay if we pull that up and
16 work through it?

17 THE COURT: You may.

18 BY MR. CIMINO:

19 Q. Dr. Frieder, before we get into your detailed system
20 about the patent, the accused product AdWords, and then your
21 comparison on the patent to the product for infringement, I
22 was wondering if you could give the jury a summary of your
23 opinions?

24 A. I am convinced that the defendants infringed.

25 Q. That is the AdWords product?

1 A. Yeah. Yes.

2 Q. Can we move to the next slide. PDX-053, Dr. Frieder, on
3 the screen -- what is on the screen in front of you?

4 A. You've already been shown and explained what a patent
5 looks like and the pieces of the patent and the like, so I
6 won't go into detail, for that you already know. But what
7 this is, is from the early part of the patent, and basically
8 what it is, is it gives you an overview of what is in the
9 patent. Let me just read it. "The present invention relates
10 to information processing systems for large massive
11 information networks, such as the Internet, and more
12 particularly to such information systems especially adapted
13 for operation in portal and other web sites wherein a search
14 engine operates with collaborative and content-based
15 filtering to provide better search responses to user
16 queries."

17 It is a lot of words, say it in English. See, there
18 are four colors that I highlighted. The first one is yellow,
19 which basically is search. You need to have a search, you
20 need to find something, a user request, an interest, a need.
21 You need to have content-based comparison, meaning you need
22 to be able to compare your query against the actual
23 information that is actually being searched there, an ad, for
24 example.

25 You need collaborative, meaning you need information

1 that has to be given by people who looked at this query and
2 looked at these items before and judged to be relevant to
3 you.

4 MR. NELSON: I'm going to object, Your Honor. It
5 misstates Your Honor's claim construction.

6 MR. CIMINO: I don't believe so.

7 THE COURT: Wait a minute. Counsel, the Court would
8 need to know more than that. The Court construed ten terms.
9 I don't know which claim or term you're suggesting that we --

10 MR. NELSON: Collaborative feedback, Your Honor.

11 MR. CIMINO: His testimony is completely consistent
12 with the Court's definition. He mentioned some reference to
13 needs. And he is providing a summary at this point anyway.
14 He is not just talking about the claims, Your Honor.

15 THE COURT: All right. Well, let's put it this way.
16 Doctor, do you understand? Did you read the Court's claims
17 construction?

18 THE WITNESS: Absolutely.

19 THE COURT: Do you understand your testimony must be
20 consistent with the Court's claim construction?

21 THE WITNESS: I used it throughout my entire
22 process.

23 THE COURT: All right. Objection overruled.

24 MR. CIMINO: Thank you, Your Honor.

25 THE COURT: I tell you what, we are going to be

1 paying close attention to it here.

2 MR. CIMINO: All right. Understood, Your Honor.

3 BY MR. CIMINO:

4 Q. So, Dr. Frieder, you were explaining that four points you
5 believe are important to the I/PE patent?

6 A. The four points that you need to take away is that you
7 need to have a search. It has to be relevant to the user
8 query. You need to have collaborative information, which
9 means information from other users they find relevant. You
10 need a content comparison. Basically, that is information
11 that you found that the query matched the actual element you
12 are searching for, like advertisement, the text of the
13 advertising, and you need a filter base on it.

14 Now, just in summary, the yellow is the search
15 request, the green is the collaborative item, the blue is the
16 content item, and you need to combine the green and the blue,
17 and you need a filter, which is the purple item. If you
18 don't have all four of those, you don't have a patent.

19 Q. Just a quick detour, Dr. Frieder. Does the term
20 collaborative feedback data show up in both sets of claims in
21 the two patents?

22 A. No. It shows up in the '420 but it does not show up in
23 the '664.

24 Q. Okay. So you mentioned content and you mentioned
25 collaborative. I'm wondering if you could explain to the

1 jury what you mean by that.

2 A. If you -- basically, if you issue the word "grill" and
3 basically that is your query, and you want to look at an
4 advertisement. So the advertisement, as you see, it's got
5 the word "grill" appearing six times. That is probably
6 talking about a grill. So what a content comparison is the
7 query against the -- or the request against the actual ad,
8 and basically you see the words appear. So grill in this
9 case appears six times.

10 If it appears often, it's a good content match, if
11 the word "grill" appears often. If the word "grill" appears
12 seldom, it's not such a good match, and if it has no, it
13 never appears, terrible match. That is content.

14 Q. And how would a content rating be affected by the number
15 of times the word "grills" shows up when someone searches for
16 grill?

17 A. If you search for the word "grill," and there is a large
18 number of them, then it will appear, and then it will give
19 you a high rating score or content. If you -- if it doesn't
20 have any times appearing in it, or only appears once, it is
21 going to have a very low rating score. So basically a high
22 rating score means that it's relevant to you, relevant in
23 terms of content, and low rating score means it is not
24 relevant in terms of content.

25 Q. Okay. Let's talk about collaborative. If you go through

1 this example for the jury of what is meant by collaborative
2 feedback?

3 A. Sure. So collaborative, as I said, I represent in green.
4 Collaborative simply says that when users were shown this
5 type -- this ad and this query, they found that they liked it
6 or they didn't like it. How you know they liked it, they
7 clicked on it. If they didn't click it on, they didn't like
8 it. Many people click on it --

9 THE COURT: Hold it. Do you have objection,
10 Mr. Nelson?

11 MR. NELSON: I do have an objection. He is defining
12 collaborative inconsistent with Your Honor's claim
13 construction.

14 THE COURT: Okay. Now, hold on a second. Is this
15 the same testimony that Dr. Frieder provided in the
16 deposition?

17 MR. CIMINO: Yes, Your Honor, completely consistent.

18 THE COURT: Because the Court is looking at its
19 definition of collaborative feedback here, and I'm not sure
20 how far you're going now. You have the Court's definitions
21 in front of you?

22 THE WITNESS: I would guess it's in this binding.

23 THE COURT: Give him the Court's definition.

24 MR. CIMINO: He knows the Court's definitions very
25 well, Your Honor.

1 THE COURT: How do you contend it is inconsistent?

2 MR. NELSON: He just said, well, collaborative means
3 that the users click on it and then you know what they want.
4 Your Honor's claim construction is feedback from users with
5 similar interests or needs. He just said all users, but that
6 is very misleading and inconsistent with Your Honor's claims
7 construction.

8 MR. CIMINO: Your Honor, I think Mr. Nelson might
9 have missed part of what Dr. Frieder said. He said when
10 presented with the same query, people click on the ad, which
11 is then Dr. Frieder and I/P Engine's position all the way
12 through, including Markman, and that has not been -- that was
13 accepted by the Court. So when someone is looking at a
14 query, and someone else looks at the same query, they have
15 the same need.

16 THE COURT: Okay. I'm overruling this one. The
17 Court is looking at the definition. I think, Mr. Nelson,
18 he's within the scope of what the Court is saying here, but
19 just continue to look where you go.

20 MR. CIMINO: And Mr. Nelson can obviously cross him
21 on his opinions as he did in his deposition. And I will note
22 for the record, Your Honor, that the second patent doesn't
23 have collaborative feedback data.

24 MR. NELSON: Your Honor --

25 MR. CIMINO: We can go to side bar.

1 THE COURT: We are not going to be doing a whole lot
2 of side bars. We are going to get through this testimony,
3 too. Continue.

4 MR. CIMINO: Yes, Your Honor.

5 BY MR. CIMINO:

6 Q. So, Dr. Frieder, would you continue with your explanation
7 of an example of what's collaborative?

8 THE COURT: Choose your words carefully. I know you
9 will, Doctor, but you understand that they are rigging you in
10 here now, every word.

11 THE WITNESS: I will do my best. I will try. So I
12 don't remember exactly where I was but we'll start with
13 the -- if you take the word -- look at collaborative, and you
14 show, and there is a query issued, and basically people see
15 ads and they like the ads, they will click on them. They
16 don't like the ads, they won't click on it.

17 You do it for many, many, many people many, many,
18 many times, you are going to know that that this ad was
19 popular with this query or this ad was not popular with this
20 query. The ones that are popular are going to have a higher
21 score in collaborative. The ones that were not popular,
22 mainly when I click, will have a lower score of that nature.
23 So that is what a collaborative score is.

24 BY MR. CIMINO:

25 Q. And you mentioned the word "query." In your opinion,

1 what does the word "query" represent of the user?

2 A. The user's interest or need, request.

3 Q. So what they are searching for is their interest?

4 A. What they are searching for.

5 Q. Or their need?

6 A. Or their need.

7 MR. NELSON: Your Honor, I move to strike. He just
8 defined query as inconsistent with Your Honor's claim
9 construction, request for search results.

10 THE COURT: The Court doesn't find that that is
11 necessarily inconsistent with what the Court is saying in
12 trying to discern search. If he does not use the same words
13 does not necessarily mean he violated the Court's definitions
14 of a query.

15 Now, do you have the definition of the Court's
16 query? The Court is going to turn to it.

17 MR. CIMINO: I have the Court to take a look at
18 relevance to the query, Your Honor.

19 THE COURT: Okay. I just don't anticipate that the
20 exact words the Court is going to be used is going to be
21 used, as long as it doesn't go too far afield what meaning
22 the Court had in defining the term. I don't know that that
23 does. So, once again, overruled.

24 BY MR. CIMINO:

25 Q. Dr. Frieder, do you have the claim construction chart in

1 front of you? I don't think it's in your witness notebook.

2 MR. CIMINO: Your Honor, may I hand this up to
3 Dr. Frieder?

4 THE COURT: Mr. Taylor, give it to him.

5 THE WITNESS: Yes, I do now.

6 BY MR. CIMINO:

7 Q. Can you read the definition of relevance to the query for
8 the jury.

9 A. The term relevance to the query, "How low an informon
10 satisfies the individual user's information need in the
11 query."

12 Q. So according to this definition, what is in the query?

13 A. Basically, you issue the query and something has to be
14 relevant to the query. So it's the individual user's
15 basically information need.

16 Q. It's the information needed to the user?

17 A. That's correct.

18 Q. Okay. Let's try one more time, Dr. Frieder. Can you
19 please explain what collaborative is for the jury.

20 A. So basically if you show a -- that there is a query and a
21 set of ads shown, and the query is relevant to the ad, then
22 people will click it. If it's -- if they like it, they will
23 click it, and a lot of people will click it. If it is not
24 really relevant, people probably won't click it. And
25 therefore what will happen is that you will have a score.

1 Popular -- many times people click, you will have a high
2 collateral score. A few times clicking it, you will have a
3 low collaborative score. And I represent collaborative
4 always in green.

5 Q. Okay. Let's see how these two things are used in the
6 patent. Can you please explain this diagram.

7 A. So this diagram represents the needs of the patent, what
8 a patent discusses. You will see that the yellow is --
9 represents the search. So in this case the yellow background
10 represents that it is basically in response to a search.

11 The blue is the content, which I just explained.
12 The green is a collaborative, which I just explained. And as
13 you see, there's a combination of the two that yields you a
14 purple box, and the purple box says, "Overall relevance to
15 the search."

16 Well, the purple box is a filter, mainly. I want to
17 make sure that only those ads that really are good make it
18 through. Some -- it may be a lot will make it through, and
19 maybe none will make it through. But basically the purple is
20 going to be filtering. So yellow is always search, green is
21 collaborative, blue is content, and purple is a filtering to
22 make sure that you get the perform of the best results.

