UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____)

APPLE INC.,

Petitioner,

v. IPR2024-01089

SMITH INTERFACE TECHNOLOGIES, LLC, Patent No. 10,671,212

Patent Owner.

_____)

DEPOSITION OF VIJAY K. MADISETTI, PH.D.

July 15,2025

10:01 a.m. Eastern Time

Reported by: Lori J. Goodin, RPR, CLR, CRR, RSA, California CSR #13959

DIGITAL EVIDENCE GROUP

1730 M Street, NW, Suite 812

Washington, D.C. 20036

(202) 232-0646

REMOTE DEPOSITION of VIJAY K. MADISETTI, PH.D., in the above-titled action, held on Tuesday, July 15, 2025, commencing at approximately 10:01 a.m. before Lori J. Goodin, RPR, CRR, RSA, California CSR #13959, Registered Professional Reporter, Certified Realtime Reporter, Realtime Systems, Administrator, and Certified Shorthand Reporter, and Notary Public of the State of Florida, State of California, State of Maryland, District of Columbia, and State of Delaware.

REMOTE APPEARANCES:

ON BEHALF OF PETITIONER:

FISH & RICHARDSON PC:
BY: KENNETH W. DARBY, ESQUIRE
111 Congress Avenue
Suite 2000
Austin, Texas 20024
512-472-5070
kdarby@fr.com

ON BEHALF OF PATENT OWNER:

NORTON ROSE FULBRIGHT US, LLP
BY: DANIEL S. LEVENTHAL, ESQUIRE
BY: DUNCAN WALDROP, ESQUIRE
98 San Jacinto Boulevard
Suite 1100
Austin, Texas 78701-4255
512-474-5201
daniel.leventhal@nortonrosefulbright.com
duncan.waldrop@nortonrosefulbright.com

INDEX TO EXAMINATION

WITNESS: VIJAY K. MADISETTI, PH.D.

EXAMINATION BY	PAGE
MR. DARBY	6

INDEX TO EXHIBITS

PREVIOUSLY MARKED EXHIBITS

PRIOR MARKED EXHIBITS	FIRST REFERRAL
1001	25
1004	44
2004	47
2005	61
2007	75

(Previously marked exhibits retained by counsel.)

TUESDAY, JULY 15, 2025, 10:01 a.m. EST

PROCEEDINGS

* * *

Whereupon,

VIJAY K. MADISETTI, PH.D.,

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

THE REPORTER: Unless an objection is heard at this time, all parties to this deposition are appearing remotely and have agreed to the witness being sworn in remotely.

* * *

EXAMINATION

BY MR. DARBY:

Q. For the record, this deposition is addressing the inter partes review proceeding assigned Case Number IPR 2024-01089 regarding U.S. patent number 10,671,212 which we will refer to as the '212 patent.

This is Kenneth Darby speaking for

petitioner Apple and the witness is Dr. Madisetti.

Dr. Madisetti, before we get going I will just cover a series of ground rules and other preliminaries. I'm sure you have been through this before but I think it just helps to cover the basics again.

Is that okay?

A. Yes, counsel.

Q. So, because this is a remote deposition conducted using video conferencing equipment, there may be a slight delay in our communications.

So, let's just both be careful to speak very slowly and clearly and just try not to interrupt one another.

Is that fair?

A. Yes.

Q. If I ask you a question today and you don't understand it, please ask me to rephrase or to clarify my question.

Is that fair?

A. Yes.

Q. Okay. And I will assume that if you answer my question, that you understood the question.

Is that fair?

A. Yes.

Q. So, even though we are remote, you understand that you are under oath providing testimony just like you would if you were in front of a judge or a jury?

A. Yes.

Q. Okay. And remember that you remain under oath for as long as this cross-examination persists. So that is even during the breaks, okay?

A. Yes.

Q. Is there any reason you cannot give true and accurate testimony today?

A. No.

Q. So, on breaks, I will try to take one every hour.

But, if you need to take a break

before that, please just let me know. Okay?

A. Okay.

Q. But, if there is a question pending, I will ask that you answer the pending question before you go on any breaks, all right?

A. Sounds good.

Q. And when we come back, I will always ask you if you had any substantive discussions with anyone during the break regarding any aspect of your testimony in this deposition.

And those kinds of discussions are prohibited. Okay?

A. Okay.

Q. Please also do not consult any notes or documents during the break. Okay?

A. I will not.

Q. If at any point you are having technical difficulties, for example if you can't hear me or if you feel like I cannot hear you, we will just pause and get those worked out. We will go off the record and then we will come back on with all of the technical issues worked out.

Okay?

A. Okay.

Q. Who is in the room with you today?

A. Just me. There is no one else.

Q. Okay. And you understand that you cannot communicate with anyone verbally or nonverbally while I am cross examining you, correct?

A. I understand.

Q. And just to confirm, you are not communicating with anyone now via Instant Messenger or phone or anything like that?

A. I am not.

Q. Do you have any programs running on your computer right now?

A. No, I just have the PDF with my declaration and the patent.

Q. Okay. So you have PDFs up of the patent and PDFs up of your declaration?

A. Yes.

Q. Okay. I'm going to ask that you close those and use the exhibits that I send you

through the chat.

Can you do that?

A. Okay.

Q. Okay. And please make sure you don't open any programs other than Zoom during the cross-examination, but for the PDF, you will need Acrobat for the exhibits that I send. Okay?

A. Yes.

Q. All right. Do you have any papers with notes on them with you today?

A. No.

Q. All right. I mentioned this before but for exhibits when we need to talk about the exhibits I will upload a copy of each document into the Zoom chat when we need them and I will ask you to again just use the copy that I sent you, please.

A. Okay.

Q. Okay. Dr. Madisetti, who is your current employer?

A. I am a professor at Georgia Tech.

Q. And, do you have a more specific

title than professor?

A. I am a professor of, in the school of, in the College of Computing.

Q. Have you held any other titles at Georgia Tech?

A. I have been a professor in the Colleges of Engineering and Computing. I have been an assistant professor, associate, and then a full professor.

Q. Are you currently employed anywhere else beyond Georgia Tech?

A. No.

Q. Have you ever been retained as an expert witness in any legal proceedings before this current IPR?

A. Yes.

Q. Approximately how many times?

A. I don't remember the exact number. But, quite a few times.

Q. Okay. More than 50?

A. Yes.

Q. More than 100?

A. Maybe not. But, somewhere around that.

Q. Okay. And how many of those legal proceedings were patent cases?

A. Most of them.

Q. And were any of those patent cases focused on user interfaces or touchscreen devices?

A. Yes. Some of them.

Q. And which ones come to mind?

A. Some of the early cases would involve some cases at the ITC, between Apple and Motorola and Google.

And some of the more recent cases would include a case against Apple, I believe, from 3-D user interfaces.

Q. Anything else come to mind?

A. Not right now.

Q. You mentioned cases against Apple.

Have you been on the other side of the docket opposing Apple in multiple proceedings?

A. I have been an independent expert and I am not against Apple or for Apple.

I am just an independent expert. But, I have been in cases where Apple has been on the other side.

Q. Approximately how many cases?

A. I don't remember the number. But, probably eight to ten. Around that. Over the last few years.

Q. Have you ever provided live testimony in front of a judge or a jury?

A. Yes.

Q. Approximately how many times?

A. I don't remember the exact number. But, it could be maybe 30, maybe 40 times.

Q. Okay. And approximately how many times have you been deposed?

A. I don't remember the number. Quite a few times.

Q. More than 50?

A. Yes.

Q. More than 100?

A. Yes.

Q. Have you ever served as an expert witness in an IPR before?

A. Yes.

Q. About how many times?

A. Again, I don't remember. There have been so many. There has been many IPRs.

Q. More than 50?

A. Yes.

Q. More than 100?

A. Yes.

Q. More than 200?

A. It could be. I don't remember the exact number. But --

Q. And approximately how many of those times were you engaged as a technical expert in IPR proceedings where you were engaged by the petitioner?

A. I don't remember the number. I would say that, probably half and half.

Q. So, just to be clear, your understanding is that you have been engaged by

the petitioner approximately half the time and been engaged by the patent owner approximately half the time in an IPR proceeding where you served as a technical expert?

A. I don't know the exact number. But, that sounds right.

Q. Has any court or the board ever deemed your testimony inadmissible?

A. I don't think so.

Q. Has any court or the board ever found your testimony not credible?

A. I don't think so.

Q. Has any court or the board ever found your testimony unreliable?

A. Again, I don't think so.

Q. Has any court or the board ever found your testimony unsupported?

A. Again, I don't know what that means. But, I don't think so.

Q. You don't know what unsupported means?

A. I'm not sure what you are asking.

Unsupported by what?

Q. Evidence.

A. I don't recall such rulings. There are always cases where each side says that I cannot talk about certain things before a trial.

So, I don't know what that means.

Q. Has any court or the board ever found your testimony conclusory?

A. I don't think so.

Q. Are you an inventor on any domestic or foreign patents to your knowledge?

A. Yes.

Q. Approximately how many?

A. Probably 70, 75.

Q. Now, are those patents assigned to you or to, or to various other entities?

A. To me.

Q. And are any of those patents directed to graphical user interfaces?

A. I think some of them.

Q. And are any of those patents directed to mobile devices?

A. Some of them.

Q. Which of the patents come to mind that are directed to graphical user interfaces?

A. Some of the ones that deal with collaboration environments.

Q. Can you expand on that, please?

A. Yeah. There are some patents that talk about collaboration and in the context of technology called Catch Up where you are looking at something like a combination of Slack and Zoom and other collaboration tools like Teams and Dropbox.

Q. Okay. Any others related to the graphical user interfaces?

A. It is possible but I don't recall specifics. Yeah, there may be some with respect to different graphical user interfaces for trading platforms, crypto exchanges, things like that.

Q. Anything else?

A. Those are those that come to mind.

Q. And what about mobile devices, which

of your patents come to mind that are related to mobile devices?

