EXHIBIT G

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

PERSONALIZED USER)
MODEL, LLP,)
Plaintiff,)
vs.) CA number 09-525 (LPS)
GOOGLE, INC.,)
Defendant.)

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VIDEOTAPED DEPOSITION OF JAIME CARBONELL

WASHINGTON, D.C.

NOVEMBER 27, 2012

The videotaped deposition of JAIME CARBONELL was convened on Tuesday, November 27, 2012, commencing at 10:05, at the law offices of SNR Denton, located at 1301 K Street, Northwest, in Washington, D.C., before Paula G. Satkin, Registered Professional Reporter and Notary Public.

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Job No. CS1565706

P R O C E E D I N G S

(10:05 a.m.)

THE VIDEOGRAPHER: On the record with disk number one of the video deposition of Dr. Jaime Carbonell taken by the Defendant in the matter of Personalized User Model LLP versus Google Inc. and Google Inc. versus Personalized User Model LLP, both cases being heard before the United States District Court for the District of Delaware, Civil Action Number 09-525 LPS.

This deposition is being held at the law offices of SNR Denton, located at 1301 K Street, Northwest, in Washington, D.C., on November 27th, 2012, at approximately 10:05 a.m.

My name is T.J. O'Toole. I am the certified legal video specialist. The court reporter is Paula Satkin. We are both here representing Veritext of New Jersey.

Will counsel please introduce themselves and indicate which parties they represent.

MS. BENNETT: Jennifer Bennett representing Plaintiff Personalized User Model and the witness, and with me today I have Marc

Friedman.

MR. PERLSON: David Perlson from Quinn Emanuel representing Defendant Google.

MR. SOHN: And Josh Sohn of Quinn Emanuel also representing the Defendant.

THE VIDEOGRAPHER: Thank you. Will the court reporter please swear in the witness.

Whereupon--

JAIME CARBONELL

a witness, called for examination, having been first duly sworn, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR THE DEFENDANT

BY MR. PERLSON:

Q. Good morning. Could you state and spell your name for the record?

A. It's Jamie Carbonell, J-A-I-M-E, C-A-R-B-O-N-E-L-L.

Q. And do you go by Dr. Carbonell or Mr. Carbonell?

A. Dr. Carbonell.

Q. Okay. And you've been deposed before; correct?

A. Yes.

Q. And you understand that you are testifying under oath as if you were testifying before a jury; correct?

A. Yes.

Q. And I'm going try to be as clear as I can today and -- but if I ask a question that you do not understand, please let me know and I will do my best to make it more clear. Okay?

A. Okay.

Q. Now, Dr. Carbonell, you -- you co-authored a book called Machine Learning and Artificial Intelligence Approach; is that right?

A. There were three of them in that series.

Q. Okay. And when -- when was the first one?

A. I believe it was 1983.

Q. When was the second one?

A. 1986.

Q. And how about after that?

A. There was one more. I don't recall the date. A year or two afterwards.

Q. It was about 1990; does that sound right?

A. It could be, or it could have been a little earlier.

Q. You've been publishing in the machine learning field since then?

A. Yes, I have.

Q. When was the last time?

A. This year.

Q. What -- what did you publish this year?

A. The latest paper is one at the Association of Computing Machinery on learnability of DNF, disjunctive normal form, expressions.

Q. What's that?

A. Disjunctive normal form is a -- learning when you have different expressions of the target concept. So maybe an example is the clearest way to explain it.

Q. Sure.

A. If there is bank fraud, there are different ways of defrauding the bank. For example, by pretending to be a customer when you really aren't. By pretending you have a lot more in an account than you really do and withdrawing it. Insider transactions that are

illegal and so forth. A disjunctive normal form allows you to combine one or more of these different target expressions into a single expression and to learn it from incoming data streams without having to first categorize it as to which type of potential fraud it might be. It's a theoretical method with practical applications.

Q. And your -- the machine learning artificial intelligence approach, did that involve estimation of probabilities?

A. Estimation --

MS. BENNETT: Objection. Form.