23 Q. And in your view are all four of these things part of the
24 invention?

25 A. They are required.

1 Q. Do you believe the patented system here provides
2 advantages?

3 A. Absolutely.

4 Q. Can you give an example of the type of results it might
5 prevent in showing up?

6 A. Sure. So if you basically were to take an advertisement
7 that says grill, grill, grill, grill, many times grill, and
8 it is actually running towards a sweepstakes site, or
9 basically it is meant to fool the people to make sure it gets
10 you to a sweepstake site --

11 MR. NELSON: Objection. That is beyond the scope of
12 his report. Never discussed the advantages of the patent.

13 THE COURT: Counsel, if it is not in the report, the
14 Court's general rule is objection sustained. If he didn't
15 get into advantages, then we don't go here today.

16 MR. CIMINO: Okay, Your Honor. We will move on.

17 BY MR. CIMINO:

18 Q. So, Dr. Frieder, here is PX-338. Can you describe what
19 this is?

20 A. This is a Google document.

21 Q. Can you describe what quality score is?

22 A. Sure. I'll let their own words describe it. "Quality
23 score is an estimate of how relevant your ads, keywords and
24 landing page are to a person seeing your ad. Having a high
25 quality score means that our systems think your ad, keyword

1 and landing page are all relevant and useful to someone
2 looking at your ad. Having a low quality score, on the other
3 hand, means that your ads, keywords and landing page probably
4 aren't as relevant and useful to someone looking at your ad."

5 Simply stated, it's a measure. It's a goodness
6 measure. If you have a high quality score, it's a good
7 thing. If you have a low quality score, probably not
8 relevant to you. That's basically what it says.

9 Q. And, Dr. Frieder, what kind of variable is quality score,
10 then?

11 A. It's a rating. It is basically, as I said, if you have a
12 high rating, the high quality score, then basically you are
13 good. If you have a low rating or a low quality score, then
14 you are not very relevant, not very good.

15 Q. Okay. Let's look at the next page. PX-338, Pages 2 and
16 3. It says, "How we calculate quality score." First of all,
17 Dr. Frieder, who is the "we" here?

18 A. The "we" is Google. This is a Google document.

19 Q. So who is calculating the quality score?

20 A. Google is.

21 Q. And why would they do that?

22 A. Because they need to make sure that they have only good
23 ads to display so they have a rating for it.

24 Q. Okay. So does this document help you determine whether
25 there is content and collaborative information in the

1 determination of quality score?

2 A. Well, it says very clearly, "How we calculate quality
3 score." So basically it says every time someone does a
4 search, that triggers your ad, we calculate quality score.
5 And there is a whole variety of things there, but, again, the
6 search is yellow, and basically the collaborative here is
7 your keyword's pass click-through rate, how often that
8 keyword led to clicks on your ad; namely, how many times
9 people clicked on it. That is the collaborative part.

10 And they combine that with the content part,
11 basically says your keyword to ad relevance and your keyword
12 to search relevance. How relevant is what you actually look
13 for to the ads being shown? That is content, and what they
14 do is they combine them, and that's their quality score.

15 Q. What is Google trying to do with this document?

16 A. Well, they are trying to educate. This is a document for
17 their customers. This is a document that is publicly there
18 so that basically people will learn how to make their ad
19 better. The goal is to make sure that people like your ads.
20 It is not to make sure that your ads are irrelevant. If your
21 ads are irrelevant, nobody is going to click them; you are
22 not going to make any money.

23 So basically they are educating the public, their
24 customers how -- these advertisers, how do you get a good
25 quality score, because a good quality score will get you

1 actually -- displayed will actually get you clicked. A bad
2 one, probably won't. It is an education.

3 Q. Dr. Frieder, this is sort of a high level description; is
4 that right?

5 A. This is a high level description, that is correct.

6 Q. What is it describing in AdWords?

7 A. It is basically describing how it operates, describing
8 how they actually evaluate the ad to know which one is
9 displayed.

10 Q. I understand you have a piece of video that you would
11 like to show the jury?

12 A. Yes, I do.

13 Q. Can you please tell the jury what it is and what they
14 should be listening for?

15 A. This video is a video by Google's chief economist, his
16 name is Hal Varian. What he is going to be telling you is
17 basically exactly what I told you. He is going to tell you
18 that it is important for Google, is to be able to get your
19 feedback, your collaborative feedback and to get -- and
20 combine it with content.

21 So the ad should be very relevant so that they can
22 have the best indicator they can have, because the goal is to
23 deliver good, high quality, relevant ad. So he is going to
24 explain it to you in a much more elegant way than I did.

25 "So what is quality score? So there are three

1 components of the quality score, and the biggest one, by far,
2 is click-through rate. By allowing users to vote with their
3 clicks, we have millions of people who are helping us decide
4 which ads are best for each search query. Google's
5 philosophy is always relied on user feedback as a key drive
6 to decision-making. So using click-through rate and quality
7 scores is our way of incorporating that feedback into ad
8 serving.

9 "Relevancy is the second largest component of
10 quality score. Both the relevancy of a keyword to the ads,
11 as well as to the user's search query, Google determines
12 relevancy by analyzing the language and context of an ad or
13 query in determining how well it relates to keyword. Google
14 uses relevance to make sure that only useful ads are
15 displayed to users, and it prevents advertisers from paying
16 their way on to a search that is unrelated to their product
17 or service.

18 "The third component of quality score is landing
19 page quality. An ad is only useful to a user if the landing
20 page it leads to help them find the information they are
21 looking for. A high quality landing page should have
22 relevant, original content, be easily navigable with quick
23 load times and minimum pop-ups or pop-unders, and be
24 transparent about the nature of your business, how your site
25 interacts with a visitor's computer and how you intend to use

1 the visitor's personal information."

2 Q. I'll note for the record that that video was PX-117.

3 Dr. Frieder, what is your take away from this video?

4 A. The message is pretty clear, that basically to get high
5 quality, you need to take into account the relevance of the
6 ad, and you need to take into account what other people think
7 of the ad and how has the past performance been, in this case
8 the click-through rate. The method is very clear.

9 Q. Is this the simple diagram that Mr. Varian was talking
10 about, is the only place you have seen it?

11 A. No, I have seen it other places.

12 Q. This is PX-229, Page 22. Can you tell the jury what
13 document this is?

14 A. This is a Google internal document. This is the same pie
15 chart as you saw a minute ago. This is the document, it's
16 from the life of a dollar. It is a document that Google
17 uses, talk to Google users to basically educate its own
18 employees, its own people on how their AdWords works.

19 Q. And the components of quality score shown here?

20 A. Again, the blue is relevance and the green is the
21 collaborative, in this case click-through rate.

22 Q. And are they combined?

23 A. They are, indeed, combined, if you put in the quality
24 scores, the combination thereof.

25 Q. And, again, the quality score is what type of variable?

1 A. It is a rating which you -- eventually filter is based
2 on.

3 Q. So we've seen the combination of content and
4 collaborative but we haven't seen filtering. So I'd like to
5 pull up PX-338. What document is this?

6 A. This is a document you showed earlier. This is an
7 external document.

8 Q. Dose this document show filtering based on quality score?

9 A. Yes. If you see here in the purple, it says, "How does
10 quality score affect you," i.e. when you've computed it.
11 Well, the "Ad auction eligibility: Higher quality scores
12 makes it easier and cheaper for a keyword to enter the ad
13 auction." And, "Your keyword's top of the page bid estimate:
14 Higher quality scores leads to lower top of the page bid
15 estimates." Basically it says, if you're not good enough,
16 you're not going to make it through. So that's a filter.
17 You basically eliminate poor quality ad, i.e., keep the
18 higher quality ad.

19 Q. And, again, Dr. Frieder, whose documents is this?

20 A. This is Google's document.

21 Q. Now, this is the high level document, right?

22 A. Correct.

23 Q. Is this the only evidence that you have based your
24 conclusion of infringement on?

25 A. Absolutely not.

1 Q. So why don't you describe for the jury, before we finish
2 the summary of your opinions, what else you have looked at to
3 conclude infringement?

4 A. So I did look at the high level documents, those
5 documents which a Google provides its customers to educate
6 them so they know how to make a good ad. I did look at the
7 Google internal documents, which are for internal use only.
8 I listened and read the deposition testimony, including the
9 ones you looked at, part of. And I have actually looked at
10 the underlying source code.

11 The source code is really what makes a computer run.
12 The bottom line is there is no misinterpretation. The
13 computer runs source code, and I looked at the source code,
14 and they all match the same statements.

15 Q. In your opinion, do you believe that Google high level
16 explanation of the quality score, how it's determined and
17 what it does with it, is accurate in view of the source code
18 and other evidence?

19 A. They all match the same. The Google high level documents
20 are clearly accurate.

21 Q. In your view is there any problem as a computer scientist
22 describing complex source code in English?

23 A. Routinely, we describe source code in many different ways
24 because source code covers an intricate details. They are
25 not necessarily an issue for the concept. They are just the

1 intricate details. So what you try to do is you try to make
2 it at the level that people understand because something --
3 you cannot read in great, great, great minutia and have an
4 overall picture. So basically what you do is you describe a
5 lot of it in diagrams, you describe a lot of it in
6 explanation English, you describe a lot of it in various
7 different forms to represent algorithms. So it's common
8 practice.

9 Q. And in your view scientists are capable of describing
10 those in an accurate way, even at a high level?

11 A. Oh, absolutely. We do it all the time.

12 Q. Thank you for that summary, Dr. Frieder. I'd like to now
13 walk you through the '420 and '664 patent to provide a
14 tutorial for the jury, and after that we will talk about
15 AdWords, to also give them a tutorial about the AdWords, and
16 then we will move on to your infringement analysis.

17 Before we jump to the detailed testimonies, I'd like
18 to have PX-24 pulled up in claim 5. Were you in the court
19 for opening, Dr. Frieder?

20 A. I was for both the plaintiff and for the defense, yes.

21 Q. Did you hear Google say that the '420 and '664 patents
22 didn't relate to advertising?

23 MR. NELSON: Objection, Your Honor. This is beyond
24 the scope of his report.

25 THE COURT: Well, let's put it this way. Let's see

1 where the question -- let' see what opinion he is going to
2 give. The opinion cannot be beyond the scope of his report.
3 I don't know whether your question is going to take him
4 beyond that or not. But the opinion cannot be beyond the
5 scope of his report. If that is where your question is going
6 to take him, then I'll sustain objection. I don't know where
7 your question is going to take him.

8 MR. CIMINO: We are going right to his analysis of
9 the patent, Your Honor, in his report, and we will hear more
10 about it later.

11 THE COURT: Okay.

12 BY MR. CIMINO:

13 Q. So you heard that statement, Dr. Frieder?

14 A. Can you repeat it, please?

15 Q. Sure. Did you hear in Google opening that the patents
16 didn't relate to advertising?

17 A. Yes, I did.

18 Q. In front of you is claim 5 of the PX-2, the '664 patent.
19 Can you read the claim for the jury?

20 A. "The search system of claim 1 wherein the filtered
21 information is an advertisement."

22 Q. Do you believe that the '664 patent, in view of claim 5,
23 relates to advertising?

24 A. Oh, absolutely. They have a claim. It's an invention,
25 so there is no doubt it covers advertising. It covers more

1 than that, but it covers advertising.