A. Again, most of the patents are cloud applicable to mobile devices.

So, I would have to look through them. But, they are generally applicable to mobile devices, mainly the ones that focus on wireless communications.

Q. Would you say that most of your patents are applicable to portable devices? Mobile devices?

A. Yeah, I think so. Especially those that talk about wireless communications.

Q. You are engaged by Smith Interface Technologies LLC in this proceeding, correct?

A. Yes.

Q. Okay. And we will just call them Smith if that is okay.

A. Okay.

Q. And Smith is the patent owner in this proceeding.

Is that your understanding?

A. Yes.

Q. And when were you first contacted by Smith regarding a potential engagement with respect to the '212 patent?

A. I don't remember the exact date, but it is a few months ago.

Q. Okay. A few months ago. Like, April of 2025?

A. I think sometime around maybe late March or early March, something around that time frame. Maybe a bit earlier.

Q. Okay. And who contacted you?

A. The counsel for Smith which is counsel from Norton Rose.

Q. Had you ever worked with any attorneys from Norton Rose before?

A. Yes.

Q. Would you say you have worked with Norton Rose often, or not so often?

A. Not so often.

Q. Do you remember specifically which attorney from Norton Rose contacted you?

A. I believe it was Mr. Leventhal who is present today.

Q. And had you worked with Mr. Leventhal before?

A. Yes, I think so.

Q. Had you ever heard of Smith before you were contacted by Mr. Leventhal about an engagement with respect to the '212 patent?

A. I don't recall one way or the other.

Q. Okay. And did you look into Smith to see what they were about as a company before you signed an engagement with them?

A. I looked at the patents and found them, and found them quite interesting. And signed the engagement.

Q. But you don't recall looking into Smith as an entity?

A. I don't recall.

Q. You said you looked at the patents. Which patents did you look at?

A. I believe the ones I wrote a declaration for.

Q. Did you look at any that you did not write a declaration for?

A. I don't think so.

Q. So, you looked at the '212 patent before you accepted the engagement?

A. I think so.

Q. Okay. And one way or another you felt comfortable with the subject matter of the '212 patent?

A. Yes.

Q. So, you were familiar with mobile devices and portable devices back in the 2011 time frame?

A. Yes. For more than 15, 20 years.

Q. I'm sorry, you said for more than 15 to 20 years. What did you mean by that?

A. I have been familiar with mobile devices and user interfaces for around 20 years or more.

Q. Okay. By mobile devices, you are talking about smartphones, handheld computers, PDAs.

Are those the kinds of mobile devices that existed in the 2011 time frame?

A. Yes.

Q. Was it common back in 2011 for these kind of mobile devices to have touchscreens?

A. Yes.

Q. What about earlier than 2011, were touchscreens, smartphones, handheld computers and PDAs well known in the earlier 2000s?

A. It was less common, earlier. Again, there were fewer of them and much more specialized.

Q. But they were known in the early 2000s, just fewer, is that accurate?

A. They were less known and they were in specific contexts.

Q. What about the late '90s?

A. Again, very limited.

Q. What about the early '90s?

A. Again, very limited.

Q. What about the '80s?

A. I would say very limited.

Q. Known but limited?

A. I think very limited. I mean to specialize the devices.

Q. What about the '70s?

A. I don't recall too much then.

Q. Are you aware that the '212 patent was asserted against Apple in a District Court litigation that Smith filed in the Southern District of California in 2023?

A. I don't know the specifics. But, I know there was some sort of district case ongoing.

Q. And did Smith engage you to work on any aspect of that California litigation?

A. I have not looked at the litigation.

Q. So, just to be clear, have you reviewed any documents that were prepared, filed, or served in the California litigation?

A. I don't think so.

Q. So, for example, you haven't looked at Smith's infringement contentions against Apple's products in the California litigation?

A. I have not.
Q. Did anybody tell you about those contentions?
A. No. Not, not in any level of detail.
Q. Did you ask about them?
A. No.
Q. And why didn't you ask about them?
A. I was focusing on the IPRs.
MR. DARBY: Okay, Dr. Madisetti, I'm going to send you Exhibit 1001 in this case through the Zoom chat feature.
(Whereupon, previously marked Exhibit 1001, first referral.)
BY MR. DARBY:
Q. Please let me know when you have a chance to download that document.
A. Okay. I have downloaded that Exhibit 1001.
Q. And do you recognize this document as the '212 patent?

A. Yes.

Q. Were you aware of the '212 patent before your work in this IPR proceeding and your engagement by Smith?

A. I don't recall one way or the other.

Q. So, you may have seen it, you may not have?

A. That's right.

Q. And did you review the '212 patent in preparation for today's deposition?

A. Yes.

Q. And are you prepared to answer questions about the '212 patent today?

A. Yes. In the context of my declaration.

Q. Okay. So for the record, any questions I ask you about the '212 patent during today's deposition, I would like for you to answer from the perspective of a person of ordinary skill in the art.

Can you do that?

A. Okay.

Q. When preparing your declaration for this proceeding, did you study the '212 patent in detail?

A. Yes.

Q. And did you read it, in its entirety?

A. Yes.

Q. Front to back, cover to cover?

A. Yes.

Q. Approximately how much time did you spend studying the '212 patent when preparing your opinions for this case?

A. I don't recall. Maybe a few hours.

Q. A few like two?

A. I couldn't hear you, sir.

Q. By a few, do you mean like two?

A. Probably more. Around a dozen. Ten hours or so. At least.

Q. And what is the '212 patent's invention in your view?

A. The claims describe the invention.

Q. Okay. And what is your

understanding of the claims?

A. The claims describe a certain technologies for the advanced user interfaces.

Q. And what kind of technologies?

A. They call them as technologies that allow interacting with touchscreens, for example, on mobile devices in a particular way.

Q. And what is the particular way that is the '212 patent's invention in your view?

A. They would be the description in the claims.

Q. Which part of the claims?

A. The language of the claims.

Q. Can you point me to any particular language of Claim 1, for example?

A. I would say the entire Claim 1 as a whole.

Q. Okay. Please turn to Column 1, Lines 5 through 24 of the '212 patent.

Let me know after you take a minute to study that paragraph.

A. Column?

Q. Column 1, Lines 5 through 24.

A. Okay.

Q. And do you agree that this section is titled Cross-Reference to Related Applications?

A. Yes.

Q. And would you agree with me that this paragraph is cross-referencing all of the patents and applications that are related to the '212 patent?

A. I can see that it is titled Cross-Reference to Related Applications.

Q. Is it your understanding that this paragraph lists a number of different patent applications?

A. Yes. At a high level.

Q. And is it your understanding that the listed patent applications are related to the '212 patent?

A. That is my understanding. Again, as described herein.

Q. Okay. And did you review the listed

patent applications in this paragraph?

A. Not all of them.

Q. Which ones did you review?

A. I believe, as I said, I reviewed a few other patents that I filed IPRs for. I don't recall which provisionals they relate to.

Q. So, sitting here right now, you are not able to pick out the specific related applications that you reviewed?

A. No, I don't recall specifics.

Q. Do you know if you reviewed more than one of the related applications listed in this paragraph?

A. I don't, I don't know specifically.

Q. You said earlier that you didn't review all of them.

Why didn't you review all of them?

A. Again, all I can say is that I reviewed the specification. I reviewed the other relevant documents.

I did not -- I was not asked to offer an opinion on anything else other than what

it was in my declaration.

Q. Okay. Let's move to the next section.

Please spend a few minutes refreshing yourself on the material at Column 1, Line 40, and Column 3, Line 16. Let me know when you are done.

A. Okay.

Q. Would you agree with me that this section includes text that resembles the independent claims of the '212 patent?

A. I would say that this section is titled Background and Field of the Invention and describes it as a brief summary.

I do not characterize it in any other way.

Q. Okay. Can you look at the brief summary, specifically starting at Column 1, Line 42 through Column 2, Line 5 and compare that to Claim 1 and let me know when you are done with that?

A. Yes, I have reviewed that.

Q. Okay. So just to ask the question again.

Is it your view that this brief summary beginning at Column 1, Line 42 and extending to Column 2, Line 5 resembles the claim language of Claim 1 in the '212 patent?

MR. LEVENTHAL: Object to the form.

THE WITNESS: As I said, there is some similar English. But, I would say that the claim is the claim. This paragraph is the paragraph.

There may be some common English phrases, but I would not say they are the same.

BY MR. DARBY:

Q. Do you know if this text and the brief summary of the '212 patent appears in any of the other related patent applications that are listed in Column 1?

A. I don't recall one way or the other. I don't recall one way or the other.

Q. Okay. Sorry, I talked over you a

little bit there.

Is it that you weren't asked to look at that particular issue?

A. No. But, I just don't recall one way or the other.

Q. Were you asked to look at whether any of these related applications listed in Column 1 of the '212 patent provide written description support for the claims of the '212 patent?

A. No. I do not offer any opinions on written description.

Q. Okay. Please turn to Column 85, Line 4 through Column 95, Line 46.

Take a few minutes. Just refresh yourself on that portion and let me know once you are done.

A. You said Column 85?

Q. That's right. Column 85, Line 4 through Column 95, Line 46.

A. Yes, I have looked at this.

Q. And would you agree with me that

this section of the '212 patent at Column 85, Line 4 through Column 95, Line 46 is identifying and incorporating by reference a number of different patent applications?

A. At a high level, yes.

Q. And what is your understanding of incorporation by reference?

A. At a high level again without going into the legal side, it is incorporating the language in those specifications and documents as if they were in here.

Q. So, when a patent or patent application incorporates another document by reference, that other document is made part of the disclosure of the patent.

Is that accurate?

A. At a high level, that is what is my understanding. Sometimes it says in its entirety, sometimes it may say something else.

But, generally, that is my understanding.

Q. And is it your understanding that

the patents and patent applications listed in this section starting at Column 85, Line 4 of the '212 patent are prior art documents?