THE WITNESS: Estimation of parameters, which can be interpreted as probabilities.

BY MR. PERLSON:

Q. Okay. So it would have involved both estimating parameters and estimating probabilities; is that correct?

A. So the parameters are part of the learn model, the learn function, and the probabilities are probabilities of the outcome.

Q. And both -- and both of those aspects would have been part of what was

disclosed in your book; right?

A. Yes. It was disclosed subsequent to the book in more detail than in the original book. The original book was the start of the field.

Q. Right. It was proposed in -- okay. But let's then use the last version of the book. The last version of the book would have disclosed that; right?

A. It's -- yes. It -- I need to correct the presumption in your -- in your question.

Q. Sure.

A. It wasn't three versions of the same book. It was three volumes, three different books. And they taught different aspects much machine learning.

And aspect of estimating parameters was disclosed there, but it was developed in much greater detail in subsequent work post-1990.

Q. Okay. By you or others?

A. Yes and yes.

Q. Okay. And was -- does the Machine Learning and Artificial Intelligence Approach

discuss creating models using machine learning?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes, it does.

BY MR. PERLSON:

Q. And what sort of -- does -- does Machine Learning and Artificial Intelligence Approach have -- discuss any practical applications of machine learning?

A. Yes. Several examples are given. Applications in disease diagnosis, in agriculture, in medical diagnosis. I guess that's similar to disease diagnosis. In planning such as robotic planning and so on.

Q. And was -- you would agree that in -- that throughout the 1990s, machine learning was applied to a variety of practical applications; right?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes, sir.

BY MR. PERLSON:

Q. And that would have included search engines; correct?

A. No. I do not believe so. The applications to search engines started towards the end of the 1990s, not in the greater part of

that decade.

Q. Fair enough. But machine learning was used in the context of search engines in -- let's say at least by 1998; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: It was starting to be used.

BY MR. PERLSON:

Q. And -- and machine learning also would have been used in the context of personalization by 1998; correct?

A. No --

MS. BENNETT: Objection. Form.

THE WITNESS: Incorrect.

BY MR. PERLSON:

Q. Your -- you're telling this Delaware jury that in no circumstance was personalization used in machine learning by 1998?

A. No --

MS. BENNETT: Objection. Form.

THE WITNESS: I'm stating that the field did not focus on personalization in machine learning at that time. Personalization requires large amounts of information, data

collected about individuals, about each specific individual in order to build a model that is tailored or customized or instantiated for that particular individual.

Prior to 2000, such information was almost never available. Search engines did not go around capturing the behavior of users at that time. Electronic commerce, Mechanical Turk for crowd sourcing, LinkedIn and Facebook didn't exist. So all the sources of electronic data in sufficient quantities to personalize was really not available in that decade.

BY MR. PERLSON:

Q. So in 1999 it really was not possible to personalize search engines; is that your testimony?

A. My testimony is that it was not at that time practiced.

Q. And -- but was it possible or not possible?

MS. BENNETT: Objection. Form.

THE WITNESS: In order to make it possible, it would have required a collection of all of this data. It would have required a method that was similar to the patents in suit,

and these were not available at that time. These are preconditions.

BY MR. PERLSON:

Q. Okay. And do the patents in suit provide a way that you would be able to collect sufficient information in order to actually provide personalization of search results?

MS. BENNETT: Objection. Form.

THE WITNESS: The patents in suit teach how to collect the information unobstrusively -- in other words, "transparently" I think is the word that is used in the claim language -- based on user click-through data. That is one of the necessary ingredients in order to collect information in large quantity about multiple users so they could be able to personalize user models about each one. It also required other ingredients.

BY MR. PERLSON:

Q. What other ingredients?

A. It required a learning machine with a suite of parameters and a method of estimating values for these parameters based on the personalized user data that is collected,

and then it required a -- that learning machine to be customized; in other words, begins with a generic learning machine set of parameters and there's a mathematical update function that looks at the incoming data, customizes the learning machine, and so now you have customized version of that learning machine per each user that has provided sufficient data. Those are all required ingredients.