2 Q. Is this one of the claims that you believe that I/P
3 Engine has asserted is infringed by Google?

4 A. This is the one that they -- one of the claims that I/P
5 Engine has asserted against Google, yes.

6 Q. Okay, thank you. Can you please go back. Dr. Frieder,
7 we have up on the screen PX-1, PX-2. The jury has seen both
8 of these before, but maybe you could just give a quick
9 explanation.

10 A. This is basically the two patents in this case. They are
11 numbered '420 and '664. They have different names, but they
12 have the same inventors. So this is just basically a cover
13 page of the both of them.

14 Q. Do they have the same technical descriptions?

15 A. They have identical technical descriptions.

16 Q. What is different about the two patents?

17 A. They have different claims, and therefore they have
18 different inventions.

19 Q. Okay. We've talked about content and collaborative
20 analysis in general. I'd like for you to discuss what the
21 patent says about content and collaborative filtering for the
22 jury.

23 A. This is straight out of the patent. Best way to define
24 it again, I color coded it.

25 THE COURT: Which patent are you talking about,

1 Doctor?

2 THE WITNESS: They are the same.

3 THE COURT: Okay.

4 THE WITNESS: "Content-based filtering is a process
5 of filtering by extracting features" -- and I will talk about
6 features later on -- "from the informon, e.g., the text of a
7 document, to determine the informon's relevance." So it is
8 an example of a text, it could be advertising, anything. A
9 text document is the easiest example. "Collaborative
10 filtering," which is green, is, "on the other hand, is the
11 process of filtering informons, e.g., documents" or
12 advertisements as it's in the claim, "by determining what
13 informons other users with similar interests or needs found
14 to be relevant." This is straight out of the patent.

15 BY MR. CIMINO:

16 Q. Dr. Frieder, the collaborative filtering, the green part
17 mentions user with similar interest or need. How can user
18 have similar interest or needs?

19 A. Well, if you issue a query for grills or for television,
20 you are looking for television. That is your interest or
21 need.

22 Q. And how does someone else looking for television make use
23 of collaborative data?

24 A. Well, people have actually looked at and they have seen
25 ads from Sony that basically they really like. You still --

1 I think Sony still produces television sets. But if they
2 click it many times, that's probably a good thing for
3 collaborative. So that would be a good rating, even if it
4 didn't say TV on it.

5 Q. Okay. Thank you. This is Figure 9 of PX-1. I was
6 wondering if you could walk the jury through the invention
7 using Figure 9, PX-1. So, first of all, what is Figure 9?
8 What is it showing?

9 A. Figure 9 is the general architecture of the patent. This
10 is basically, we were talking about diagrams to try to give a
11 general impression. This is a diagram to describe the
12 general process of the entire patent.

13 Q. Have you simplified this diagram for purposes of
14 explanation?

15 A. I try to simplify everything, yes.

16 Q. Okay. Here is PDX-065. Can you explain what you are
17 showing here and what you intend to do with it?

18 A. What it is, I'm showing you the flow of how the patent
19 discusses things to be processed in the context of the
20 invention. So if you were to type in "grill," you press go,
21 grill is entered in the system and it comes to a staging
22 processor. So now we have entered it in, the user typed
23 grill, it is entered, received inside the system.

24 Q. What happens next, Dr. Frieder?

25 A. So what happens next is that basically looks for or

1 searches -- it basically looks for information on a network
2 to find -- to find informons. In this case informon is being
3 an advertiser, and we use the word "grill," so it is looking
4 for informons which are catted informons, not necessarily
5 good ones. But catted informons have the word "grill" --
6 associated with the word grill.

7 Q. Doctor, you used the word informons. I believe there is
8 a little bit of discussion about that by Mr. Lang, but maybe
9 you could explain for the jury what informon might be or used
10 in this drawing?

11 A. Well, first, let me give you what the Court defines
12 informon.

13 Q. That is a good answer.

14 A. The Court defined informon is an information entity or
15 potential or actual interest to the individual/first user.
16 Basically, it's anything you are looking for; it can be an
17 advertisement, it can be an article, it can be a picture. It
18 is an item that you are actually looking for, and who's
19 looking for it? It's an individual or some user that is
20 looking for it. So that is what is actually -- it is an
21 actual interest to that user. That is an informon.

22 Q. Okay, Dr. Frieder. So we are over here in the orange
23 section, what happens next?

24 A. Okay. So now you found potential -- you found potential
25 ads, and it is brought back in, and now you actually have to

1 get them evaluating, some processing, and we send it to the
2 heart and soul of the system. This is the heart and soul
3 basically of the system.

4 This is where you actually do the combination, you
5 actually do the content, evaluation, do the collaborative,
6 input is taken into account. You basically evaluate and you
7 actually get a score. So you're now going to evaluate each
8 of the ads to find out if they are good or bad, i.e., what is
9 their score, what is their rating that you are actually going
10 to use? What is your predicted rating for them?

11 Q. And you are talking about this search for term processor,
12 which I see in the faded out 48C?

13 A. I'm talking about 48C. I'll give you a greater detail in
14 a few minutes, but for now this is all I need, yes.

15 Q. Okay. You mentioned after search return processor you
16 return the score. What is this?

17 A. This is what I mentioned to you is the rating. This is
18 the complete rating predictor. You don't know if it is going
19 to be good or bad, you are just predicting that it is going
20 to be good based on the information that you have.

21 So this is a score or rating or evaluation or a
22 goodness factor, any word you want to use, of how good is
23 your ad to that query that you issued. So now you have to
24 make sure that it is actually good. So now you are going to
25 have to actually filter it because you don't want things that

1 are bad to get through. Because if you see get bad results,
2 the user is going to get frustrated and not interested in
3 looking at it.

4 Q. Well, Dr. Frieder, just one point of clarification. Here
5 the informon, is this a single informon being processed at
6 the return processor?

7 A. No. No. Every informon that was selected is evaluated
8 to make -- to get a score, to get a rating so that you can
9 actually decide if it should be good or not.

10 Q. So many are being processed at the same time?

11 A. Oh, many, many, many.

12 Q. Okay. And then what happens next?

13 A. Then they get evaluated. Right. So they basically go
14 through a filter to find out to get rid of things you don't
15 want. And that is why I picked this color purple because now
16 they are actually running through and they've filtered out
17 those that you don't want. So now what is left is the
18 results, and those are the good results. But it is kind of
19 fun unless I show it to the people. So now I show it to the
20 people.

21 Q. And what's the return back on the computer?

22 A. What is returned -- what the user gets are the actual
23 good, high quality, highly rated filtered-out ads that
24 actually match the user's interest.

25 Q. Dr. Frieder, would all the ads or the score to the best

1 highest scores make it through the filtering process here?

2 A. No, no, no. Basically, what you are doing is the ads
3 that meet a certain criteria, so if the criteria has 10 or 5,
4 all those ads that have gotten at least a score of 5 or 10,
5 whatever number you use, will get through. It may be a lot
6 of them. It may be none of them. It is -- you don't know
7 how many are going to get through. It is a question of how
8 good -- how many pass your threshold.

9 Q. So with the query going into the I/P patent's processor,
10 you could end up with no search at all?

11 A. If you didn't have any good results, you -- it is better
12 to not have any results at all than have poor results. So,
13 yeah, you could imagine you will not get any results in some
14 conditions.

15 Q. That is all based on the filtration or filtering level?

16 A. It is based on filtration that is -- that uses the
17 combination of content and collaborative put together in
18 response to the search, yes.

19 Q. Okay. Let's take a closer look at what you mentioned,
20 48C here. I believe there is text from the patent here that
21 relates to 48C. Could you explain that for the jury?

22 A. Yeah. Basically, I needed to explain to you what 48C
23 actually did. I just gave you a very high level. I need to
24 explain more. And the best way to find out is basically you
25 look where it says. If it includes an informon rating

1 system, which is like that of Figure 6, and that will be
2 containing content-based filtering and collaborative rating
3 data. So the best way to explain, just pull up Figure 6.
4 Could you please pull up Figure 6.

5 Q. Yeah. Sure. Is this the figure you are referring to,
6 Dr. Frieder?

7 A. This is Figure 6, yes.

8 Q. So what does the patent say about Figure 6?

9 A. Okay. The patent, it is a long, lengthy discussion. It
10 is a detailed discussion, but I'm not going to get into the
11 great details. But what I am going to tell you is that you
12 see I highlighted, "This combination function can be from a
13 simple, weighted, additive function to a far more complex
14 neural network function."

15 Basically, the bottom line is it can be very simple
16 things like an average of two scores, or it can be a very,
17 very, very complicated and machine learning algorithm to
18 process it. But I'm not going to go into great detail or
19 explanation, sufficient to tell you is, as it says, just a
20 simple way to, additive function or just use an average from
21 my explanation.

22 Q. Thank you. Before we talk about some of these boxes on
23 here, Dr. Frieder, what type of drawing is Figure 6? What is
24 this used to represent?

25 A. It's in the architectural diagram. It's of -- it's a

1 process, basically, the system is actually doing. It is a
2 way of describing the actual implementation of this
3 combination.

4 Q. And how would that actually be implemented in a real
5 machine or a real system?

6 A. Oh, it will be -- you have to write source code for it.
7 It looks easy, but it's not easy. This -- the reason we use
8 diagrams is because we can explain them in a way that people
9 can understand. And that's why it looks that way.

10 Q. Okay. So let's take a look at boxes -- some of these
11 inputs here, Dr. Frieder. Box 405 and 410 that go into this
12 Figure 6. What is what is called structured feature
13 information, 405?

14 A. Okay. So structured information, as I previously stated,
15 it's things like authors or sources or other features that
16 are basically structured and organized. It is content.

17 Q. And what about UFI 410, what is that?

18 A. UFI 410 is basic things like -- it could be unstructured
19 feature information, things like words or phrases or concepts
20 of that nature. It is like what is content. As you can see,
21 I marked them both in blue.

22 Q. And those are inputs into Figure 6?

23 A. Those are the inputs. The way you should read Figure 6
24 is there are arrows. Anything that you start with, that
25 didn't have a starting arrow from it, that is where you are

1 entering things in. So if you look at the left -- right now
2 let's look at 405 and 410, the things that are highlighted.
3 Those don't have arrows coming in them. So that is where you
4 actually start the input, that is where you are feeding stuff
5 into the process.

6 Q. Okay. Still on PX-1, Figure 6. What is the
7 collaborative input box here, which is referred to as 415 of
8 Figure 6?

9 A. Okay. So these are just basically the collaborative
10 input. It is basically, as it says here, the interestingness
11 of the ads of what other people have saw. So this is the
12 collaborative part, and as I do, I made it in green.

13 Q. And that is another input in Figure 6?

14 A. That is another input because, again, it doesn't have any
15 arrows coming into it.

16 Q. I understand you prepared a demonstration to show how
17 Figure 6 might work?

18 A. Yes, I did.

19 Q. Can you please describe what you're going to show?

20 A. I'm going to show you how basically to integrate the
21 content and the collaborative of the ads in this invention.
22 I'm not going to use both the unstructured and structured box
23 because then it gets kind of cluttered. So I'm only going to
24 use the top structured box for the content, and I'm going to
25 use the collaborative box for the collaborative. And the

1 best way to explain it is to show you step by step. Could
2 you, please?