A. I don't provide an opinion on that issue.

Q. So, you don't know one way or the other if they are prior art or not?

A. I have not been asked to provide an opinion on that issue.

Q. Okay. But you can see that some of the publication numbers are starting in 2006, for example, though, right?

A. As I said, I don't have an opinion on that issue, counsel.

Q. So, did you review any of these listed patent applications and patents in the section starting at Column 85, Line 4 of the '212 patent?

A. I don't think so.

Q. And why didn't you review any of it?

A. I did not. I did -- my declaration, I felt was sufficiently supported by my basis

that I listed there.

Q. Okay. Moving on to the claims starting at Column 95, Line 55.

You reviewed Claim 1 of the '212 patent, correct?

A. Yes.

Q. And you also reviewed independent Claim 16 of the '212 patent. Correct?

A. Yes.

Q. And you also reviewed independent Claim 84 of the '212 patent. Correct?

A. Yes.

Q. Did you review any other claims of the '212 patent?

A. Yes. Some of the dependent claims cited in the petition.

Q. Did you review all of the independent claims -- excuse me, strike that.

Did you review all of the dependent claims of the '212?

A. I believe so. I believe so based on the invention and the petition.

Q. Did you mention -- strike that.

Did you review any dependent claims that are not listed in the petition?

A. I read, I reviewed all of the claims.

Q. But you only offered opinions on a subset of them.

Is that accurate?

A. Yes.

Q. And how did the review you conducted on the dependent claims inform your understanding of the independent claims?

A. I considered the entire, all of the claims to inform my understanding.

Q. Can you turn to Figure 3 of the '212 patent.

A. Okay.

Q. Is this one of the figures that you reviewed?

A. As I said, I looked at the figures in light of the review of the specification.

Q. And did this figure inform your

understanding of the independent claims of the '212 patent?

A. All of the figures and the specification were reviewed by me.

Q. And what is your understanding of how Figure 3 relates to Claim 1 of the '212 patent?

A. I have not offered an opinion with respect to Figure 3 to the best of my recollection.

Q. Do you understand what Figure 3 depicts?

A. Figure 3 says that it is "a method for ordering a user experience based on a received signal in accordance with one embodiment."

Q. And are you reading from the specification of the '212 patent?

A. Yes.

Q. Can you identify the column and line numbers that you are reading from?

A. I was looking at Column 3, Lines 47

through 51.

Q. Okay. And is that text related to Claim 1 of the '212 patent?

A. I don't have an opinion on that.

Q. Is there any text in the specification of the '212 patent that you believe relates to Claim 1 of the '212 patent?

MR. LEVENTHAL: Form.

THE WITNESS: That is just it, counsel. I have not offered opinion on written description.

BY MR. DARBY:

Q. So, just to be clear, you don't have any opinions about whether the specification of the '212 patent describes or provides any sort of support for the claims of the '212 patent?

MR. LEVENTHAL: Form.

THE WITNESS: To avoid any doubt, I was not asked to offer such an opinion. And I did not.

BY MR. DARBY:

Q. Looking at Claim 1, do you see the

language that says "display indicia associated with an application utilizing the touchscreen"?

MR. LEVENTHAL: I'm sorry. Just give me a second to get there.

THE WITNESS: So, I'm back on Claim 1, Column 95 of the '212 patent.

And what is your question, counsel?

BY MR. DARBY:

Q. Do you see the text that says "display indicia associated with an application utilizing the touchscreen"?

A. Yes. I see that in Lines 60 through 61 of Column 95.

Q. And that is an element of independent Claim 1 of the '212 patent. Correct?

A. Yes.

Q. Are you aware of any corresponding description of that element in the specification of the '212 patent?

MR. LEVENTHAL: Form, scope.

THE WITNESS: As I said, counsel. I was not asked to offer an opinion on that

issue.

So, I do not offer an opinion in my declaration.

BY MR. DARBY:

Q. Were you asked to review the claims of the '212 patent in view of the specification?

A. I was asked to review the claims of the '212 and I reviewed them in view of the specification.

Q. Okay. And which portions of the specification informs your view of the element that begins at Column 95, Lines 60 through 61?

A. As I said, counsel, I don't have a specific opinion on that issue. I don't remember.

Q. You don't remember or you don't have an opinion?

A. As I said, I reviewed the specification. I was not asked to offer an opinion with respect to written description.

I don't recall specifically which sections applied to which limitation.

Q. So, you said earlier that you were asked to review the claims of the '212 patent in view of the specification. Right?

A. Yes. Which I did.

Q. But you didn't track which portions of the specification correspond to which claim elements.

Is that fair?

A. I did not offer an opinion or track them.

Q. So, you don't know one way or the other if all of the elements of Claim 1 of the '212 patent are actually described in the specification. Right?

MR. LEVENTHAL: Form.

THE WITNESS: I don't have an opinion on that, counsel. If asked and allowed in future, I may offer an opinion.

But at this point, I don't have an opinion.

BY MR. DARBY:

Q. And that is true for all of the

claims of the '212 patent?

A. I am not sure what you are asking.

That is true about what?

Q. You said you don't have an opinion and that you didn't track which portions of the specification might correspond to certain claim elements.

I just want to make sure that is true not only for Claim 1 but for all of the claims.

A. Yes. What I said is that I looked at the specification, I looked at the claims. I offered my opinions in my declaration, along with the basis.

I was not asked to offer opinions on written description, nor tracked which portions of the specification supported which limitation.

And that applies to all of the claims.

MR. DARBY: Okay. Why don't we take a break. We are coming up on the hour.

THE WITNESS: Okay.

(Recess taken -- 10:56 a.m.).

(After recess -- 11:09 a.m.).

BY MR. DARBY:

Q. Dr. Madisetti, welcome back. Just to confirm, you didn't speak with anybody regarding the substance of your testimony during the break, correct?

A. That's right.

Q. Did you speak with anybody at all?

A. No.

Q. Did you consult any notes during the break?

A. No.

MR. DARBY: I'm going to send you Exhibit 1004 in this case through the Zoom chat feature. Let me know when you have that one.

(Whereupon, previously marked Exhibit 1004, first referral.)

THE WITNESS: Okay.

BY MR. DARBY:

Q. And do you recognize this document as the Hotelling reference?

A. Exhibit 1004 is the Hotelling reference, yes.

Q. And were you aware of Hotelling before your work in this IPR proceeding?

A. I heard him a few times in other court proceedings.

I was not aware of this document.

Q. Just to be clear, when you said you heard him, are you saying that you have heard of Mr. Hotelling, the inventor Steven Hotelling listed on this reference?

A. I heard him testify at other trials.

Q. But, this particular document you have never seen before?

A. I did not, I was not aware of this particular document before this matter.

To the best of my recollection I may have reviewed it but I don't recall.

Q. To the best of your knowledge, when did you first learn about this Hotelling

document?

A. As I said, I don't recall one way or the other. But I certainly reviewed it as a part of my work in this matter.

Q. Did you review Hotelling in preparation for this deposition?

A. Yes.

Q. And are you prepared to answer questions about Hotelling today?

A. Yes. In the context of what I discussed in my declaration.

Q. Okay. For the record, any questions I ask you about Hotelling during today's deposition, I would like for you to answer from the perspective of a person of ordinary skill in the art.

Can you do that?

A. Yes.

Q. When preparing your declaration for this proceeding, did you study Hotelling in detail?

A. Yes. Can I have a copy of my

declaration?

MR. DARBY: Sure. Let me drop that in the chat for you.

(Whereupon, previously marked Exhibit 2004, first referral.)

BY MR DARBY:

Q. Okay. I have sent you Exhibit 2005 in this proceeding through the Zoom chat feature.

Let me know when you have that one.

A. I do.

Q. And do you recognize this document as your declaration?

A. Yes.

Q. Okay. Going can back to the Hotelling reference, when preparing your declaration for this proceeding, did you study Hotelling in detail?

A. I did.

Q. And did you read it from cover to cover, the entire thing?

A. I read it in detail, yes.

Q. Approximately how much time did you spend studying Hotelling when preparing your opinions for this case?

A. As I said, I don't recall specifics. But, I reviewed it in detail several times. So, it will be quite a few hours. But, I don't have an exact number.

Q. Okay. Please turn to Paragraph 2 of Hotelling.

A. One second. Yes, I am on Paragraph 2.

Q. Okay. And do you agree that Paragraph 2 of Hotelling identifies multiple related patent applications "which are all herein incorporated by reference"?

A. That is what it says in the first line of Paragraph 2.

Q. So, we talked about this earlier. But, do you agree that each of these related and incorporated by reference applications are part of Hotelling's disclosure?

A. Again, from a legal point of view, I

cannot say that.

But, it certainly references them.

Q. I'm reading back your earlier testimony when I asked you what is your understanding of incorporation by reference and you said "it is incorporating the language in the specifications and documents as if they were in here".

Is that still your understanding?

A. I think I mentioned in a complete fashion that this was my high level understanding.

Q. Okay. So, is it your high level understanding that the applications listed in Paragraph 2 of Hotelling are part of Hotelling's disclosure?

A. Yes. In a --

MR. LEVENTHAL: Form.

THE WITNESS: Yes, in a non-legal manner, as I said that is my general understanding that these are referenced.

BY MR. DARBY:

Q. And did you review the related applications that are listed in Paragraph 2 of Hotelling?

A. I don't recall reviewing, I don't recall reviewing these.

Q. You don't recall or you didn't review them?

A. I don't recall reviewing those.

Q. So, you don't know one way or the other if you reviewed the applications listed in Paragraph 2 in preparing your opinions for this proceeding?

A. I would have to look through my declaration because -- to see if I referenced anything specifically.

I don't recall one way or the other.

Q. Okay. Well, you have your declaration in front of you, Exhibit 2005.

Why don't you take as much time as you need to look at that so you can answer my question.

A. I reviewed my declaration. I

reviewed all of the portions that were cited in the petition.

I don't recall reviewing anything else other than the document of Hotelling which is Exhibit 1004.