It also requires analysis of the incoming information in the form of documents or electronic files in order to be able to use the learning machine to make a prediction, posterior probability, which is a degree of -- numerical degree of belief on whether that document would be of interest to the particular user for whom the learning machine was estimated -- the parameters of the learning machines were estimated.

Q. And -- so you mentioned documents, analyzing documents. Now, would an example of that would be a web page? Is that -- is that accurate?

A. If your question is whether a web page is an example of a document, the answer is

yes.

Q. Okay. And in order to analyze the web page, you'd actually have to look at the page; right?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. You can't just look at the URL that's the pointer to the page. You would agree with that; right?

MS. BENNETT: Objection. Form.

THE WITNESS: That's essentially correct.

BY MR. PERLSON:

Q. That's essentially correct?

A. The URL provides a small amount of information pertinent to the page.

Q. Well, do you think just looking at the URL of a web page is sufficient to analyze documents in -- in the context of this patent?

A. If the document is a document to which the URL points -- is that what you mean by analyzing?

Q. Yeah.

A. No, I don't think it's sufficient.

Q. Now let's talk a little bit about the probability that you mentioned. You referred to estimating a probability of interest in a document; is that right?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. What is that?

A. Okay. What is what?

Q. What does that mean?

A. Interest in the document or probability?

Q. Estimating a probability?

MS. BENNETT: Objection. Form.

THE WITNESS: Estimating a probability means using available information usually in a Bayesian setting, which is the majority of settings under which -- Bayesian. I can spell it out for you later. Bayesian is a type of probability in statistics. It's the dominant type that is used here. So in order to answer your question, I need to make a couple of assumptions, and one assumption is that I am using probability in the same way that Dr. Jordan used it, your own expert, and so

forth, which is the Bayesian way.

In that case you would combine the available data from the past. In other words, judgments made by that user. If you're estimating the probability of interest of a document for a particular user, judgments made by that user for previous documents. The similarity between those previous documents and new documents. This is why you need the content analysis in order to establish that similarity. And you would combine it in a mathematical form that would take the parameters, the values of the parameters, I should say, and from it compute a number, a numerical degree that would estimate the extent to which the new document is of interest to the user for which that model was made.

That number, if you want to be -- use strict probabilities, would then be renormalized to the 0-1 interval to get -- probability cannot be less than 0, it cannot greater than 1, or it can be left un-normalized, in which case it normally would not be called a probability in the technical sense but it would be called a probability in the popular sense,

like a percentage.

Q. Okay. So you would agree, though, that the probability is a number between 0 and 1; right?

MS. BENNETT: Objection. Form.

THE WITNESS: The Court's construction is broader than that.

BY MR. PERLSON:

Q. Okay. Well, let me just first ask you, in the context of Bayesian statistics, probability has to be between 0 and 1; you would agree with that?

MS. BENNETT: Objection. Form.

THE WITNESS: In the technical definition, yes. In the popular definition, it doesn't -- is not confined to that.

BY MR. PERLSON:

Q. Okay. But in -- what do you mean "the popular definition"?

A. We use probabilities in the language more loosely than in the technical sense, and the Court's construction requires only it be a numerical -- measure the degree of belief.

Q. And in -- in the patents in this

Plaintiff's contentions of infringement if you didn't read them and you didn't rely on what Plaintiff's counsel told you about them?

MS. BENNETT: Objection. Form.

THE WITNESS: If you allow me to see the report, I will be able to explain this in greater detail. Going from memory, the -- my reaction was to his allegations of invalidity based on the prior art. His references to the infringement position were usually to interpret a passage or a word or a phrase in a way that would have been perhaps a little different than if he had not made that particular reference. In some cases, it was my opinion that it didn't matter. Under the same interpretation, I would have refuted in the same manner.