3 Q. Sure. What is this?

4 A. This is the content data, right. So we have this content
5 data, and now we are evaluating how good it is. Next button.
6 So we evaluate how good it is. Then we got a score. We got
7 a score of 7. 7 is a score out of 10. So we will use the
8 scale 1 to 10 for easy explanation. So this is a pretty good
9 document. 7 is not bad. So the content scores, we like it.
10 Okay.

11 Q. What do you have down here, Dr. Frieder?

12 A. Now we've got the collaborative information. Well, we've
13 got that same collaborative information on the query so --
14 and the ad, so let's see how it goes, what its score is.

15 Q. Okay. And what's its score?

16 A. So it's score is a 5, not quite good enough, but if you
17 combine them, you get a score of a 6. So if they are
18 basically with a threshold of 6, this document would go
19 through, this advertisement would go through, because the
20 overall complete rating predictor is a 6. It is a threshold
21 of the 7, it wouldn't go through. You should know that the
22 structured piece is always good enough but the collaborative
23 piece influence it, but it can influence it far more. Go
24 please to the next one.

25 Q. What is this, Dr. Frieder?

1 A. Okay. So this is basically an example of -- let us
2 assume that 7 is your threshold, it's your filter criteria.
3 So if you look here, you could have a content score of 5;
4 namely, the document didn't have any times we could use the
5 word "grill," just a few. It isn't good enough to get
6 through because you need a score of 7 to get through. But it
7 turns out that it talks a lot about various good grills that
8 are for sales and different option of them, just doesn't use
9 the word "grill."

10 But people find it really interesting, so they had a
11 very high collaborative score. So the score here is a 9.
12 And when you average the two of them, you get a 7, the 5 plus
13 9, divided by 2 is 7. But if you only have the content
14 piece, even though it is a great ad, you wouldn't get through
15 because the problem is, is that you need a score of a 7, and
16 you didn't have it. But the good collaborative piece
17 combined together actually got to so that it would go
18 through. And that's the ad you do want because it is not so
19 bad.

20 Q. Let's take a look at the flip side. What is this
21 demonstration showing?

22 A. Okay. Now you're going to go to the extreme. What if
23 somebody, I was talking to you about the spam ad, you know,
24 that basically put a lot of grill, grill, grill, but it was
25 actually a sweepstake thing that you really didn't want.

1 Well, the computer is not going to know that. It has the
2 word "grill" many, many times. So the computer is not going
3 to know that.

4 On the other hand, you, the user, oh, yeah, you
5 would know that. You would say that is not what I want. So
6 your content score would be a very high score because it used
7 the word "grill" many a times. But your collaborative score
8 would be very low because nobody wanted it.

9 So even if you average the two of them together, as
10 you see here with the 5, it's not going to make it through.
11 So the fact is that the low collaborative score prevented the
12 spam ad from going through. And this is, of course, if they
13 switch the numbers around, as well, but this is just an easy
14 example to kind of illustrate the point of this notion.

15 You see this 5 at the end. That is basically, as
16 you see here, to the right of it is called complete rating
17 predictor. That is the score. That is the rating predictor.
18 It is a predictor because you don't really know how it's
19 going to do, but you have a good indication, you can predict
20 it, so hence the name complete rating predictor.

21 Q. Dr. Frieder, this is a pretty simple example. Is this
22 how it would work?

23 A. That is a simple example so I could illustrate it. It
24 is very, very difficult to implement this. It takes
25 significant effort. But I just -- my point was just to

1 illustrate, to explain how it worked. You should not take
2 away the point that it is an easy thing to do. It is very
3 difficult.

4 Q. Figure 6 is an important part of the '420 and '664
5 patent?

6 A. Figure 6 is the heart and soul, because what happens here
7 is the entire invention, you did this because you did a
8 search. You got to here because you started the search. You
9 had the yellow. You here are combining the content, which is
10 the blue, and the collaborative, which is the green, and
11 you're getting a score, a complete rating predictor.

12 Now what you are still missing is the filter, but in
13 order to filter on the combined, you needed to get the
14 combined. So this is the heart and soul of the invention.

15 Q. So after the processing Figure 6, you would do the purple
16 result filtering stage you talked about with Figure 9?

17 A. If you don't do the filtering stage, then you're not
18 doing the invention.

19 Q. Okay. Thank you for that explanation of the patents,
20 Dr. Frieder. Why don't we switch over and talk a little bit
21 about whoever. What is on the screen is PDX-074. It is a
22 Google webpage. Can you explain to the jury what is
23 advertisements we are seeing accused here and what is not?

24 A. Sure. The orangey -- I guess it is orange -- the orangey
25 section, that is standard results. It uses the famous Google

1 algorithm that were developed for the web environment, and
2 it's nothing to do with what we are talking about.

3 The green, the green section is -- those are
4 advertisements. That is actually what we are talking about.
5 That is what this whole case is about.

6 Q. So do you accuse the part in the red of infringement?

7 A. Oh, it is red? No, I did not accuse the part in the red
8 of infringement at all.

9 Q. How about the green?

10 A. The green I do accuse.

11 Q. That is what we are focusing on?

12 A. That is exactly what we are refocusing on.

13 Q. And it's the processing that presents the ads?

14 A. It's what selects the ads in response to the search
15 request that we were focusing on, yes.

16 Q. Okay. This is PX-228. Can you identify this document
17 and tell the jury what it is?

18 A. This is a Google document. It's a Google internal
19 document. This is a document that they use internally for --
20 to educate people inside.

21 Q. What do you mean educate people inside?

22 A. The people from Google need to know how the ad systems
23 work, right, for people that are working on it. This is the
24 document that has this -- internal use only.

25 Q. And you show many pages here. I assume it is a long

1 document?

2 A. It is a very long document. Basically what you see here
3 is this document really has only one main goal, and the whole
4 goal of ads quality is pretty simple. They say it right up
5 front. "Our motto is: We want our users to love our ads."
6 Because they need the users to love their ads so they would
7 click it.

8 Q. And what's the significance of clicking the ad?

9 A. If they don't click the ads, Google doesn't make any
10 revenue. The significance of clicking ads is making money.

11 Q. Okay. Let's take a look inside the document,
12 Dr. Frieder. Here is Pages 2 and 3. What are we looking at
13 here?

14 A. This is the overall architecture of the Google system --
15 sorry, of the ad system. And so what you have, you will see
16 in microscopic font the steps. This is all coming from their
17 documents. I'm going to walk you through this document. I'm
18 going to explain step by step, but I'm going to make sure the
19 steps are easy to read. Go ahead. Can we continue?

20 Q. Okay. So just before you do that, there are seven steps
21 in the diagram and seven in the text?

22 A. That is correct.

23 Q. And are you going to go step by step with Google's text
24 as you walk through the diagram?

25 A. That is correct. This is -- the text I'm using is the

1 text that's in the document. It is not my text.

2 Q. And, again, Dr. Frieder, have you added to this diagram
3 for simplicity of understanding?

4 A. I colored and I provided some animation to it so I can
5 walk through so you can see where I'm looking at. But I'm
6 going to be using the actual steps that are in the document,
7 and the figure itself is the figure from the document.

8 Q. Okay. Let's walk through it. How about we start with
9 Step 1.

10 A. Well, Step 1, as it says, starts with the end users when
11 they enter a search query. Again, you've been using grill,
12 I'll continue using grill. So now the user entered the word
13 "grill" and send it off to the system. Why don't you click
14 it.

15 Q. And what happens at step 2?

16 A. So now basically the Google web server, basically it's
17 interacting with you, interacting, getting information from
18 the web, basically takes and receives the grill, and then it
19 says -- and it says, "Receives the query and passes the
20 request to the AdMixer." So now go ahead, press that so we
21 can see it.

22 Q. Okay. Before we do that, Dr. Frieder, is the text on the
23 right side your summary or is that a literal from the
24 document itself?

25 A. The entire text I'm using here, none of it is mine. It

1 is straight from the document itself, so.

2 Q. The Google words?

3 A. These are Google's words.

4 Q. Okay. Step 3. What is Google saying happened in step 3?

5 A. Well, okay. So it basically says, "The AdMixer selects
6 ads to display with the search results. The request is
7 passed to the ad shards where the first levers are applied."

8 Basically, what it is going to do, it is going to
9 find candidate ads, and it is going to make sure that only,
10 only good ads continue on to the next page. And what you see
11 here is, where it says levers, these are controls that
12 basically limit the number of ads to come up or to not go.

13 What it is, is it basically says a certain
14 threshold. If the threshold is met, then you are allowed to
15 continue. If the threshold is not met, then you are not
16 allowed to continue; therefore, you are not good enough. The
17 rating isn't good enough so why don't you send it to the ad
18 shards, please.

19 Q. Before you read it, can you explain what ad shards are?

20 A. Sure. And I wasn't going to read this whole long thing.
21 What ad shard is basically a place that they store
22 advertisement. The name is changed. And you saw some of the
23 new names in the video that you saw, the testimony that you
24 saw today. But basically it is where they store their
25 information, and what they do there is they actually target

1 for it, i.e., they find that information. Their words,
2 targeting. But they don't want -- there is a huge number of
3 ads. I mean, the Google has an exorbitant number of ads, and
4 obviously they only want those ads that are reasonable.

5 So -- and more so -- and even for certain words,
6 they are going to have a lot of them still. But what they
7 want is to be able to get only the really good ones to
8 continue the processing. So what they do is they disable,
9 and you see that I highlighted the word "disable" in red.
10 And what it says in their own words, "In the disabling phase,
11 we filter out inferior ads based on the quality score."

12 So what they do is the quality score already
13 explained how it is calculated, and now they basically filter
14 based on it. So this is what they do.

15 Q. Dr. Frieder, in your view is disabling the same as
16 filtering in this patent?

17 A. They say in disabling phase, we filter out, so
18 absolutely, yes.

19 Q. And what is meant here by quality score?

20 A. The quality score we discussed before. It is a rating.
21 It is an indicator of how good something is.

22 Q. And, again, this is an internal document?

23 A. This is an internal document, yes.

24 Q. Okay. What happens next?

25 A. Okay. So now we are going to try to get the better ads

1 to stay. What we are going to do is we are going to again
2 compute a rating score. This is a rating score called a
3 predicted click-through rate. They will use predicted
4 click-through rates throughout. They sometimes refer to as
5 quality score, sometimes refer to as quality score 2. They
6 use many different names. As was stated in the video you
7 heard, they use many different names.

8 But this is a rating score, and what they will do is
9 they will actually have a rating score computed based on the
10 click through, based on information that they stored, and
11 basically based on a content information that they have. So
12 they are going to have a score, and they are going to
13 generate the score, and the score is called a predicted
14 click-through rate in this case.

15 Q. So the predicted click-through rate will be the
16 combination of information?

17 A. The predicted click-through rate is a score indicating
18 the combination of that information, that's correct.

19 Q. Okay. What happens in step 6?

20 A. In -- I was waiting for the thing to go down. In step 6
21 they have two more steps to filter out poor ads. One of them
22 is called promotion, and one of them is called disabling. If
23 you remember the home page I showed you, the page I showed
24 you, the result page, it had ads on top and it had ads on the
25 side.

1 Well, promotion is basically a filtering step to
2 make sure that only really, really good ads actually appear
3 in the top slot. So basically what it is, is a filtering
4 step to prevent ads that aren't very, very good from
5 appearing in the top.