To the extent that the petition or the declaration of Dr. Cochburn referred to other language from Hotelling, I would have reviewed that.

Q. Is it your view that a person of ordinary skill in the art would have been motivated to modify Hotelling's teachings with the teachings of these related applications in light of the explicit incorporation by reference statement here in Paragraph 2 of Hotelling?

MR. LEVENTHAL: Form.

THE WITNESS: Are you referring to a portion of my declaration? I don't believe I --

BY MR. DARBY:

Q. No --

A. -- I don't believe I offer an

opinion on that issue.

Q. Just to finish my thoughts. I'm not referring to a specific paragraph of your declaration, I'm just asking you the question.

A. I have not offered an opinion on that issue. So, I cannot answer that question right now.

Q. You have never offered an opinion on that issue to your recollection?

A. I don't --

MR. LEVENTHAL: Form.

THE WITNESS: I don't believe I have offered an opinion on these specific references in Section 2.

I have certainly rebutted what I have seen in the petition and Dr. Cochburn's declaration.

BY MR. DARBY:

Q. You don't ever remember making an opinion about the references listed in Paragraph 2 of Hotelling. Is that accurate?

MR. LEVENTHAL: Form.

THE WITNESS: As I said, I have offered a rebuttal to the opinions and their basis presented in the petition and Dr. Cochburn's declaration.

Those are fully complete, those are fully present in my declaration. I don't believe I have offered any opinions on my own with respect to the references in Paragraph 2 of Hotelling.

BY MR. DARBY:

Q. What about outside your work on this case.

Have you ever offered such an opinion?

A. I don't believe so.

Q. To gain an understanding of Hotelling's disclosure, do you think it is important to review the documents that are incorporated by reference?

MR. LEVENTHAL: Form.

THE WITNESS: As I said, counsel, I reviewed the assertions made by the petition

and the declaration.

And based on my review of the petition and the declaration of Dr. Cochburn, I offered certain opinions which I believe are fully substantiated.

BY MR. DARBY:

Q. What would a person of ordinary skill in the art do when they saw the statement in Paragraph 2 indicating that a number of other documents are incorporated by reference?

MR. LEVENTHAL: Form.

THE WITNESS: I don't have an opinion on that issue.

BY MR. DARBY:

Q. You don't have an opinion on how the person of ordinary skill in the art would understand Hotelling and what they would do upon reading Hotelling?

A. It is my opinion that based on the discussions and opinions offered by Dr. Cochburn and the petition, I offered my opinions rebutting the petition and the Dr. Cochburn's declaration

and the opinions and basis.

So, that is what I did in my declaration to --

Q. And -- I'm sorry about that. Go ahead.

A. To the extent that you are asking me to opine on something else, if asked and allowed, I may do so in the future.

But at this point, I don't have an opinion, which --

Q. Okay. But you did offer an opinion about the scope and content of Hotelling's disclosure, correct? From the perspective of a person of ordinary skill?

MR. LEVENTHAL: Form.

THE WITNESS: I offered a rebuttal to the petition and a rebuttal to Dr. Cochburn's opinions and the basis.

That was the purpose of my declaration. I did not do any independent evaluation of Hotelling in its entirety and whatever it does.

I understood that that was, I was focused instead on the petition and the declaration of Dr. Cochburn.

BY MR. DARBY:

Q. Okay. Please turn to Paragraphs 74 through 83 and take a moment to review those sections of Hotelling.

A. Yes.

Q. And do you agree that these paragraphs are discussing the examples of graphical user interfaces that are shown in Figures 9 through 17 of Hotelling?

A. I did not hear the question completely.

Q. Do you agree that these paragraphs are discussing the examples of graphical user interfaces that are shown in Figures 9 through 17 of Hotelling?

A. As described in Paragraph 74, Figures 9 through 17, they illustrate various examples of GUIs for different states or modes of the multifunctional device.

So, that I believe is what Hotelling discloses that these are, these are, for example, Figure 9 is a GUI for a PDA mode, Figure 10 is a GUI for a cellphone mode. And so on.

Figure 10 and Figure 11 similarly are for specific modes such as musical player or a video player or a game player, respectively.

Q. Okay. And in your review of these paragraphs, did you see that each of these graphical user interfaces in Figures 9 through 17 include a standard region and a control region?

A. As I described earlier, Figures 9 through 17 are specific examples of GUIs for different states or modes of a multifunctional device.

Figure 9 which is the GUI for a PDA mode shows that it is divided into a standard region 152 and a control region 154.

Similarly Figure 10 which is a diagram of a GUI 180 that is used in a cellphone mode is shown as GUI 180, is divided into a standard region 152 and a control region 154, and

so on.

Similarly for Figures 11, 12, depending on the mode there is such a disclosure for that particular mode, be it a music player or a video player and so on, respectively.

Q. So would you agree that each of the graphical user interface modes of Figures 9 through 17 each include, or are divided into, a standard region and a control region?

A. As I said earlier, Figures 9 through 17 are specific examples of different types of GUIs for different modes of a multifunctional device.

And each of those figures describes that the GUIs divided into a standard region 152 and a control region 154.

For example, in the PDA mode or in a particular cellphone mode or a music player mode, and so on.

Q. And would you agree that control --

Would you agree that the control region of each of the graphical user interface

modes of Figures 9 through 17 includes virtual buttons?

A. The disclosures of Paragraphs 74 through 83 which describe GUIs of different modes of a multifunction device such as a PDA or a cellphone mode or a music player mode or a video player mode or a game player mode or a camera mode, they disclose use of virtual buttons in the context of their disclosure.

Q. So, the idea of using virtual buttons is common throughout these different graphical user interface modes. Is that accurate?

A. To be precise, when describing GUIs for different modes such as a PDA mode or a cellphone mode or a music player or a video player mode, that include a standard region and a control region, as described in Paragraphs 74 through 83.

It discloses the use of virtual buttons in that context.

Q. So, would you agree that the idea of

using virtual buttons is consistent throughout those figures but the kinds of virtual buttons or the specific arrangement of virtual buttons is different in each?

A. I would not agree with that statement.

I would say that these figures are disclosing specific modes which are, which correspond to different functional devices and the virtual buttons are shown in the context of a specific mode such as a PDA mode and a cellphone mode, for example.

And they are described in the context of a standard region and a control region. And they are describing specifically how virtual buttons are used in the context of the specific disclosures.

Q. Are there any graphical user interfaces described in Paragraphs 74 through 83 of Hotelling that do not include virtual buttons?

A. The specification speaks for itself. It's talking about specific modes. These GUIs

could respond to specific modes and functions in a multifunction device.

So, in the examples of Figure 7 of Paragraph 75 through 94, 75 to 83, the figures describe use of a standard region and a control region and it describes use of virtual buttons inside a control region in these specific disclosures as used in that context of particular function or mode within a multifunctional device.

Q. Okay, Dr. Madisetti, why don't you pull out your declaration, Exhibit 2005.

(Whereupon, previously marked Exhibit 2005 first referral.)

BY MR. DARBY:

Q. Let me know when you have that handy.

A. Okay. I do.

Q. And did you review your declaration in preparation for today's deposition?

A. Yes.

Q. And are you prepared to answer

questions about your declaration today?

A. Yes.

Q. Did you personally write this declaration?

A. Yes. The declaration is mine. The opinions are mine.

Q. By personally write, I mean did you type all of the words?

A. I worked with the attorneys who provided editorial assistance. I developed the first draft.

Q. And how did you develop the first draft? What was your process?

A. I discussed my opinions with the attorneys and identified the basis and identified the general structure of my opinions and how they should be laid out.

Q. And did you provide them a document that included a written version of your opinions?

A. No, I had a discussion with them.

Q. So, who provided the first document? Did you provide one to them or did

they provide one to you?

MR. LEVENTHAL: Form.

THE WITNESS: I don't recall the specifics.

BY MR. DARBY:

Q. So what did you mean when you said you developed the first draft? I had interpreted that as you provided them a document.

Is that inaccurate?

A. I worked with attorneys to develop an outline of a document and what it should contain, what opinions, the basis.

Q. Okay. So you didn't actually write the words of the first draft.

But, you collaborated with counsel to develop your opinion that turned into the first draft?

Is that fair?

A. As I said, I worked on the opinions, I worked on the basis. I discussed them with the attorneys, and the attorneys provided editorial help.

Q. What do you mean by editorial help?

A. Help in putting some of the words to the paper.

Q. How many hours did you spend developing your opinions and preparing this declaration?

A. I would say, I don't have the exact number. But, probably 50 to 80 hours per declaration.

Q. And what is the hourly rate you charged Smith for preparing this declaration?

A. I believe it is $700 an hour.

Q. And have you been paid by Smith for the work that you did in preparing this declaration?

A. Not yet.

Q. Do you have an expectation on when you will be paid for the work that you did in preparing this declaration?

A. I think it should be shortly.

Q. Why do you think it should be shortly?

A. That is my understanding.

Q. What is your basis for that understanding?

A. As I said, I cannot explain more.

Q. And why can you not explain more?

A. My understanding is based on my initial agreement.

Q. I don't want to know the specifics of that agreement.

But, is there some requirement as to when you will be paid?

A. I don't recall that, either. But my understanding based on my past work on similar matters is that I will be paid in the appropriate time.

Q. And when do you consider to be the appropriate time in this case?

A. As I said, I don't have a specific date or a number.

Q. When did you begin your work on this declaration?

A. I would say sometime in March, maybe

earlier. I don't recall specifically.

Q. And have you provided monthly invoices to Smith for your work?

A. I may have been a bit late. But, I don't recall the specific dates.

Q. But did you send one for each month?

A. Again, I don't recall the specifics.

Q. Okay. Please turn to Paragraph 14 of your declaration and take a moment to refresh yourself based on that paragraph. Let me know when you are done.

A. Yes, I'm on Paragraph 14 of my declaration.

Q. Okay. And here Paragraph 14, you indicate that you were asked to treat August 5th, 2011, as the time of the '212 patent's alleged invention.