In one case, I didn't understand what it said, what he was saying, and I needed clarification from counsel.

BY MR. PERLSON:

Q. Okay. And do you recall which one that was?

A. It was one where he explicitly mentioned under Plaintiff's infringement theories. I would have to go back to the report

and look at it, but he was specifically referring to that phrase, Plaintiff's infringement theories.

Q. Yeah. Okay. There was reference earlier to transparent monitoring. Well, let me start over again.

You understand the patents talk about transparently monitoring user interactions while the user is engaged in the normal use of a computer?

A. Yeah. I believe that is the first limitation of Claim 1 of the '040, for example.

Q. Okay. And there's a similar limitation in the '276?

A. That's correct.

Q. And you could agree that the -- Mr. Konig and Mr. Twersky were not -- did not invent transparent monitoring; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: Did not invent the general concept or did not invent the particular way of using transparent monitoring? Those are different questions.

BY MR. PERLSON:

Q. Sure.

A. Which one do you mean?
Q. Just the general concept.
A. No. They did not invent.
Q. I mean, transparently monitoring user interactions was known before the patents in this case generally?
MS. BENNETT: Objection. Form.
THE WITNESS: Generally? It was known at least to some people. Yes.
BY MR. PERLSON:
Q. It would have been known to someone of skill in the art; correct?
MS. BENNETT: Objection. Form.
THE WITNESS: Just transparently monitoring in general, it would have been, yes.
BY MR. PERLSON:
Q. And -- and certainly documents were -- documents that had been -- well, let me back up.
Monitoring documents that a user had interacted with would have also been known in the art before the patents; correct?
MS. BENNETT: Objection. Form.
THE WITNESS: Keeping track of which documents the user would have interacted

with was known prior to the patents.

BY MR. PERLSON:

Q. And using -- in connection with the transparently monitoring phrase, would you agree that if a user was required to indicate that -- well, scratch that.

You would agree that estimating parameters of learning machines at least generally were known to one skilled in the art before the patents?

MS. BENNETT: Objection. Form.

THE WITNESS: Not in the way that it was described in the patents, in the patent claims.

BY MR. PERLSON:

Q. But I'm just asking you generally. I mean, the estimating parameters of learning machines was known just generally to one of skill in the art; right?

MS. BENNETT: Objection. Form.

THE WITNESS: You take it out of the context of the patent and out of the context of search engines, out of the context of personalization, the answer is yes.

BY MR. PERLSON:

Q. And, in fact, estimating parameters of a learning machine generally is just kind of a basic concept of machine learning; isn't it?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. I mean, that would have been disclosed in your work in the machine learning --

A. Yes. Estimating parameters of a learning machine is part of the process of machine learning and has been since the '80s.

Q. Okay. And the same is true with estimating probabilities; right?

MS. BENNETT: Objection. Form.

THE WITNESS: Estimating probabilities as the output of a learning machine wasn't as widely practiced. It was narrower, but still -- it still was part of the prior existing art.

BY MR. PERLSON:

Q. You're familiar with the -- the WebWatcher prior art?

A. Yes.

Q. And the WebWatcher prior art used machine learning to determine a -- whether a user would be interested in a document; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: No.

BY MR. PERLSON:

Q. Why not?

A. For actually both parts of your question is no.

Q. Okay.

A. It was not targeted at a specific user, and it was not targeted at a document.

Q. Well, but it was used in connection with providing documents of interest to users; right?

MS. BENNETT: Objection. Form.

THE WITNESS: It was used in connection with providing suggestions of hyperlinks that the user may want to follow in the user's navigation.

BY MR. PERLSON:

Q. Okay. And it used machine learning as part of that process; correct?

A. It used -- it used machine learning as part of that process. Right. The

A. You can ignore the tool bar and still use the computer in the same way and the way you use a tool bar would be for something that you normally would do, which is to initiate a search in a normal way.

Q. Okay. So as long as you're using some new addition in a way that's similar to what you otherwise would do, that could still be normal use?