6 They also have another filtering step, and that is
7 called disabling or abling tool. And what this is, is
8 basically like the other disabling, this disabling is
9 preventing you from having the other -- from having not high
10 quality ads that may not be good enough to get into the top
11 but that can still be good enough to display, making sure
12 that only those that are good enough to display are
13 displayed.

14 So, again, they are disabling or they are filtering,
15 and basically what it says here, the ads that fall below the
16 minimum broad utility or minimum extracted, MU, it says
17 either score. They are getting rid of those that are not
18 good enough, i.e., they didn't meet those thresholds. So,
19 again, they are filtering there.

20 Q. Before we get to the results, Dr. Frieder, is there any
21 variable that is used for disabling?

22 A. They use what is called an auction pCTR, auction
23 predicted click-through rate.

24 Q. And would that auction predicted click-through rate
25 include information about content and collaborative?

1 A. That predicted click-through rate has a need to combine
2 both content and collaborative, yes.

3 Q. And how about for promotion? Is there a rating variable
4 that's used there for that process?

5 A. They use auction -- they use auction predicted
6 click-through rate, as well.

7 Q. Predicted click-through rate there also?

8 A. Yes, they do.

9 Q. And what goes into predicted click-through rate?

10 A. The content information, and measures the -- evaluate the
11 content and measures and evaluate the collaborative
12 component.

13 Q. And what about the last two things here, rank and
14 pricing, what are those?

15 A. Okay. You don't get to those if you don't have any ads.
16 What ranking does is ranking basically tells you how you
17 place and which order to place it. You will see what I mean
18 in a second. But when you get a result, you get it in a
19 certain ranked order. But if you don't get any good results,
20 i.e., if you filtered everything out, you are going to get
21 nothing. So by the time you actually get to ranking, you've
22 actually gotten to the state that you've actually done the
23 evaluation that I discussed previously.

24 But ranking is just a measure of organizing the rank
25 of it, and pricing is basically how much it is going to cost.

1 But, again, you don't get that unless you do it.

2 Q. Back to the promotion, Dr. Frieder. The passage that you
3 talked about says, "The promotion function determines which
4 ads, if any, are eligible for the top slot." How do you get
5 to filtering from that language?

6 A. Well, an eligibility means that you have to meet a
7 criteria. So there is no doubt that they have to basically
8 make sure that you're eligible, i.e., you've met a certain
9 criteria. Same as if you basically said that you need to
10 be -- you need to come here by a certain time. If you don't
11 make it by a certain time, you don't come in.

12 Q. Okay. So disabling and promotion happens and you end up
13 with results; is that correct?

14 A. Disabling promotion, I might have ended up with results.
15 I might have ended up with nothing, because if they didn't
16 meet a certain criteria, I didn't end up with anything.

17 Q. And what happens in step 7?

18 A. Step 7 basically means I'm going to actually give you the
19 results. I mean, the whole thing is kind of meaningless if
20 you don't actually get the actual result. So now we actually
21 got the good, high quality results, which I show as being
22 filtered because they are purple, and basically it is going
23 to display it to the person. So if you click it one time,
24 you have the display to be used.

25 Q. Thank you, Dr. Frieder. This explanation of steps 1

1 through 7, did you get any additional confirmation anywhere
2 in the evidentiary record that this was the way it works?

3 A. Oh, I've heard, I've seen documents -- I've heard -- for
4 sure, I have heard testimony on it from Google's own people
5 as to how this operates.

6 Q. Did you attend any of the depositions in this case?

7 A. I went to California. I attended Bartholomew Furrow's
8 deposition.

9 Q. Why did you attend that deposition?

10 A. Because he was going to discuss it in detail, and I
11 wanted to hear from with own ears and to hear and to help
12 find out the true essence of how it works, and I knew he knew
13 it, and I basically figured it was an opportunity to actually
14 get it directly from the person who really knows it.

15 Q. I think the jury heard from the testimony from Mr.
16 Furrow today. Does that help you confirm that these process
17 steps that take place here are correct?

18 A. Oh, he went and explained it verbatim, as you saw in
19 the -- nearly verbatim, as you saw in the video.

20 Q. Dr. Frieder, you mentioned -- yes, Your Honor?

21 THE COURT: Hold that thought. We are going to take
22 about a 10- to 15-minute break, and we are going to come back
23 and go for another 45 minutes.

24 All right. All rise.

25 (Recess from 3:58 p.m. to 4:18 p.m.)

1 THE COURT: Let the record reflect that all jurors
2 have returned to the courtroom. Do you agree?

3 MR. CIMINO: Yes, Your Honor.

4 THE COURT: All right. You may continue where you
5 stopped.

6 MR. CIMINO: Thank you, Your Honor.

7 BY MR. SHERWOOD:

8 Q. Welcome back, Dr. Frieder.

9 A. Welcome back.

10 Q. I think before we took a break you were discussing how
11 AdWords worked, and I believe we just walked through the
12 seven steps for AdWord?

13 A. That is correct.

14 Q. Okay. You mentioned during the description of the steps
15 for disabling round two, shown here on the right-hand side of
16 PTX-084 and the promotions and use of the predicted
17 click-through rate?

18 A. I asked to go back to step 6.

19 Q. Yes. The disabling round to promotion by step 6. You
20 mentioned predicted click-through rate?

21 A. Correct.

22 Q. How at all does predicted click-through rate, predicted
23 click-through rate relate to quality score?

24 A. They are basically the same. A quality score is -- may
25 have some additional components there depending on which

1 quality score they refer to, and they -- and people in
2 Google, as you heard from the Furrow's testimony, used a
3 different name. But basically it's a component. It is the
4 same. For our purposes it is basically the same.

5 Q. And what type of variables are those again?

6 A. Well, they are rating indicators. Again, if you
7 basically have a high score, and you basically are good to
8 go, i.e., how you pass the threshold, if you have a low
9 score, then you basically get removed, filtered out.

10 Q. Okay. So after viewing or walking through AdWords, do
11 you -- have you been able to detect any meaningful
12 differences between AdWords and the claims of the I/PE
13 patent?

14 A. No.

15 Q. Okay, Dr. Frieder. Now that we discussed the patent, the
16 score of that and we discussed AdWords, I'd like to walk the
17 jury through your infringement analysis.

18 A. Okay.

19 Q. So let's start with claim 10 of the '420 patent shown
20 here at PX-1. Can you describe for the jury what claim 10
21 is?

22 A. Claim 10 basically has, as you see here, has four
23 components. It basically, the environment that it is in, is
24 a search engine system comprising, and basically what it
25 requires is four steps. It requires the scanning of a

1 network to make a demand search for informons relevant to the
2 query; namely, got to search for something, and it's got to
3 be relevant to the query. It has a blue step, which is a
4 content-based filter, and what that simply says is to make
5 sure that you have a mechanism that basically does content
6 matching, i.e. the query and the ad text relevant to each
7 other.

8 You've got the green component, which is the
9 collaborative piece, which is a feedback system. And that,
10 again, has to make sure that it's -- that what people have
11 found, which ads they found relative to that particular query
12 in the past, what they thought of it. And basically you're
13 putting it together in order to filter.

14 So you have a filter, and that filter -- basically
15 you filter it based on the combining the pertaining, i.e.,
16 relevant to your feedback data, from the feedback. This is
17 in the content information that you got before. So basically
18 you have a claim, and you need to have all four of them. You
19 need to have yellow for the search, and you need to have the
20 blue for the content, you have the green for the
21 collaborative, and you need to be able to filter based on the
22 combination of the blue and the green. Without that, you
23 don't have it. And by the way, I'm going to use that color
24 throughout on every claim I discuss today throughout.

25 Q. Thank you, Dr. Frieder. A lot of words here. Thank you

1 for explaining what is in the claim. Can you describe for
2 the jury how you conducted your analysis, the process of
3 doing an infringement analysis.

4 A. Okay. First thing I had to do was obviously read and
5 study the patent. So I read and studied the patent. And in
6 order to study a patent and to study and understand the
7 claims, as the judge asked earlier, he asked me did I
8 actually take -- how did I define the terms that are known.

9 Well, that is actually a pretty straightforward
10 process because they actually -- the Court, the judge,
11 construed what the claims that were being discussed. So
12 either it was agreed upon or was construed by the Court, and
13 therefore all my interpretations dealt with how the Court
14 dealt with the actual claims.

15 So first -- so now that I understood the claims, and
16 I understood the invention, then I looked at all --

17 Q. Dr. Frieder, I'm sorry to interrupt. The claim
18 construction that you are talking about, that is Tab 1 in the
19 juror's notebook? I believe you have a copy in front of you.

20 A. Which one is --

21 THE COURT: Tab 1?

22 MR. CIMINO: Tab 1. It is Tab 1. It is not in
23 there. I thought you had a juror notebook in front of you.

24 THE WITNESS: I don't.

25 BY MR. CIMINO:

1 Q. You have Tab 1 in the sheet of paper in front of you.

2 A. I have -- I have, yes.

3 Q. I will represent to you that that is Tab 1.

4 A. Okay.

5 Q. Is that the claim construction you're talking about that
6 was defined by the judge?

7 A. Yes, it is.

8 Q. And how do you use that document, those definitions in
9 the context of the claim?

10 A. Well, basically if you find a word that the judge
11 defined, for example, informon, so when you read the claim,
12 it says, "Scanning a network to make a demand search for
13 informons relevant to a query." That is part of the claim in
14 there.

15 Well, the judge defined informon as, "Information
16 entity of potential or actual interest to the user." So if
17 you basically look and you see the word "informon," you just
18 plug in that definition. So you define all these words, you
19 just plug into where they fit in this claim.

20 Q. So, Dr. Frieder, when you did your analysis, you compared
21 this claim to AdWords?

22 A. Oh, yeah, to basically -- so basically what I did was I
23 took the claim as defined -- the word substitutions and
24 compared it to the product that's being accused, yes, is what
25 I did.

1 Q. And are you prepared to do that here for the jury?

2 A. I am.

3 Q. Now, I understand that you have some work boards you'd
4 like to use?

5 A. They are over there, actually. Yes, I do.

6 Q. Your Honor, with the Court's permission, we have some
7 claim boards to help Dr. Frieder walk through his analysis.
8 We were wondering if we might be able to set them up for the
9 jury to see and the Court to see?

10 THE COURT: We will set up an easel. You may have
11 to resituate, relocate, Mr. Nelson, so you can see what he is
12 doing.

13 MR. NELSON: Where should I go?

14 THE COURT: Over on the left end of counsel, over
15 near the clock.

16 MR. NELSON: Oh, over here?

17 THE COURT: Yes, sir. So you can see what he's
18 pointing to.

19 MR. NELSON: Okay. Can I get in there or should I
20 stand?

21 THE COURT: If you can get a chair in here.

22 MR. NELSON: There is one right here, Your Honor.

23 THE COURT: All right. Then just pull it up.

24 MR. NELSON: Is this okay?

25 MR. CIMINO: The Court able to see? Is that

1 acceptable?

2 THE COURT: Yeah.

3 BY MR. CIMINO:

4 Q. Dr. Frieder, can you explain what this board is and what
5 you would like to do with it?

6 A. That basically is the -- sorry, that is basically is
7 claim 10 from the '420 patent, and what I want -- what I
8 indicated there is that I actually broke it up into pieces so
9 that basically if you see there is the actual claim written
10 there, and to the end of it, it basically has a Google AdWord
11 count, and basically if I show you, and when I show you, that
12 each item exists, I want you to check off the particular part
13 of that claim.