Correct?

A. Yes.

Q. And is all of your analysis based on the premise that August 5th, 2011, is the time of the '212 patent's alleged invention?

A. I have been asked to treat August 5, 2011, as the art at the time of the invention because that is the date that was referenced to in Dr. Cochburn's declaration.

My opinions applied as well to either any of the other provisionals that are referenced, whether they are in August or in December. Or at different times in 2011.

Q. Just to make sure I understand, you would hold the same opinions, even if the date of the '212 patent's alleged invention was at some other time in 2011, that is not August 5th.

Is that accurate?

A. I have been asked to treat it as August 5th and my opinions would apply even if it were December 2011.

Q. Would your opinions change if you were asked to assume a different date as the time of the '212 patent's alleged invention that is not 2011. A later date? Say, 2015?

A. I don't have an opinion on that issue at this point.

Q. What about if you were asked to treat the time of the '212 patent's alleged invention as its filing date of August 30th, 2019?

How would your opinions change?

A. As I said, I don't have an opinion on that issue at this time.

Q. So, you don't know one way or the other if your opinions would change if you assumed the date of August 30th, 2019?

A. As I said, counsel, that is not something I have considered and I don't have an opinion on that issue at this time.

Q. And did you perform an independent analysis regarding whether the '212 patent is entitled to claim priority to the August 5th, 2011, date that you were asked to assume?

A. I have not.

Q. Okay. Please turn to Paragraph 20 of your declaration. You can take a moment to refresh yourself on that paragraph.

A. Yes. I have reviewed that.

Q. Okay. It is a short paragraph. Can you just read it out loud for the record, please.

A. In Paragraph 20 of my declaration, I state that, "My opinions are based on my education, training, and experience as well as the items that I have reviewed to prepare my opinions including the Petition, the documents listed in the Exhibit List included with the Petition, the deposition of the Petitioner's expert Dr. Cochburn, and any other items that I reference in my -- and in my below analysis".

Q. Did you review any other documents besides those listed here?

A. If I did, they would be referenced in my declaration.

Q. So, if they are not mentioned here and not elsewhere referenced in your declaration, that means that you didn't consider any other documents.

Is that fair?

A. At a high level, yes.

Q. Did you conduct any research or look

for any objective evidence that might support your opinions?

A. I --

MR. LEVENTHAL: Form.

THE WITNESS: As I said, I based it on my education, training and experience.

But, I did not -- I don't believe I looked at anything else other than the items that are stated in Paragraph 20.

BY MR. DARBY:

Q. So, for example, you didn't search online for any supporting documentation?

A. I did not.

Q. You didn't review any of your old patents?

A. I did not. I did not.

Q. You didn't review any of your old declarations from other cases on graphical user interfaces?

A. I don't believe so.

Q. And, why didn't you do any of those things?

A. My understanding is that I would review the petition, the declaration, and their basis. And then I would provide a rebuttal.

Q. Paragraph 20 here in your declaration, you say that you review the documents listed in the Exhibit List included with the Petition, right?

A. Yes.

Q. And did you read each of those documents in their entirety?

A. I believe so.

Q. But you don't discuss all of the exhibits or documents listed in the Petition's Exhibit List in your declaration, right?

A. As I said, my declaration contains my complete opinions and the basis. I do not wish to characterize it in any other way.

Q. Are there documents in the Petition's Exhibit List that are not cited in your declaration?

A. Again, I would have to look through them. But, my declaration contains all of my

opinions and their basis.

MR. DARBY: Okay. We are coming up on the hour. Let's take a break.

(Recess taken -- 11:54 a.m.)

(After recess -- 12:07 p.m.)

BY MR. DARBY:

Q. Okay, Dr. Madisetti, just to confirm, did you speak with anybody regarding the substance of your testimony during the break?

A. I did not.

Q. Did you speak with anybody at all during the break?

A. No.

Q. Did you consult any notes during the break?

A. No.

Q. Okay. Please turn to Paragraphs 26 through 30 of your declaration.

Take a moment to refresh yourself and then let me know when you are done.

A. Yes, I have reviewed them.

Q. And in this section you talk about

multi-part gestures.

Is that accurate?

A. The section is titled Multi-Part Pattern-Based Gestures.

Q. And what is a multi-part pattern-based gesture?

A. It is a gesture that is pattern based as described in some embodiments of the '212 patent.

Q. Can you expound on that?

A. I think the examples are provided in Paragraph 27 where a pattern-based gesture may be recognized in the form of an ordered sequence as described, for example, in Figure 28 using a decision tree.

So, these are some examples.

Q. Okay. When you reference Figure 28 here, you are not talking about the '212 patent. Right?

A. Sorry. I was referencing the Exhibit 1001. So, I was talking about the pattern-based gestures using a decision tree.

Exhibit 1001, and Column 72 as an example.

And, let me go to the exact figures. So, there are many examples of these figures in the specification of the '212.

Q. Sorry, I didn't catch that. Can you say that again?

A. If you provide me Exhibit 2007, I can provide additional reference to these figures.

Q. What about the '212 patent, Exhibit 1001? Where does it describe multi-part pattern-based gestures?

A. As I describe in Paragraph 27, it describes certain examples in Column 70 -- in Column 74.

Q. Okay. And which text in Column 74 are you referencing?

A. For example lines, lines would be 24 onwards to around 44, 45, as example. These are again different embodiments, nonlimiting examples.

Q. Okay. And do you believe that the claims of the '212 patent are limited to and require multi-part gestures?

MR. LEVENTHAL: Form.

THE WITNESS: My opinion is that the claim language determines what the scope of the claims is.

I don't have any other opinion. So, I disagree with you.

(Whereupon, previously marked Exhibit 2007 first referral.)

MR. DARBY: Okay. I just put Exhibit 2007 into the Zoom chat feature for you in case you want to reference that.

THE WITNESS: Okay.

BY MR DARBY:

Q. And my question is at Paragraph 30 of your declaration, you quote a passage from Paragraph 529 of a provisional application incorporated by reference into the '212 patent.

Is that accurate?

A. I was using various nonlimiting examples from Exhibit 2007 and Exhibit 1001.

And, I was referring to, for example, an exemplary disclosure in Paragraph 581, 564, 566, and 581 as examples. Nonlimiting examples.

Q. Just to be clear, make sure we are on the same page.

When you say nonlimiting examples, are you indicating that these examples do not limit the scope of the '212 patent's claims?

A. These are exemplary embodiments and I do not -- the claims have their own language and their own meaning.

And the claims have their own scope based on their own language.

Q. Paragraph 30 of your declaration you say that this provisional application teaches the idea of displaying a pop-up menu, correct?

A. Counsel, you said Paragraph 30 of my declaration, is that what you said?

Q. That is what I said, yes.

A. I said that, "For example, in one embodiment, a gesture which triggers the display of a pop-up menu and allows a user to cycle through menu items may have as a final operation the selection of a current menu item and the removal of the pop-up menu."

I was citing the exemplary disclosure 529.

Q. And what is a pop-up menu?

A. An example of a pop-up menu could be something that appears in response to some sort of gesture.

Q. So, it is a menu that pops up and becomes viewable to the user?

A. An example would be something that would be triggered by a gesture and it would display some sort of menu in response to the gesture as an example.

Q. And would you agree that viewable menus had been known and were known to have certain benefits and were standard fixtures of graphical user interface implementations since at

least the early 1980s?

MR. LEVENTHAL: Form.

MR. DARBY: Let me strike that question and ask it again.

BY MR. DARBY:

Q. Do you agree that viewable menus had known benefits and were standard fixtures of graphical user interface implementations since at least the early 1980s?

MR. LEVENTHAL: Form.

THE WITNESS: I would disagree that I made that statement in certain contexts but that may be outside the context of the '212. So, it depends on the context.

BY MR. DARBY:

Q. What about the context does that statement depend on?

A. It depends on the context of the disclosure. I don't believe that you included the full context.

Q. What context did I leave out?

A. I don't know.

Q. So, you are unable to agree that viewable menus had known benefits and were standard fixtures of graphical user interface implementations since at least the early 1980s?

A. My testimony is that as used in the claims, it is my opinion that they are novel.

I don't have an opinion with respect to the general question. It may or may not depending on the context.

Q. Do you know if viewable menus had known benefits and were standard fixtures of graphical user interface implementations since at least the early 1980s?

A. As I said, if used in different contexts other than the claimed invention, I would have to look at the context.

Q. Outside of the context of the '212 patent, is it true that viewable menus had known benefits and were standard fixtures of graphical user interface implementations since at least the early 1980s?

A. In certain contexts, outside the

context of the '212, it is possible.

I don't have a specific opinion on that issue in my declaration unless I am able to review the specific context.

I would say that -- I would not say that that is a general statement.

Q. You would not say that general statement is true?

A. Yes. I would not. I would have to look at the specific context.

Q. Within the context of the '212 patent, is it true that viewable menus had known benefits and were standard fixtures of graphical user interface implementations since at least the early 1980s?

A. I don't have a specific opinion on that issue in my declaration.

It is my opinion that as claimed, the use of menus as claimed is novel for the reasons that I state in my declaration.

Q. Okay. Please turn to Paragraph 54 of your declaration. Take a minute to refresh

yourself on that paragraph and let me know when you are done.

A. Yes.

Q. There is a citation to a decision from the PTAB, Johns Manville Corporation versus Knauf Insulation, Inc.

Do you see that?

A. Yes.

Q. Where did you find this case citation?

A. It was provided by the counsel.

Q. And did you read this case?

A. I believe so.

Q. You believe so or you did?

A. I think I did.

Q. You think you did or you did?

A. It is very likely I did.

Q. It is very likely you did or you did?

A. As I said, it is very likely I did.

Q. But you don't know for sure?

A. I was advised by the counsel that

this was from this statement. This was the guidance that was provided as to the legal guidance.