A. If you use an addition to do something in a way you normally would do any way in the same manner, for example, typing words in a search box, then I would consider that being normal use. You don't have to learn to interact with a computer differently or have something that looks radically different than before that is calling your attention to do something else in the computer. When you have eyeballs popping up on the screen and you have some links flashing and you have did you like this tour or did you like that tour better or did you not like any of them that you have to answer before you go on and do anything else, that is beyond normal use.

Q. What if you have to sign in to

some interface? Is that the normal use of a computer?

A. If you would normally have to sign for that interface, do your other jobs, then that would be normal use. If you're now giving additional hurdles that you have to jump through you go beyond normal use.

Q. Right. So, you know, Google you can use without signing in; correct?

A. I use it without signing in.

Q. And are you aware you can sign in and have an account with Google?

A. I am reminded constantly with Google encouraging me to sign in when I don't particularly want to.

Q. And if you did sign in and would that no longer be the normal use of the computer?

A. If I was signing in to do my usual work and signing in was part of my routine, then that would be normal use of a computer. If I am required to sign in to get to some additional functionality or get some additional things that I normally don't do, then it would go beyond the normal use of a computer.

Q. So in light of the prior art that existed, how would you describe the innovation in the patents at issue here?

MS. BENNETT: Objection. Form.

THE WITNESS: Well, the main innovation is to customize or personalize the search results to an individual user. And that is being done by having monitored that user's interaction over time, having monitored it transparently, having built in the background the user specific user model. That means a -- a learning machine where the parameters are estimated for that user based on that user's interaction, based on the data that that user has accessed based on what they have clicked, based on what they have ignored, based on anything they may have explicitly rejected or not, as the case may be, and then providing more appropriate, more relevant search results going forward by using that user model to estimate the probability that they would be interested in new documents and using that to help rank or rather rerank the search results.

BY MR. PERLSON:

Q. And is that your understanding

that would be the innovation of both of the patents?

MS. BENNETT: Objection. Form.

THE WITNESS: In general terms. Yes. It would also go beyond simply the retrieved search pages. It could go to other items the user might be interested in, advertisements, for example.

BY MR. PERLSON:

Q. But the innovation is using these various user models and user specific learning machines in the context of search?

MS. BENNETT: Objection. Form.

THE WITNESS: That is the primary innovation.

BY MR. PERLSON:

Q. Do you think that one of ordinary skill in the art would have been able to reduce the patents in suit to practice and actually provide useful results in 1999?

MS. BENNETT: Objection. Form.

THE WITNESS: If that person had access to a search engine as well, yes.

BY MR. PERLSON:

Q. What do you mean if that person

had access to a search engine as well?

A. The short answer is yes. I mean, if building a search engine is a major engineering endeavor. It would typically require a team, rather than an individual. So combining the engineering requirements for a search engine with the full description of the patents then, yes.

Q. Okay. The patents don't themselves disclose how to build a search engine?

A. They do not, but that was the knowledge of how to build a search engine pre-existed. Search engines keep getting better all the time. Today search engines are better than they were back then.

Q. So one of skill in the art would have had the skill to build a search engine in 1999?

A. One of skill in the art -- how to build a search engine was published by that time. So the knowledge how to do it is clearly there. Now, going from the knowledge of how to do it to actually building it requires significant effort. So it would have required

THE WITNESS: One of skill in the art would have known how to implement the learning machines that are based on the Bayesian statistics. One of ordinary skill in the art probably would not have known how to derive new learning machines based on those same or create new learning machines based on those same Bayesian statistics.

BY MR. PERLSON:

Q. Why would -- what do you mean by create new learning machines? Is there -- does the patent require some new type of new learning machine?

A. No. The patent does not require it. There's two ways to interpret your question, so I've answered it both ways. If your question means take an existing learning machine, estimate the parameters and apply it, yes, one of skill in the art would have been able to do that.