14 So, for example, if I show you there is a search
15 engine comprising, you will check that off, and so on and so
16 forth.

17 Q. And you seek to put checks in each of the boxes for your
18 analysis?

19 A. If I have all the -- yes, each time I find something, I
20 will put a check. If I don't find it, then you don't put a
21 check.

22 Q. Ad what is your conclusion if all the boxes are checked?

23 A. If all the boxes are checked, then the claim is infringed
24 and the Google ad system, AdWords, basically, infringes the
25 claim.

1 Q. What happens if we go through your analysis and we don't
2 check all the boxes?

3 A. That's a very simple matter. Then the claim is not
4 infringed and Google AdWords does not infringe that claim.

5 Q. You are looking for each element in the accused product?

6 A. All of them have to be checked, yes.

7 Q. What if there is more elements in the accused products
8 and once you already have all the checks?

9 A. It doesn't matter. For the system to infringe, it has to
10 have that four. So as I said, there are four things it has
11 to have, and because it has to have them, those are what I
12 actually expect to check.

13 If you have more than those, it doesn't matter. You
14 can improve upon the invention continuously, but as long as
15 you have those items, then it is basically required to be a
16 check, and it doesn't infringe. More doesn't change that.

17 Q. That is interesting if you have additional stuff or more
18 stuff. Does it matter if there is other patents on the
19 accused product?

20 A. No.

21 Q. Just for all the checks?

22 A. If you have the checks, it fringes. If you don't have
23 the check, it doesn't.

24 Q. So why don't we start and go line by line.

25 A. Okay.

1 Q. So, Dr. Frieder, the first words in the claim 10 is a
2 search engine system. Do you find those words in the AdWord
3 system?

4 MR. NELSON: Your Honor, may we approach, a side bar
5 here?

6 THE COURT: Let me ask you something. Is the
7 opinion he is getting ready to give, is it in his report?

8 MR. CIMINO: Yes, Your Honor.

9 MR. NELSON: This goes to the claim construction
10 issue that we were discussing earlier in the week, Your
11 Honor.

12 THE COURT: You understand what he is talking about?

13 MR. CIMINO: Yes, Your Honor.

14 THE COURT: Ladies and gentlemen, we -- step around
15 here. The two of you step around here.

16 (Side-bar conference.)

17 MR. NELSON: So he is going to offer evidence that
18 he has just described this as an element of the claim and the
19 claim element is met or Your Honor said that you had left
20 open the question that you were going to construe as to
21 whether this preamble, that first search engine system, was
22 an element and so --

23 THE COURT: Okay. The term search engine comprises,
24 because the case law generally provides that the preamble
25 language doesn't in any way limit or define the claim. So

1 instead of starting with the four things that he's checked,
2 you are starting with the preamble.

3 MR. CIMINO: The four, Your Honor, he says that he
4 doesn't believe it to be a limitation but he finds it anyway,
5 and so --

6 THE COURT: Okay. Let me put it this way. In order
7 for him to go through those four components he has to mention
8 that the language starts off a search engine and but his
9 focus is on whether these four elements are here. His focus
10 is on the four elements. But it makes no sense for him to be
11 talking about the four elements without explaining that he
12 starts in looking for these four elements and defined in the
13 preamble. So the search engine comprising of -- and if he
14 has four elements, he has to get to the four elements. What
15 are the four elements related to?

16 MR. NELSON: Well, that is my point about the
17 preamble, is that these are all in the search engine system,
18 which is what their expert argues for invalidity.

19 THE COURT: What does claim 10 say?

20 MR. NELSON: It says a search engine system
21 comprising these four.

22 THE COURT: Composing of what? So he has to testify
23 about the four elements. What you have him do, just testify
24 about the four elements and don't mention that this thing
25 starts in, a search engine comprising.

1 MR. CIMINO: Which would leave an empty box.

2 MR. NELSON: That is up to Your Honor. That is what
3 I'm saying.

4 THE COURT: Well, I'm saying it's necessary for him
5 to at least saying he looked at the preamble and he goes down
6 to these four requirements. The four elements of what he's
7 really focusing on, but it makes no sense for him to be
8 talking about the four elements. That language is part of
9 the preamble language to the claim, and he is simply
10 referencing a search engine comprising these four elements.
11 He is to look for the four elements. I don't know how you
12 get into it.

13 MR. CIMINO: The two comments, Your Honor, when they
14 raised the objection last night, we offered not to do that
15 box if they will stipulate that that is not a noninfringement
16 position. And they didn't want that stipulation. And two --

17 MR. NELSON: Well --

18 MR. CIMINO: Let me finish, please. I let you
19 finish.

20 MR. NELSON: I'm sorry.

21 MR. CIMINO: I took their expert's deposition. They
22 entered a search engine to have the engine to be something
23 special, to have a spider. They were getting spider back in.
24 We moved on it. You granted our motion to take out spider.
25 I got a direct quote from them. This is not an issue of

1 infringement on search engine. All he is saying is he is
2 doing a search. And search is in the claim later, too. It
3 says query all over the place.

4 Well, he also said, when he described it, he says it
5 sets the environment, which is actually the legally --

6 THE COURT: Well, that is the way I'm going to have
7 to take it; otherwise, this is going to make no sense how you
8 even get into discussing the elements.

9 MR. NELSON: No, I understand, Your Honor, and
10 that's -- it really is -- we need the decision on this
11 because what they are doing is that for purposes of
12 infringement, they are saying, well, yeah, this is an element
13 so it doesn't have to be there, or, you know, I say AdWords.

14 THE COURT: The focus is not the search engine. The
15 focus is on those four elements.

16 MR. NELSON: That's right, the focus, but as I said,
17 their invalidity expert, his focus on the obviousness case is
18 the fact that these things are all in one search engine.
19 That is a bit inconsistent --

20 THE COURT: No, his focus has to be on these four
21 elements in the search engine. The elements are the focus,
22 not the search engine, per se.

23 MR. NELSON: Right, but the question is do these
24 four elements have to be in a search engine or can they be
25 anywhere?

1 THE COURT: Well, these four elements have to be in
2 claim, those four elements that the search engine comprise,
3 if that is what claim 10 say. That is what claim 10 says.

4 MR. CIMINO: Our expert put together a big report.
5 He doesn't rely on the preamble as a missing element. There
6 are elements in the body of the claim that say search, demand
7 search, and query. That is what we relies on.

8 THE COURT: All right. What I'm going to do is
9 this, I'm going to have to the overrule the objection;
10 otherwise, it's not going to make any sense. But I am going
11 to make it clear at some point here that that preamble
12 language is in no way determinative of what their claim is.

13 Well, you know, but then that almost makes not
14 sense. Here it says the search engine comprising of, that is
15 what's in the claim. And so you have to look for these
16 elements to determine whether there was a search engine
17 there. Suppose the search engine and you had only two of
18 those elements or six elements? You have to look at whether
19 you're dealing with a search engine comprising these four
20 elements. That is what's in the claim. This is one of those
21 situations where you can't get away from the preamble in
22 order to interpret the claim. How are you going to interpret
23 the claim?

24 MR. NELSON: That is what I think, Your Honor. I
25 think you are exactly right, because otherwise it doesn't

1 make any sense.

2 THE COURT: You can't get away from the preamble in
3 this case.

4 MR. CIMINO: Just walk him through it, Your Honor,
5 but what the defendants are trying to do, and I got it at the
6 deposition, that they interpret engine to be something that
7 searches with a robot or spider or crawler. And we've been
8 through that. We moved on it to limit. You granted our
9 motion, that no more spider.

10 THE COURT: No. No. No. We are not.

11 MR. NELSON: No spider.

12 MR. CIMINO: That is what their expert said.

13 THE COURT: In this case the search engine comprises
14 these four elements. I'm going to have to overrule the
15 objection. I understand where you are going but this thing
16 isn't going to make any sense unless I do overrule the
17 objection. So I will overrule the objection.

18 MR. NELSON: So the preamble is a limitation, then,
19 right, Your Honor?

20 THE COURT: Well, I'm not saying the preamble is a
21 limitation. I'm saying the preamble is necessary here in
22 order to understand exactly what these elements of this claim
23 is. Otherwise, what is he describing?

24 MR. NELSON: Yeah, I agree. And that is -- right,
25 which is why the preamble is a limitation because otherwise

1 the claim doesn't make any sense.

2 THE COURT: Not, I'm not saying it's a limitation.
3 I'm saying that the preamble in order to understand what --
4 what this claim requires -- what is being described in this
5 claim? If I just take a ruler and wipe out search engine, it
6 makes no sense whatsoever.

7 MR. NELSON: Agreed.

8 THE COURT: It makes no sense. So if I do that and
9 say, okay, he can't mention search engine because that is
10 creating a limitation on the claim, then you can't even --
11 makes no sense, you don't know what he is claiming.

12 MR. CIMINO: It makes infringement easier to prove.
13 That is the point.

14 THE COURT: No. I overrule the objection. Got to
15 be exception to it. Objection overruled.

16 MR. NELSON: It wasn't so much an objection as a
17 clarification on our earlier claim.

18 THE COURT: That is why I'm clarifying. We are
19 going to have to do that; otherwise, it makes no sense.

20 MR. NELSON: Right. Understood, Your Honor.

21 (End of side-bar conference.)

22 BY MR. CIMINO:

23 Q. Okay, Dr. Frieder. Where were we? I believe the
24 preamble of the claim, right. So just to get back to where
25 we were, we are going to go through your word board and see

1 if each element it comprise, and if we do find it, what are
2 we going to do to the work board?

3 A. You are going to check it, that box.

4 Q. Check the box. Okay. So the first one is search engine
5 system. Do you find those words in the AdWord system?

6 A. That is the preamble. Basically, you're entering a
7 search. It is obviously a search process, and it is a
8 preamble. It is the environment where you're in. So, yeah,
9 this is the definite search engine environment.

10 Q. And if you have on your screen PX-22, what type of
11 document is this?

12 A. This is a Google internal document, the document that
13 basically describes the Google system for them internally.

14 Q. And is this one place you find evidence for search?

15 A. It is one of the places, yes, absolutely.

16 Q. Okay. So what should I do there?

17 A. Go ahead and check it.

18 MR. CIMINO: Your Honor, may I come in front of the
19 podium and check the box?

20 THE COURT: All right.

21 BY MR. CIMINO:

22 Q. I think Mr. Taylor might need to adjust that. It is a
23 little one-sided. The clip needs to be raised on the left
24 side or the right side. And I think they are uneven also,
25 right there, the clip the board is sitting on. Raise the one

1 your hand is near.

2 MR. CIMINO: Thank you. It is a little crooked.

3 THE COURT: Well, let's leave it.

4 BY MR. CIMINO:

5 Q. Okay. What do we do next, Dr. Frieder? We now have the
6 first box checked.

7 A. Now we need to find a system for scanning a network to
8 make a demand search.

9 Q. In your opinion is that element in the AdWord system?

10 A. Well, in order to understand what it means, the first
11 thing you need to do is actually understand what the word
12 scanning a network is. So -- because that is a term that the
13 Court defined.

14 Q. Do you have the definition underneath of the claim on
15 PDX-089 on the screen?

16 A. Yes. I took it straight out of -- not this particular
17 page, but took it straight out of the Court's construction,
18 yes. What it simply means is, "Scanning a network means:
19 Looking for or examining items in a network."