Q. Do you happen to remember what the case is about?

A. I don't.

Q. Do you happen to know if the case is binding on the board in this current IPR involving the '212 patent?

A. As I said, I don't -- I'm not here to offer a legal opinion.

Q. So you don't know if this case is relevant to the law applied in this IPR involving the '212 patent?

A. I was advised by the counsel that it was relevant.

MR. DARBY: Okay. Let's take another five-minute break. I think that might be all I have. But I will confirm when we get back.

(Recess taken -- 12:27 p.m.)

(After recess -- 12:33 p.m.)

MR. DARBY: Dr. Madisetti, welcome back.

Thank you for your time today. I don't have any further questions and I pass the witness.

MR. LEVENTHAL: I don't have any redirect.

THE WITNESS: Thank you, counsel, I would like to review the transcript and sign.

(Whereupon, signature not having been waived, the deposition suspended at 12:33 p.m. EST)

CERTIFICATE OF NOTARY

I, LORI J. GOODIN, RPR, CRR, CA CSR # 13959 the Notary for this deposition, do hereby certify that the witness whose testimony appears in the foregoing deposition was sworn by me; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, or financially or otherwise interested in the outcome of this action.

Lori J. Goodin

LORI J. GOODIN, RPR, CLR, CRR
Notary Public in and for:

STATE OF FLORIDA, COUNTY OF SARASOTA
Notary Commission Number: GG987804
My Commission expires: May 12, 2028
STATE OF CALIFORNIA, CA CSR# 13959
My Commission expires: February 22, 2027
STATE OF MARYLAND, COUNTY OF ANNE ARUNDEL
My Commission expires: August 2, 2025
DISTRICT OF COLUMBIA, WASHINGTON DC
My Commission expires: June 1, 2026
STATE OF DELAWARE: COUNTY OF KENT
My Commission expires: September 9, 2025

Vijay K. Madisetti, Ph.D., c/o
NORTON ROSE FULBRIGHT US, LLP
98 San Jacinto Boulevard, Suite 1100
Austin, Texas 78701-4255

Case: Apple Inc. v. Smith Interface Technologies, LLC
Date of deposition: July 15, 2025
Deponent: Vijay K. Madisetti, Ph.D.

Please be advised that the transcript in the above referenced matter is now complete and ready for signature. The deponent may come to this office to sign the transcript, a copy may be purchased for the witness to review and sign, or the deponent and/or counsel may waive the option of signing. Please advise us of the option selected. Please forward the errata sheet and the original signed signature page to counsel noticing the deposition, noting the applicable time period allowed for such by the governing Rules of Procedure. If you have any questions, please do not hesitate to call our office at (202)-232-0646.

Sincerely,
Digital Evidence Group
Copyright 2025 Digital Evidence Group
Copying is forbidden, including electronically, absent express written consent.

Digital Evidence Group, L.L.C.
1730 M Street, NW, Suite 812
Washington, D.C. 20036
(202) 232-0646

SIGNATURE PAGE
Case: Apple Inc. v. Smith Interface Technologies, LLC
Witness Name: Vijay K. Madisetti, Ph.D.
Deposition Date: July 15, 2025

I do hereby acknowledge that I have read and examined the foregoing pages of the transcript of my deposition and that:

(Check appropriate box):
( ) The same is a true, correct and complete transcription of the answers given by me to the questions therein recorded.
( ) Except for the changes noted in the attached Errata Sheet, the same is a true, correct and complete transcription of the answers given by me to the questions therein recorded.

_____ _____
DATE WITNESS SIGNATURE

_____ _____
DATE NOTARY

Digital Evidence Group, LLC
1730 M Street, NW, Suite 812
Washington, D.C. 20036
(202)232-0646

ERRATA SHEET

Case: Apple Inc. v. Smith Interface Technologies, LLC
Witness Name: Vijay K. Madisetti, Ph.D.
Deposition Date: July 15, 2025

Page No.	Line No.	Change

_____ _____
Signature Date

A
a.m 1:15 2:4 6:1 44:1,2 72:4
able 30:8 80:3
above-titled 2:2
absent 85:21
accepted 22:5
accurate 8:18 23:14 34:16 37:8 52:21 59:13 67:13 73:2 75:22
acknowledge 86:6
Acrobat 11:7
action 2:3 84:6,8
additional 74:9
addressing 6:18
Administrator 2:8
advanced 28:3
advise 85:10
advised 81:22 82:15 85:6
ago 20:6,7
agree 29:3,7 31:9 33:22 48:12,19 56:9 56:15 58:6,20 58:21 59:22 60:5 77:19 78:6 79:1
agreed 6:12
agreement 65:7 65:9
ahead 55:5
alleged 66:16,22 67:11,19 68:2
allow 28:6
allowed 42:18 55:7 85:13
allows 77:3
analysis 66:20 68:15 69:11
and/or 85:9
ANNE 84:15
answer 8:3 9:4 26:12,19 46:8 46:14 50:20 52:6 61:22
answers 86:10 86:13
anybody 25:2 44:5,9 72:8,11
APPEAL 1:2
APPEARANC... 3:1
appearing 6:11
appears 32:17 77:11 84:5
Apple 1:4 7:1 13:12,15,19,21 14:2,2,4 24:7 85:3 86:4 87:8
Apple's 24:22
applicable 19:4 19:6,10 85:13
application 34:13 40:2,10 75:20 76:18
applications 29:5,9,12,15 29:18 30:1,9 30:12 32:18 33:7 34:4 35:1 35:16 48:14,20 49:14 50:2,10 51:13
applied 41:22 67:5 82:13
applies 43:18
apply 67:15
appropriate 65:14,17 86:9
approximately 2:4 12:17 14:6 14:13,16 15:15 16:1,2 17:13 27:10 48:1
April 20:8
arrangement 60:3
art 26:20 35:3,7 46:16 51:11 54:8,16 67:2
ARUNDEL 84:15
asked 30:21 33:2 33:6 35:8 39:19 40:22 41:5,7,19 42:2 42:17 43:15 49:4 55:7 66:15 67:1,14 67:18 68:1,17
asking 16:22 43:2 52:4 55:6
aspect 9:9 24:14
asserted 24:7
assertions 53:22
assigned 6:19 17:15
assistance 62:10
assistant 12:8
associate 12:8
associated 40:1 40:10
assume 8:2 67:18 68:17
assumed 68:10
attached 86:11
attorney 20:22 84:7
attorneys 20:16 62:9,15 63:10 63:21,21
August 66:15,21 67:1,7,12,15 68:3,10,16 84:16
Austin 3:8,15 85:2
Avenue 3:6
avoid 39:18
aware 24:6 26:2 40:17 45:5,9 45:17

B
back 9:7,21 22:12 23:4 27:8 40:5 44:4 47:15 49:3 82:20 83:2
Background 31:13
based 36:21 38:14 54:2,19 65:6,13 66:10 66:20 69:4 70:5 73:8 76:16
basics 7:7
basis 35:22 43:14 53:3 55:1,18 62:15 63:12,20 65:2 71:3,16 72:1
beginning 32:4
begins 41:12
BEHALF 3:3,12
believe 13:15 21:1,21 30:4 36:21,21 39:6 51:18,22 52:12 53:7,15 54:4 57:1 64:12 70:7,20 71:11 75:1 78:19 81:13,14
benefits 77:21 78:7 79:2,11 79:19 80:13
best 38:9 45:19 45:21
beyond 12:11
binding 82:8
bit 20:11 33:1 66:4
board 1:2 16:7 16:10,13,16 17:7 82:8
Boulevard 3:14 85:2
box 86:9
break 8:22 9:9 9:15 43:21 44:7,12 72:3,9 72:12,15 82:18
breaks 8:14,20 9:5
brief 31:14,17 32:3,17
buttons 59:2,8 59:11,21 60:1 60:2,3,10,16 60:20 61:6

C
c/o 85:1
CA 84:4,14
California 1:19 2:5,10 24:9,14 24:18,22 84:14
call 19:17 28:5 85:15
called 6:6 18:9
camera 59:7
careful 7:14
case 6:19 13:15 24:11 25:11 27:12 44:15 48:3 53:12 65:17 75:15 81:9,12 82:5,7 82:12 85:3 86:4 87:8
cases 13:4,6,11 13:12,14,19 14:4,6 17:4 70:18
catch 18:9 74:6
cellphone 57:4 57:20 58:18 59:6,16 60:11
certain 17:5 28:2 43:6 54:4 74:15 77:21 78:12 79:22
certainly 46:3 49:2 52:15
CERTIFICATE 84:1
Certified 2:7,8