Q. As well as estimating -- and using those parameters to estimate probabilities; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: That would have been

done by the learning machine.

BY MR. PERLSON:

Q. In the -- Dr. Jordan referred to experience in the field of information retrieval and I think you talked about experience in the field of information science. What's the difference between those two things?

A. Okay. So here we're describing a person of ordinary skill in the art.

Q. Exactly.

A. Information science is broader. Information retrieval is essentially a search engine's work or information filtering methods. At the time in 1998 to 1999 there were very few people that had, extremely few people that had either academic skills or two or three years worth of practice in information retrieval. I thought it was unreasonable to expect that one could hire such a person or that such people would exist in any significant numbers. So I thought it was more reasonable to ask the broader category of somebody who knew algorithms, who knew data structures, who knew computer science, very rigorous training, somewhat broader would meet the normal

definition of a person of ordinary skill in the art. The difference is not large here.

Q. Okay. And your opinions wouldn't be changed based on if Dr. Jordan's information retrieval was adopted versus your information science?

MS. BENNETT: Objection. Form.

THE WITNESS: Information retrieval as it was known at that time, '98/'99, would not change my opinion, even though I still think that the broader categories were appropriate for defining somebody of ordinary skill in the art.

BY MR. PERLSON:

Q. Would you agree that in 1999 there had already been expressed a clear desirability to provide personalized search?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

MR. PERLSON: Mark that.

(Carbonell Exhibit No. 1 was marked for identification.)

BY MR. PERLSON:

Q. I've handed you what's been marked as Exhibit 1. It's GGL-PUM 00112898 through

GGL-PUM 00112904. It's entitled Personal Evolvable Advisor For WWW Knowledge-Based Systems. Are you familiar to this document?

A. Yes.

Q. If I referred to this document as Montebello, does that make sense to you?

A. Yes. That's also what Dr. Jordan, I believe, and what I have referred to it as.

Q. Before working on this case were you familiar with this paper?

A. No.

Q. Had you done any work in connection with personalization -- let me start over.

Had you done any work on personalized search before you had started consulting on this case?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. In what context?

A. In the context of improving ranking functions for search engines based on -- first of all, let me set the dates. It was in the early 2000s. So it was post the filing of

the patents and post the prior art that is cited here.

It had been trying a somewhat different approach to the one described here and in which the users express binary preference that they like something better than something else or they visited one web page and then they visited a second web page and they were content. So the latter one implies the second web page that they visited among the search results was more pertinent or relevant than the first one. They stopped after the second one and they went on after the first one.

So it was a method based on improving the rankings by getting these peer wise judgments which ones they thought were better or not. This accumulated the binary preferences or peer wise preferences accumulated over time and that could lead to a model that would improve the overall ranking. That work was done jointly with a student and also with Professor Jamie Callan, who is a search engine expert also at Carnegie Mellon University. The result of that work was inconclusive in that it looked like one could get improvements, but they

one of skill in the art of flashing eyes or moving eyes; right?

MS. BENNETT: Objection. Form.

THE WITNESS: Clearly it does not. A static picture does not contain movement.

BY MR. PERLSON:

Q. Now, the Mladenic provides, creates a model of user interest; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: Let me see exactly what Mladenic.

BY MR. PERLSON:

Q. Page 10.

A. It's generating a model.

Q. It says it right there. First line of section 4.2, which itself is titled model user interest is designed to predict if some document is positive or negative example of user interest; right?

A. Yes.

Q. And that user model of user interest is used to advise hyperlinks on the HTML document requested by the user. That's what it says in the next sentence; right?

MS. BENNETT: Objection. Form.

THE WITNESS: That's what it says. It is actually providing advice -- well, as it says, on the hyperlinks and not on the documents.

BY MR. PERLSON:

Q. Okay. And as you said, there's a difference between predicting interestingness of a document based on a hyperlink pointing to it and the document itself; right?

A. Yes. The remainder of that paragraph clarifies that distinction.

Q. And there's a difference between -- so to be clear, a point -- tracking the interest of a pointer to a document is different than tracking the interest of a document itself; correct?