20 Q. And so what are you looking for? What does this element
21 require to find infringement?

22 A. What it basically says is you have to substitute it in, a
23 system for looking for or examining items in a network, to
24 make a demand search for informons relative to the query from
25 an individual user. And basically what I show you here is

1 that basically we are looking for targeting. So targeting
2 means, it says point blank, is, "Targeting means finding (and
3 disabling) ads that best match the user's query." So by
4 finding, you're looking for. To find you need to look for.

5 Q. There you are reading step four of the PDX-228?

6 A. Yes, I am.

7 Q. And PDX-228 is again a document from whose files?

8 A. Google's files, internal files.

9 Q. Is this one of the advertising, one of the documents that
10 they are advertising or an internal document?

11 A. This is an internal document. It's for themselves.

12 Q. You have a second callout. Can you read that to the jury
13 and explain how that meets looking for or examining items in
14 a network.

15 A. We applied targeting -- I'm sorry. The scanning I'm
16 looking for is the part of the Court's construction.

17 Q. Yes. You have two callouts here. I thought you read
18 one. Did you read both?

19 A. I did read both. Targeting -- this says, "Targeting
20 means finding ads that best match the user's query."

21 Q. Now, in the targeting step, are you finding all the ads
22 that are stored?

23 A. You are finding the candidate ads that are stored. There
24 is a huge number of ads. You are finding a very small number
25 or percentage.

1 Q. So you're not going and getting all of them?

2 A. No, uh-uh. That is why I'm finding them, looking for
3 them. If I were getting all of them, I would just take it.

4 Q. Okay. And you believe that means looking for, examining
5 items in a network?

6 A. It does mean looking for or examining items in a network.

7 Q. Are the candidate ads within a network or are you looking
8 in a network?

9 A. They are scattered on a whole diverse machine. The
10 machines have to be connected together somehow, and they are
11 connected in the network. You are looking for them on a
12 network.

13 Q. And I believe you talked about with respect to the seven
14 steps ad charts?

15 A. Yes. That is one of the names for it. Basically, what
16 it is, is you are -- what you are looking for ad. So those
17 are basically storing all the information, the ads you are
18 looking for there, and there are a network of them.

19 Q. Is there any other process in the scanning AdWord system
20 that looks for or examines items in a network?

21 A. Well, when you actually want to improve -- or when you
22 want to improve the score, you actually could scan the
23 network because you're looking for the landing page quality.
24 So one thing you do, in the document it says, to fully
25 understand the specified page, the system may follow other

1 links on the page.

2 What you are scanning the network by looking at the
3 landing page, the scanning based on the link that I -- that
4 are read in that particular landing page. So that would be
5 another example of scanning a network, yes.

6 Q. And you are discussing here PX-115?

7 A. I'm discussing the Google document PX-115.

8 Q. Is there any doubt in your mind, then, Ophir,
9 Dr. Frieder, that the Google AdWord is a system for scanning
10 a network to make a demand search for informons relevant to a
11 query from an individual user, substitute in the Court's
12 claim construction?

13 A. There is no doubt you should check the box.

14 MR. CIMINO: Your Honor, may I approach the board
15 and keep it standing this time?

16 BY MR. CIMINO:

17 Q. Okay. You have two. The next element on the board is,
18 "A content-based filter system for receiving the informons
19 from the scanning system and for filtering the information on
20 the basis of applicable content profile data for relevance to
21 the query." Can you please explain to the jury what this
22 element is?

23 A. This is simply finding out if your query is relevant to
24 your ad, in terms of the content. And it's a very long
25 worded but it basically if you look at it, that is what it is

1 doing. It is trying to find -- does your query match your ad
2 content, and the system clearly does. In their own words it
3 says, how relevant your keyword is to your ad, how relevant
4 your keyword is to the customer search is for. There is no
5 doubt how relevant in a content search. That is why it is in
6 blue, actually.

7 Q. And, Dr. Frieder, you are talking about PX-338?

8 A. Yes, I am.

9 Q. And what type of document is that?

10 A. That is a Google document.

11 Q. Is this one of the ones they are advertising?

12 A. This is a document for their advertisers, yes.

13 Q. And you have these two bullets here highlighted in blue.
14 What are they used for?

15 A. Their aim is to basically make sure that when you write
16 your ad, it will match better. They are basically a scoring
17 function. They are basically going to be combined later on
18 with a content piece to become a score, a ranking, a filter
19 to be used for filtering.

20 Q. So how do these factors relate at all to quality score?

21 A. Oh, they are part of the quality score.

22 Q. Do they influence quality score?

23 A. Sure. They are part of it. They are part of the
24 computation, absolutely.

25 Q. Okay. So in your view is there any doubt that the Google

1 AdWord system does a content analysis that meets the
2 definition of, "Content-Based filter system for receiving
3 informons from the scanning system and for filtering the
4 informons on the basis of applicable content profile data for
5 relevance to the query"?

6 A. Absolutely not. You should check the board.

7 MR. CIMINO: Your Honor, may I approach the board?

8 BY MR. CIMINO:

9 Q. Okay. The next element, Dr. Frieder, is, "A feedback
10 system for receiving collaborative feedback data from system
11 users relative to the informons considered by such users."
12 What is that talking about?

13 A. That is basically finding what other people have found
14 relevant. Now, this is -- this claim has one of the terms
15 that basically the Court construed. That is why I
16 highlighted in yellow when I plugged it in. Remember what it
17 means if I have one of these is to plug it in to where it
18 fits. So in this case, "Collaborative feedback data means
19 data from system users with similar interests or needs
20 regarding what informons such users found to be relevant."

21 And that is the definition of a collaborative
22 feedback. So what you are looking for is a feedback system
23 for receiving data from system users with similar interests
24 or needs regarding what informons such users found to be
25 relevant, from system users relative to the informon

1 considered such users.

2 As you see, it is in green, and from their own
3 documents, it says, "Your keyword's past click-through rate,"
4 namely, "how often that keyword led to clicks of your ad."
5 That is a function, it's a part of what they are using to
6 calculate the quality score. There is no doubt that that is
7 collaborative.

8 Q. So, Dr. Frieder, you find this additional element in the
9 AdWord system?

10 A. Absolutely. Please check it.

11 MR. CIMINO: Your Honor, with your permission.

12 BY MR. CIMINO:

13 Q. All right. One left. Although I believe this one has
14 two parts?

15 A. Yes, it does.

16 Q. So the element itself says, "The filter system combining
17 pertaining feedback data from the feedback system with the
18 content profile data in filtering for relevance to the
19 query." I see that you have underlined part of it. Can you
20 explain to the jury why part of it is underlined?

21 A. To really parse this, you have to actually look into it a
22 little more. What it says is you need to combine
23 collaborative and content. And once you combine the
24 collaborative and content, you actually have to filter based
25 on that collaborative and content. So you need that score to

1 be able to filter based on it. So what you have here in my
2 figure is I'm showing you the -- from their own document, it
3 says how do we calculate quality score? It says, "Your
4 keyword's past click-through rate," which is the
5 collaborative that is in green, and it says here, you're
6 basically -- how well did your content, that is the parts of
7 their document that I marked in blue. And this is how you
8 calculate the quality score.

9 So right now what you've done is, this is a measure,
10 a ranking, a parameter, an indicator, a -- whatever you want
11 to call it, that basically indicates the goodness of
12 something. And you're going to combine it together and
13 you're going to get a quality score. But that's not enough
14 to check your box yet because you haven't done any filtering
15 based on it. It is just the information that you use to
16 filter based on it. That is why I only underlined part of
17 the claim and not the whole claim, the whole fragment of the
18 claim.

19 Q. What are you showing here, Dr. Frieder?

20 A. Well, this is back to the Fig. 6 that we showed before.
21 This is basically how the Figure 6 actually illustrates, and
22 it states that we should do it. You can see there's the
23 content in blue, the collaborative in green, the combining of
24 it, and the complete rating predictor. Again, you're not
25 knowing how it is going to work. You can predict how it is

1 going to work, so it is a predictor.

2 Q. Dr. Frieder, above Figure 6 you have a small excerpt of a
3 quality score document. What are you going to do with that?

4 A. I'm going to show you how it actually executes in this,
5 what it means it's pertaining to the Figure 6. So how does
6 that match on directly to the figure.

7 Q. So what do we have here?

8 A. So these are the things I cut and pasted before. If you
9 look back in the previous page, this is what I cut and paste
10 before. And basically I'm going to map it on to this figure.

11 MR. NELSON: Objection, Your Honor. Comparing the
12 figure in the patent as opposed to the claim, which we
13 discussed earlier.

14 MR. CIMINO: This was not objected to, Your Honor.

15 MR. NELSON: I objected to the testimony.
16 Infringement analysis is compared to the claim, not the
17 figures in the patent.

18 THE COURT: The Court understood that he was still
19 trying to explain the claims using this as a demonstrative to
20 explain the claim. You've already explained the claim, as
21 the Court understood. He is using the figure to explain how
22 he arrived at his analysis of the claim.

23 MR. NELSON: Right. Now he is comparing the accused
24 product to the figure. That was the reason for the
25 objection.

1 THE COURT: Okay. Is it your intent, Doctor, to
2 compare this figure to the accused claim, or are you using
3 this to explain your analysis of the claim? In other words,
4 are you doing a comparison or are you still trying to claim
5 how you arrived at your analysis of the claim?

6 THE WITNESS: Your Honor, I'm trying to explain to
7 the jury how I actually arrived at my conclusion. This is
8 showing how I'm arriving to my conclusion. This is an
9 explanation of what my analysis is.

10 THE COURT: Okay. The testimony you previously gave
11 about the collaborative feature and the content feature; is
12 that correct?

13 THE WITNESS: That's the same thing, yes.

14 THE COURT: I think the Court has it. The Court
15 overrules the objection.

16 MR. CIMINO: Thank you, Your Honor.

17 THE WITNESS: I can continue?

18 THE COURT: Continue.

19 BY MR. CIMINO:

20 Q. Yeah. So you had three statements from the Google
21 document which you've accused of infringement. One is
22 collaborative and one is content, right?

23 A. Yes.

24 Q. Two of them are content, sorry. So what are you showing
25 here?

1 A. I'm showing that basically the figure requires both to
2 have input to this. It is a collaborative, and input that is
3 content. It's going to move in, it is going to create a
4 score. Move the content and create the score.

5 Q. Okay. Then what happens?

6 A. And then you need to combine them. So basically now I've
7 combined them, and I get an indicator or a quality score. So
8 that is how I now have a complete -- in the words of the
9 patent -- a complete rating predictor.

10 Q. The quality score again is what type of area?

11 A. It is a ranking. It is basically an estimate of a
12 goodness rate of a rating parameter.

13 Q. Okay. So, Dr. Frieder, the previous language you had
14 highlighted combining pertaining feedback data from the
15 feedback system with the content profile data, that is what
16 you were just trying to show?

17 A. That is what I showed. I showed the combining of the
18 collaborative content, yes.

19 Q. And that's step 1 of 2 for this element?

20 A. That's the merging of the blue and the green together,
21 the combining of the green and blue together. That is the
22 first half of this phase of the claim.