certify 84:4
chance 25:18
change 67:17 68:5,9 87:11
changes 86:11
characterize 31:15 71:17
charged 64:11
chat 11:1,15 25:12 44:16 47:3,9 75:14
Check 86:9
citation 81:4,10
cited 36:16 51:1 71:19
citing 77:7
claim 28:15,16 31:20 32:5,6 32:10,10 36:4 36:8,11 38:6 39:3,7,22 40:6 40:15 42:6,12 43:6,9 68:16 75:6
claimed 79:15 80:18,19
claims 27:21 28:1,2,11,12 28:13 31:11 33:9 36:2,13 36:15,18,20 37:2,5,11,12 37:14 38:1 39:16 41:5,7 42:2 43:1,10 43:12,19 75:2 75:7 76:11,13 76:15 79:6
clarify 7:21
clear 15:21 24:16 39:13 45:10 76:7
clearly 7:15
close 10:22
cloud 19:3
CLR 1:18
Cochburn 51:7 54:3,20 56:3 69:10
Cochburn's 52:16 53:4 54:22 55:18 67:4
collaborated 63:15
collaboration 18:5,8,11
College 12:3
Colleges 12:7
Columbia 2:11 84:17
column 28:18,22 29:1 31:5,6,18 31:19 32:4,5 32:19 33:8,13 33:14,18,19,20 34:1,2 35:2,17 36:3 38:20,22 40:6,13 41:12 74:1,15,16,17
combination 18:10
come 9:7,21 13:10,17 18:2 18:21 19:1 85:7
comfortable 22:8
coming 43:21 72:2
commencing 2:4
Commission 84:12,13,14,16 84:17,19
common 23:4,10 32:12 59:11
communicate 10:6
communicating 10:11
communications 7:13 19:8,13
company 21:11
compare 31:19
complete 49:10 53:5 71:16 85:6 86:10,12
completely 56:14
computer 10:15
computers 22:21 23:8
Computing 12:3 12:7
conclusory 17:8
conduct 69:22
conducted 7:11 37:10
conferencing 7:11
confirm 10:10 44:5 72:8 82:19
Congress 3:6
consent 85:22
consider 65:16 69:18
considered 37:13 68:12
consistent 60:1
consult 9:14 44:11 72:14
contacted 20:2 20:12,22 21:7
contain 63:12
contains 71:15 71:22
content 55:12
contentions 24:21 25:3
context 18:8 26:14 46:10 59:9,21 60:10 60:14,16 61:8 78:13,14,16,18 78:20,21 79:9 79:16,17 80:1 80:4,10,11
contexts 23:16 78:12 79:15,22
control 57:11,18 57:22 58:9,16 58:20,21 59:18 60:14 61:5,7
copy 11:14,16 46:22 85:8
Copying 85:21
Copyright 85:20
Corporation 81:5
correct 10:8 19:15 36:5,8 36:11 40:15 44:7 55:13 66:18 76:19 86:9,12
correspond 42:6 43:6 60:9
corresponding 40:17
counsel 5:10 7:9 20:13,14 35:14 39:10 40:7,21 41:13 42:17 53:21 63:15 68:11 76:20 81:11,22 82:15 83:8 84:5,7 85:9,12
COUNTY 84:12 84:15,18
court 16:7,10,13 16:16 17:7 24:7 45:8
cover 7:4,7 27:8 27:8 47:20,21
credible 16:11
cross 10:7
cross-examina... 8:13 11:6
Cross-Reference 29:4,12
cross-referenci... 29:8
CRR 1:18 2:5 84:3,10
crypto 18:18
CSR 1:19 2:5 84:4,14
current 11:20 12:15 77:5 82:8
currently 12:10
cycle 77:3

D

D.C 1:21 86:2 87:3
DANIEL 3:13
daniel.leventh... 3:16
Darby 3:5 4:4 6:16,22 25:10 25:16 32:15 39:12,21 40:8 41:4 42:21 43:20 44:3,14 44:22 47:2,7 49:22 51:20 52:18 53:10 54:6,14 56:4 61:15 63:5 70:10 72:2,6 75:13,17 78:3 78:5,15 82:17 83:1
date 20:5 65:19 67:3,10,18,20 68:3,10,17 85:4 86:5,17 86:22 87:10,22
dates 66:5
DC 84:17
deal 18:4
December 67:8 67:16
decision 73:15 73:22 81:4
declaration 10:17,19 21:22 22:2 26:15 27:1 31:1 35:21 41:3 43:13 46:11,19 47:1,13,17

50:14,18,22 51:7,18 52:4 52:17 53:4,6 54:1,3,22 55:3 55:20 56:3 61:11,19 62:1 62:4,5 64:6,9 64:11,15,19 65:21 66:9,13 67:4 68:20 69:3,15,17 71:2,5,14,15 71:20,22 72:18 75:19 76:17,21 80:3,17,20,22
declarations 70:18
deemed 16:8
Delaware 2:11 84:18
delay 7:12
depend 78:17
dependent 36:15 36:19 37:2,11
depending 58:3 79:9
depends 78:14 78:18
depicts 38:12
deponent 85:4,7 85:9
deposed 14:17
deposition 1:11 2:1 6:11,17 7:11 9:10 26:10,18 46:6 46:14 61:20 69:9 83:11 84:4,5,6 85:4 85:12 86:5,7 87:10
describe 27:21 28:2 59:4 61:5 74:12,14
described 29:21 42:13 56:19 57:12 59:18 60:13,19 73:8 73:14
describes 31:14 39:15 58:14 61:6 74:15
describing 59:14 60:15
description 28:10 33:9,12 39:11 40:18 41:20 43:16
detail 25:5 27:3 46:21 47:18,22 48:5
determines 75:6
develop 62:12 63:10,16
developed 62:10 63:7
developing 64:5
device 56:22 57:15 58:13 59:5 61:2,9
devices 13:8 17:22 18:22 19:2,4,7,10,11 22:12,12,18,20 23:2,5 24:3 28:7 60:9
diagram 57:20
different 18:17 29:14 34:4 56:21 57:14 58:11,12 59:4 59:11,15 60:4 60:9 67:8,18 74:21 79:14
difficulties 9:18
Digital 1:20 85:19,20 86:1 87:1
directed 17:19 17:22 18:3
disagree 75:9 78:11
disclose 59:8
discloses 57:2 59:20
disclosing 60:8
disclosure 34:15 48:21 49:16 53:17 55:13 58:3 59:9 76:4 77:8 78:19
disclosures 59:3 60:17 61:8
discuss 71:12
discussed 46:11 62:14 63:20
discussing 56:10 56:16
discussion 62:20
discussions 9:8 9:11 54:20
display 40:1,10 77:2,17
displaying 76:19
district 2:10 24:7,9,11 84:17
divided 57:17,21 58:8,15
docket 13:21
document 11:14 25:18,21 34:13 34:14 45:1,9 45:15,18 46:1 47:12 51:4 62:18,21 63:8 63:11
documentation 70:12
documents 9:15 24:17 30:20 34:10 35:3 49:7 53:18 54:10 69:7,12 69:19 71:6,10 71:13,18
domestic 17:10
doubt 39:18
download 25:18
downloaded 25:19
dozen 27:17
Dr 7:2,3 11:19 25:10 44:4 51:7 52:16 53:4 54:3,20 54:22 55:18 56:3 61:10 67:4 69:10 72:7 83:1
draft 62:11,13 63:7,14,17
drop 47:2
Dropbox 18:12
duly 6:7
DUNCAN 3:14
duncan.waldr... 3:17

E

earlier 20:11 23:7,9,10 30:15 42:1 48:18 49:3 57:12 58:10 66:1
early 13:11 20:10 23:13,19 78:1,9 79:4,13 79:21 80:15
Eastern 1:15
editorial 62:10 63:21 64:1
education 69:5 70:6
eight 14:8
either 65:12 67:6
electronically 85:21
element 40:14 40:18 41:11
elements 42:7,12 43:7
embodiment 38:16 77:2
embodiments 73:8 74:21 76:12
employed 12:10 84:6,7
employee 84:7
employer 11:20
engage 24:13
engaged 15:16 15:17,22 16:2 19:14
engagement 20:3 21:8,12 21:15 22:5 26:4
Engineering 12:7
English 32:9,12
entire 28:16 37:13 47:21
entirety 27:6 34:19 55:21 71:10
entities 17:16
entitled 68:16
entity 21:17
environments 18:5
equipment 7:12
errata 85:11 86:11 87:6
Especially 19:12
ESQUIRE 3:5 3:13,14
EST 6:1 83:11
evaluation 55:21
evidence 1:20 17:2 70:1 85:19,20 86:1 87:1
exact 12:18 14:14 15:14 16:5 20:5 48:7 64:7 74:3
examination 4:1 4:3 6:6,15
examined 6:7 86:7
examining 10:7
example 9:18

24:20 28:6,15 35:12 57:2 58:17 60:12 70:11 73:14 74:2,19,20 76:4 77:1,10 77:15,18
examples 56:10 56:16,21 57:13 58:11 61:3 73:11,16 74:4 74:15,22 76:2 76:5,6,9,10
exchanges 18:18
excuse 36:18
exemplary 76:4 76:12 77:7
Exhibit 25:11,14 25:20 44:15,19 45:3 47:5,8 50:18 51:5 61:11,13 69:8 71:6,14,19 73:21 74:1,8 74:12 75:11,14 76:2,2
exhibits 5:1,2,3 5:10 10:22 11:7,13,14 71:13
existed 23:2
expand 18:6
expectation 64:17
experience 38:14 69:5 70:6
expert 12:14 14:1,3 15:2,16 16:4 69:10
expires 84:13,14 84:16,17,19
explain 65:4,5
explicit 51:14
expound 73:10
express 85:22
extending 32:5
extent 51:6 55:6

F

fair 7:17,22 8:5 42:8 63:18 69:20
familiar 22:11 22:17
fashion 49:11
feature 25:12 44:16 47:9 75:14
February 84:14
feel 9:19
felt 22:8 35:22
fewer 23:11,14
Field 31:13
figure 37:15,22 38:6,9,11,13 57:3,3,5,5,16 57:19 61:3 73:14,17
figures 37:18,20 38:3 56:12,17 56:20 57:10,12 58:2,7,10,14 59:1 60:2,7 61:4 74:3,4,10
filed 24:8,17 30:5
filing 68:3
final 77:4
financially 84:8
find 81:9
finish 52:2
first 5:3 6:7 20:2 25:15 44:20 45:22 47:6 48:16 61:14 62:11,12,21 63:7,14,17 75:12
FISH 3:4
five-minute 82:18
fixtures 77:21 78:7 79:3,11 79:19 80:13
Florida 2:9 84:12
focus 19:7
focused 13:7 56:2
focusing 25:9
follows 6:8
forbidden 85:21
foregoing 84:5 86:7
foreign 17:11
form 32:7 39:8 39:17 40:20 42:15 49:18 51:16 52:11,22 53:20 54:11 55:15 63:2 70:4 73:13 75:4 78:2,10
forward 85:11
found 16:11,14 16:17 17:8 21:13,14
frame 20:11 22:13 23:2
front 8:10 14:11 27:8 50:18
FULBRIGHT 3:13 85:1
full 12:9 78:20
fully 53:5,6 54:5
function 61:9
functional 60:9
functions 61:1
further 83:4 84:6
future 42:18 55:8