MS. BENNETT: Objection. Form.

THE WITNESS: Could you -- just say that more slowly.

BY MR. PERLSON:

Q. Fair enough. That wasn't a great question.

The -- let's say that we have a system that is tracking the -- a document identifier and it looks to see what documents

have been clicked on by a document identifier and it stores the document identifiers, but it doesn't store the actual documents themselves?

A. By document identifier, in this case you mean hyperlink?

Q. Well, that could be one example, but it could be other things.

A. Okay. Fair enough.

Q. There's a difference between the document I.D. and the document itself; right?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. Now, you would agree that the Mladenic -- the personal -- if I use Personal WebWatcher, do you understand that to be the same thing as Mladenic?

A. Yes.

Q. Okay. We'll try to use that.

Is -- you would agree the Personal WebWatcher uses machine learning to create its user model, user interest?

MS. BENNETT: Objection. Form.

THE WITNESS: Yes.

BY MR. PERLSON:

Q. And it learns the model of user interest directly from documents whose interestingness -- let me start over.

One of the reasons actually that Mladenic -- the Personal WebWatcher talks about using hyperlinks rather than the document behind the hyperlinks is that looking at the document behind the hyperlinks actually takes more time; is that right?

A. There's two reasons, both of them related.

One is because at model creation time it would have taken significantly more time and effort to go retrieve all the documents behind the hyperlink. Maybe more important one was run time, it would have had to prefetch, in other words, retrieve the document behind each and every hyperlink on that page and compare them all against the model and then make the recommendations.

Q. That would take a lot more time?

A. Absolutely.

Q. And if you look on page 6 under the 3.3 learning algorithm. Do you see that?

A. Let me get to it.

Q. Are you there?

A. Yes. I'm there.

Q. Okay. And in the -- it talks about a technique and then it says in the last sentence, "this technique has already been used in machine learning experience on word wide web data." Do you see that?

A. Yes. Let me read back and figure out what he meant by this technique.

Q. Sure.

A. So this technique is not a learning, method this technique is a TFIDF representation.

Q. Okay. So there's no -- under the section learning algorithm there is no learning algorithm in your view?

A. No. No. It's not under the first paragraph. That's where they're talking about the TFIDF which is used to extract the features. If you remember from Montebello that Montebello got it wrong, Mladenic gets it right. First you strike the features, now you have grist features, material to feed the learning method.

Q. And Montebello actually cited the Personal WebWatcher article; didn't he?

THE WITNESS: I basically stated the extent of my knowledge in -- in this area. This is much closer to the infringement side, and our infringement expert is probably in a much better position to address these questions than I am.

BY MR. PERLSON:

Q. And do you know how long after the acquisition of Kaltix it was before Google practiced the inventions in this case?

MS. BENNETT: Objection. Form.

THE WITNESS: I believe it was years.

BY MR. PERLSON:

Q. Years? If these patents -- if the patents in suit were -- were issued, why did it take so long for someone to practice them?

MS. BENNETT: Objection. Form.

THE WITNESS: Well, there's a long time between getting a mechanism -- inventing a mechanism and perfecting it and scaling it up to web scale and making sure it works well. I believe Google tried it first on a smaller scale and then scaled it up to full scale later, which is a rational progression to go through.

BY MR. PERLSON:

Q. So even with the patents in suit with the disclosures therein and what's claimed, it would take a substantial amount of effort to build a personalized search engine separate and apart from the concepts that are disclosed in the patent; would you agree?

MS. BENNETT: Objection. Form.

MR. PERLSON: You know, you don't have to inflect. You've been doing this all day. You've been inflecting your form objections differently based on how well you like and don't like the question. And you've been saying them louder when it's something that you don't seem to like more. So I think you need to stop doing that. Just say "objection, form" in the same thing every time.