23 Q. So no check yet. What do we have to do to get a check in
24 this box, then?

25 A. You must filter based on exactly what you just combined.

1 Q. Okay. And can you point to the jury to what language in
2 the claim makes up that requirement.

3 A. Basically it says here, in filtering each informon
4 relevant to the query. So basically you are combining
5 pertaining feedback data from the feedback, which we just
6 did, and now I want to filter in each informon from our list
7 of query.

8 Q. So we've got combined the rating. Does the Google AdWord
9 system filter based on that combined rating?

10 A. It does, in three different places, independent places.

11 Q. Okay. I'm sorry.

12 A. Sorry. It does in three independent places, yes.

13 Q. Three separate places. So let's first look at PX-228,
14 Page 2. Again, what type of document is this?

15 A. That's a Google document for internal use.

16 Q. And it's a little difficult to read. I hope the jury
17 screens are able to make it out, but why do you believe that
18 there is filtering of that combined information based on
19 what's written here?

20 A. Well, there is two parts I highlighted. The one part I
21 highlighted was disabling, which we are talking about now.
22 It says, "We filter out inferior ads based on the quality
23 score." The quality score we are talking about was the
24 combined information, and we are using the word "filter" so
25 that pretty clear to me that they are filtering based on the

1 combination of.

2 And the second one is basically says, "It takes away
3 bad ads before they reach the AdMixer." Basically, they are
4 making sure that only the good ads actually participate in
5 the auction, because if they are already bad, they are
6 certainly not going to get any better so it's time to get rid
7 of them, so we filter them out.

8 Q. So in describing disabling, PX-228 actually means the
9 word "filter"?

10 A. It says right there, "We filter out inferior ads based on
11 the quality score."

12 Q. And is this talking about the same step when it says, "We
13 filter out inferior ads based on the quality score," is that
14 referring to the same process step as the second callout at
15 the bottom where it says, "Takes away bad ads before they
16 reach the AdMixer"?

17 A. Absolutely. You could check but there is more.

18 Q. So wait to check?

19 A. Wait to check.

20 Q. Okay. Where is the second place where you see filtering
21 based on the buying content and the collaborative
22 information?

23 A. There is another disabling. Sometimes they call it
24 disabling 2.

25 Q. Independently disabling?

1 A. This is a completely separate independent step, but they
2 call it disabling as well. But basically it is disabling 2,
3 and it says here, but suppose the bottom two ads had actually
4 scored below a certain threshold? In that case, they would
5 have been disabling. So basically what that is, is it makes
6 sure that regardless of where you got, you had to pass a
7 certain level, a certain threshold; otherwise, you were
8 filtered out. This itself is another filtration step. But I
9 got one more.

10 Q. And right now we are still referring to PX-228, that's
11 the internal Google document?

12 A. It's in the bottom there listed, yes, 228.

13 Q. Okay. What is the third place where you see filtering?
14 Can you explain that to the jury?

15 A. The third one is the promotion. Promotion basically, if
16 you recall, we had on the ad, we had in the top of the normal
17 results, regular results, we are not accusing but on top of
18 it sometimes you actually have ad, and you have ad on the
19 side sometimes. And what promotion is to make sure that you
20 are eligible, you are qualified, i.e., you pass a certain
21 threshold, and to be able to be allowed to participate in
22 that possibility.

23 So it says here, "The promotion function determines
24 which ads (if any) are eligible for the top slot." So that
25 again is a filtering process. But now I gave you the three

1 so now you can check it.

2 Q. Before I check, the eligible, do you interpret to be
3 filtering?

4 A. Oh, sure. If you're not eligible, you will be removed.

5 MR. CIMINO: Your Honor, may I approach the board
6 final time?

7 BY MR. CIMINO:

8 Q. Okay, Dr. Frieder. We have checked every box.

9 THE COURT: And I think that is where we are going
10 to stop.

11 MR. CIMINO: Okay, Your Honor.

12 THE COURT: And that way you can pick up right where
13 your last check was when you recall him to the stand.
14 Something I want to raise with counsel, so ladies and
15 gentlemen, I want you to come back prepared to go forward at
16 10:00 in the morning. Leave your notebooks. Have a good
17 evening. Do not discuss the case. All rise.

18 (Jury out at 4:58 p.m.)

19 THE COURT: You may step down, Dr. Frieder.

20 THE WITNESS: Thank you, Your Honor.

21 THE COURT: You may be seated.

22 It is clear to the Court that given the rate and the
23 speed at which Dr. Frieder is moving through his testimony,
24 I'm not confident that that schedule we set up for tomorrow
25 morning is going to work, unless you want to just break in

1 the middle of his testimony, because I understood that you
2 were going to try to get all of -- through all of his
3 testimony except for the proprietary part. But I don't see
4 how it is going to work. You tell me.

5 You can move that.

6 The Court is prepared -- if the Court has to post
7 another notice or make an adjustment, it will make the
8 adjustment. But we are going to be in here from 10 until 12
9 tomorrow. How much more time do you estimate even getting
10 through the non-proprietary part of the testimony it will
11 take?

12 MR. CIMINO: There is a short section, so to speak,
13 about some additional evidence to prove claim 10 is
14 infringed, and then there is source code for tomorrow. And
15 then we have to go to the other remaining claims and some of
16 the differences. There is three other independent claims.
17 We could -- this is probably not a bad switching point, Your
18 Honor, to go to source code. It's not set up that way. We
19 could do source code tomorrow, and when we do -- have
20 Dr. Frieder go back to nonconfidential, if it pleases the
21 Court.

22 THE COURT: Go back and pick up with the other
23 claim?

24 MR. CIMINO: Yes, Your Honor, nonconfidential part.

25 THE COURT: If you want to go forward with the

1 schedule, we will come in tomorrow morning and deal with the
2 proprietary as we indicated.

3 MR. CIMINO: I'm sorry. Does the Court have an
4 alternative proposal?

5 THE COURT: No. The alternative proposal is let you
6 finish with him and we simply have to adjust down the court
7 closing. But we have given notice already, so I think we
8 maybe need to leave it alone. The first time we failed to
9 give notice and it jammed us up. So we will stay with what
10 we have.

11 MR. CIMINO: It is a little out of context but I
12 think we can work tonight to make it work.

13 THE COURT: It just means that Dr. Frieder probably
14 won't be back till Monday morning.

15 MR. CIMINO: I understand, Your Honor.
16 Unfortunately, I think he does, too.

17 THE COURT: Okay. Yes, sir.

18 MR. BROTHERS: Your Honor, I'm sorry. I believe the
19 understanding, what we talked about in chambers this morning
20 was, and correct me if I'm wrong, was we are going to be
21 playing the source code deposition testimony. The question
22 was whether Dr. Frieder would then testify about the source
23 code, and then there may be cross-examination on the source
24 code, but then we'd have to go back to his direct, or, you
25 know, direct on Monday, or do we just want to play the

1 confidential information and then -- the question to
2 Dr. Frieder, I guess he could address that on direct because
3 then there would be an issue of the cross-examination.

4 THE COURT: Well, what it means is he will be
5 cross-examined on his testimony on the source code. We are
6 going to have to close court again. That is what it means.
7 We are going to have to close court again and --

8 MR. BROTHERS: The plaintiffs are okay with the idea
9 of limiting the number of closings of the court, even though
10 it's unorthodox, playing the proprietary depositions as
11 Google has identified, have Dr. Frieder testify about the
12 source code, have the very limited cross-examination solely
13 to the source code --

14 MR. CIMINO: Excuse me, Your Honor.

15 MR. BROTHERS: -- and then continue on. Mr. Cimino
16 tells me he doesn't know how that is going to work out.

17 THE COURT: You know, that is too confusing for the
18 jury. It's mighty confusing. What we are going to do is
19 play the proprietary information of the doctor on the source
20 code, and then you can step in and cross-examine, and then he
21 go back to giving direct again and then -- just gets to be
22 totally confusing here.

23 I know it's an inconvenience for the Court, but the
24 Court will do what is necessary to try to cut the confusion
25 for the jury on the way we are putting the testimony into the

1 record here. And so recognizing where I'm now, what I'm
2 suggesting is I may have to give shorter notice than 24
3 hours, but I think what you are going to go ahead and do is
4 just keep pushing till you get down to the point that you put
5 in everything but the information on the source code, and
6 then I just need to get up tomorrow morning and put up
7 another notice and shift this thing, just closing down. I'm
8 doing the best I can, but it is just no way -- that is
9 confusion. That is confusion. So come back in here tomorrow
10 morning. You just keep pushing until you get to the point
11 that you want to take out the testimony about the source
12 code. We will stop.

13 We are going to take the proprietary along with
14 information that he has, and then we can tack on the end of
15 that the cross-examination of him, and then maybe you can sit
16 down and turn it over -- you can sit down or you will be
17 finished with Dr. Frieder. Other than having him get up and
18 cross-examined in the middle of it.

19 Now -- well, no, you can. You can have him
20 cross-examined right then. But we won't have to break it up.
21 It will be the last thing he testifies about, and then they
22 can cross-examine him.

23 MR. BROTHERS: The logistical issue I see with that,
24 Your Honor, is that we were going to play the confidential
25 deposition testimony on which Dr. Frieder was going to

1 comment, and that deposition testimony is in the ball park of
2 about an hour of what the defendants designated as
3 confidential, and then Dr. Frieder is going to comment on
4 that.

5 THE COURT: All right. Here is what we are going to
6 do this time.

7 MR. BROTHERS: I'm sorry, Your Honor.

8 THE COURT: I forgot that. I forgot that. Okay.
9 Look, I'll adjust as we need to go along. Tomorrow morning
10 come in here and play the information that he needs to
11 testify, and then put him back on the stand and let him
12 testify, and the Court will just work it out.

13 MR. BROTHERS: Okay.

14 THE COURT: The Court will work it out as we go
15 along.

16 MR. NELSON: I hear you. I will do the best I can.
17 We might be able to shorten this up. There are a number --
18 the source code is basically about the templates. There is
19 only four that are named in his report in the current model,
20 and a number of -- the testimony goes well beyond that. So I
21 think it just becomes confusing because he is talking about a
22 number of templates that Dr. Frieder cannot testify about
23 because they are not listed in his report.

24 MR. BROTHERS: Dr. Frieder will testify only about
25 what is in his report.

1 THE COURT: Thank you.

2 MR. BROTHERS: And we don't plan on doing that.
3 There are, however, additional testimony that we do want to
4 put into evidence with regard to those templates, and we
5 anticipate -- because we think we need that as far as our
6 case in chief because we believe the defendants -- they are
7 taking a position that we believe is going to be -- taking a
8 position now that we think is inconsistent with that prior
9 testimony.

10 We think that the template, the confidential source
11 code testimony is appropriate for our case in chief, but I
12 will represent we are -- Dr. Frieder is testifying only about
13 the source code that he's referenced in his report.

14 THE COURT: Fine. We will come in tomorrow morning,
15 and we will close the Court from 10:00 to 12:00, and we will
16 go as far as we can. The Court will adjust or give notice or
17 whatever it needs to do on Monday when we get to that point.
18 We may have to close more than we want to but we are going to
19 get there.

20 MR. BROTHERS: Thank you, Your Honor.

21 (Hearing adjourned at 5:07 p.m.)
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CERTIFICATION

I certify that the foregoing is a correct transcript
from the record of proceedings in the above-entitled matter.

X _____ /s/ _____ x

Jody A. Stewart

X 10-18-2012 _____ x

Date