BY MR. PERLSON:

Q. So do you agree that in order to practice the inventions in suit, that you would -- let me start over again.

The patents in suit are not the only way to do personalized search; right?

A. I was working an alternative to patents in suit to try to do personalized

search, as I mentioned earlier in response to your questions about any work in this area on this kind pair-wise or binary preferences. That method did not appear to work very well. I don't know that method could be improved to make it better or not. So I do not know whether this is the only way. This is the way that seems to be effective. There may be other ways that are effective or not.

Q. But you don't -- how can you know that these patents are effective?

MS. BENNETT: Objection. Form.

THE WITNESS: I don't know how effective these patents are other than by observing people who may be practicing them.

BY MR. PERLSON:

Q. Okay. But you don't know whether Google is practicing it or not -- practicing them or not?

MS. BENNETT: Objection. Form.

THE WITNESS: The infringement case argues that they are.

BY MR. PERLSON:

Q. Right. But you personally have done no analysis of even what is accused in this

case; right?

A. I am not rendering an infringement opinion one way or the other.

Q. So you agree?

MS. BENNETT: Objection. Form.

THE WITNESS: Agree with what? I agree with --

BY MR. PERLSON:

Q. That you have done no analysis as to what specifically has been accused of infringement in this case; right?

A. I have -- I have not analyzed the infringement contentions or Google's current practice to be able to render an opinion on infringement.

Q. So you have no way of knowing, sir, what Google is doing that contributes to the success of its products that may infringe the patents that Plaintiff is pointing to or all the other things that Google is doing that Plaintiff don't even accuse?

MS. BENNETT: Objection. Form.

THE WITNESS: I have not done an analysis of what Google is doing with respect to personalization or with respect to other

improvements to doing search.
BY MR. PERLSON:
Q. Now, the --
(Carbonell Exhibit No. 10 was marked for identification.)
BY MR. PERLSON:
Q. You've been handed what's been marked as Exhibit 10, which is GGL-PUM 101614?
A. Yes.
Q. Before we go on to that, you don't dispute that any of the references, prior art references, that we've discussed today are in fact prior art to the patents in suit?
MS. BENNETT: Objection. Form.
THE WITNESS: If by that you mean the publication date precedes the date, the effective date, of the patent, I am not disputing that.
BY MR. PERLSON:
Q. Okay. So let's look at Exhibit 10. This is the Wasfi reference; correct?
A. Yes.
Q. And -- now we'll note that -- let's see. On the -- well, first of all, let's

look in the abstract, the first sentence. It says, "This paper proposes a new learning machine" -- I'm sorry let me start over again.

"This paper proposes a new learning mechanism to extract user preferences transparently for a worldwide web recommender system." Do you see that?

A. Yes.

Q. Okay. And so Wasfi discloses transparent monitoring; would you agree?

A. I believe that Wasfi discloses click-throughs, which is a form of transparent monitoring. I would need to refresh my mind to be absolutely sure.

If you're waiting for me, it's -- here's a statement that he indeed does transparent monitoring.

Q. Okay. If you look on page 58, there's -- see there's a description of the learning mechanism. Do you see that?

A. Yes.

Q. Then under the background. It says, "A profile is a description of user interest." Do you see that?

A. Yes.

Q. And -- and then it refers to this variable, TIJ, which is a nonnegative number between 0 and 1, indicates the relevance or importance of SI to user U. Do you see that?

A. Where is it that he first introduces -- oh, there it is. Okay. Let us assume that the variable TIJ which is a nonnegative number. Okay.

Q. Now, would you agree that the -- this user profile that's disclosed here is a user-specific data file?

MS. BENNETT: Objection. Form.

THE WITNESS: He doesn't say whether he keeps it under a separate file, per se, but he keeps a user profile distinctly. It could be as an entry in a database. It could be a separate file. That's just the physical representation. I don't think that that matters.

BY MR. PERLSON:

Q. You would agree that Wasfi updates the user profile based on documents that the user has visited?

A. Yes. That's how he attempts to -- to do the updating.