G

gain 53:16
game 57:7 59:7
general 49:20 62:16 79:8 80:6,7
generally 19:6 34:20
Georgia 11:21 12:5,11
gesture 73:6,7 73:12 77:2,12 77:16,18
gestures 73:1,4 73:22 74:13 75:3
GG987804 84:12
give 8:17 40:4
given 86:10,13
go 9:5,21 55:4 74:3
going 7:3 10:21 25:11 34:8 44:14 47:15
good 9:6
Goodin 1:18 2:5 84:3,10
Google 13:13
governing 85:13
graphical 17:19 18:3,14,17 56:11,16 57:10 58:7,22 59:12 60:18 70:18 77:22 78:8 79:3,12,19 80:13
ground 7:4
Group 1:20 85:19,20 86:1 87:1
GUI 57:3,4,16 57:20,21
guidance 82:2,3
GUIs 56:21 57:13 58:12,15 59:4,14 60:22

H

half 15:20,20 16:1,3
handheld 22:21 23:8
handy 61:17
happen 82:4,7
hear 9:19,19 27:15 56:13
heard 6:10 21:6 45:7,11,11,14
held 2:3 12:4
help 63:22 64:1 64:2
helps 7:6
hereto 84:8
hesitate 85:15
high 29:16 34:5 34:8,17 49:11 49:13 69:21
hold 67:10
Hotelling 45:2,3 45:5,12,12,22 46:5,9,13,20 47:16,18 48:2 48:9,13 49:15 50:3 51:4,8,15 52:21 53:9 54:17,18 55:21 56:7,12,18 57:1 60:20
Hotelling's 48:21 49:15 51:12 53:17 55:12
hour 8:21 43:21 64:12 72:3
hourly 64:10
hours 27:13,18 48:6 64:4,8

I

idea 59:10,22 76:19
identified 62:15 62:15
identifies 48:13
identify 38:20
identifying 34:2
illustrate 56:20
implementatio... 77:22 78:8 79:4,12,20

80:14
important 53:18
inaccurate 63:9
inadmissible 16:8
include 13:15 57:11 58:8 59:17 60:20
included 62:19 69:8 71:6 78:19
includes 31:10 59:1
including 69:7 85:21
incorporated 48:15,20 53:19 54:10 75:21
incorporates 34:13
incorporating 34:3,9 49:6
incorporation 34:7 49:5 51:14
independent 14:1,3 31:11 36:7,10,18 37:12 38:1 40:15 55:20 68:14
INDEX 4:1 5:1
indicate 66:15
indicating 54:9 76:10
indicia 40:1,10
inform 37:11,14 37:22
informs 41:11
infringement 24:21
initial 65:7
inside 61:7
Instant 10:11
Insulation 81:6
inter 6:18
interacting 28:6
interested 84:8
interesting 21:14
interface 1:6 19:14 58:7,22 59:12 77:22 78:8 79:3,12 79:20 80:14 85:3 86:4 87:8
interfaces 13:7 13:16 17:19 18:3,14,17 22:18 28:3 56:11,17 57:10 60:19 70:19
interpreted 63:7
interrupt 7:16
invention 27:20 27:21 28:9 31:13 36:22 66:17,22 67:2 67:11,19 68:3 79:15
inventor 17:10 45:12
invoices 66:3
involve 13:12
involving 82:9 82:13
IPR 6:19 12:15 15:3,17 16:3 26:3 45:6 82:8 82:13
IPR2024-01089 1:5
IPRs 15:7 25:9 30:5
issue 33:3 35:5,9 35:14 41:1,14 52:1,6,9 54:13 67:22 68:7,13 80:3,17
issues 9:22
ITC 13:12
item 77:5
items 69:6,10 70:8 77:4

J

J 1:18 2:5 84:3 84:10
Jacinto 3:14 85:2
Johns 81:5
judge 8:10 14:11
July 1:14 2:3 6:1 85:4 86:5 87:10
June 84:17
jury 8:10 14:11

K

K 1:11 2:2 4:2 6:5 85:1,4 86:5 87:9
kdarby@fr.com 3:9
Kenneth 3:5 6:22
KENT 84:18
kind 23:5 28:4
kinds 9:11 23:1 60:2
Knauf 81:6
know 9:1 16:5 16:18,20 17:6 24:10,11 25:17 28:20 30:11,14 31:6,20 32:16 33:16 35:6 42:11 44:16 47:10 50:9 61:16 65:8 66:10 68:8 72:20 78:22 79:10 81:1,21 82:7,12
knowledge 17:11 45:21
known 23:9,13 23:15 24:1 77:20,20 78:7 79:2,11,18 80:12

L

L.L.C 86:1
laid 62:17
language 28:13 28:15 32:6 34:10 40:1 49:6 51:8 75:6 76:13,16
late 20:9 23:17 66:4
law 82:13
learn 45:22
leave 78:21
legal 12:14 13:3 34:9 48:22 82:2,11
let's 7:14 31:2 72:3 82:17
level 25:4 29:16 34:5,8,17 49:11,13 69:21
Leventhal 3:13 21:1,4,7 32:7 39:8,17 40:3 40:20 42:15 49:18 51:16 52:11,22 53:20 54:11 55:15 63:2 70:4 75:4 78:2,10 83:6
light 37:21 51:14
limit 76:11
limitation 41:22 43:17
limited 23:18,20 23:22 24:1,2 75:2
line 31:6,6,19,19 32:4,5 33:14 33:14,19,20 34:2,2 35:2,17 36:3 38:20 48:17 87:11
lines 28:19 29:1 38:22 40:12 41:12 74:19,19
List 69:8 71:6,14 71:19
listed 29:18,22 30:12 32:19 33:7 35:1,16 36:1 37:3 45:13 49:14 50:2,10 52:20 69:8,13 71:6 71:13
lists 29:14
litigation 24:8 24:14,15,18,22
little 33:1
live 14:10
LLC 1:7 19:15 85:3 86:4 87:1 87:8
LLP 3:13 85:1
long 8:13
look 19:5 21:10 21:20 22:1 31:17 33:2,6 50:13,20 69:22 71:21 79:16 80:10
looked 21:13,19 22:4 24:15,20 33:21 37:20 43:11,12 70:8
looking 18:9 21:16 38:22 39:22
Lori 1:18 2:5 84:3,10
loud 69:2

M

M 1:20 86:1 87:2
Madisetti 1:11 2:2 4:2 6:5 7:2 7:3 11:19 25:10 44:4 61:10 72:7 83:1 85:1,4 86:5 87:9
making 52:19

manner 49:20
Manville 81:5
March 20:10,10 65:22
marked 5:2,3,10 25:13 44:18 47:4 61:12 75:10
Maryland 2:10 84:15
material 31:5
matter 22:8 45:18 46:4 85:6
matters 65:14
mean 22:16 24:2 27:16 62:7 63:6 64:1
meaning 76:14
means 16:18,21 17:6 69:18
mention 37:1
mentioned 11:12 13:19 49:10 69:16
menu 76:19 77:3 77:4,5,6,9,10 77:13,17
menus 77:20 78:6 79:2,10 79:18 80:12,19
Messenger 10:12
method 38:13
mind 13:10,17 18:2,21 19:1
mine 62:5,6
minute 28:20 80:22
minutes 31:4 33:15
mobile 17:22 18:22 19:2,4,7 19:11 22:11,17 22:20 23:1,5 28:7
mode 57:3,4,17 57:21 58:3,4 58:17,18,18 59:6,6,7,7,8,15 59:16,17 60:11 60:11,12 61:9
modes 56:21 57:6,14 58:7 58:12 59:1,4 59:12,15 60:8 60:22 61:1
modify 51:12
moment 56:6 66:9 68:20 72:19
month 66:6
monthly 66:2
months 20:6,7
motivated 51:12
Motorola 13:13
move 31:2
Moving 36:2
multi-part 73:1 73:3,5 74:12 75:3
multifunction 59:5 61:2
multifunctional 56:22 57:14 58:12 61:9
multiple 13:21 48:13
music 58:4,18 59:6,16
musical 57:6

N

Name 86:5 87:9
need 8:22 11:7 11:13,15 50:20
neither 84:5
never 45:16 52:8
non-legal 49:19
nonlimiting 74:21 76:1,6,9
nonverbally 10:7
Norton 3:13 20:14,16,19,22 85:1
Notary 2:9 84:1 84:4,10,12 86:22
noted 86:11
notes 9:14 11:10 44:11 72:14
noticing 85:12
noting 85:12
novel 79:6 80:19
number 6:19,20 12:18 14:7,14 14:18 15:14,19 16:5 29:14 34:3 48:7 54:9 64:8 65:19 84:12
numbers 35:11 38:21
NW 1:20 86:1 87:2

O

oath 8:8,13
Object 32:7
objection 6:9
objective 70:1
offer 30:22 33:11 39:19 40:22 41:2,19 42:9 42:18 43:15 51:22 55:11 82:11
offered 37:6 38:8 39:10 43:13 52:5,8,13 53:2 53:7,13 54:4 54:20,21 55:16
office 1:1 85:7 85:15
okay 7:8 8:2,12 8:15 9:1,2,12 9:13,15 10:1,2 10:5,18,21 11:3,4,7,18,19 12:20 13:3 14:16 18:13 19:17,18,19 20:7,12 21:10 22:7,20 25:10 25:19 26:16,22 27:22 28:18 29:2,22 31:2,8 31:17 32:1,22 33:13 35:10 36:2 37:17 39:2 41:10 43:20,22 44:21 46:12 47:8,15 48:8,12 49:13 50:17 55:11 56:5 57:8 61:10,18 63:13 66:8,14 68:19 69:1 72:2,7,17 73:17 74:17 75:1,13,16 80:21 82:17
old 70:14,17
once 33:16
ones 13:10 18:4 19:7 21:21 30:3
ongoing 24:12
online 70:12
onwards 74:20
open 11:5
operation 77:4
opine 55:7
opinion 30:22 35:4,9,13 38:8 39:4,10,19 40:22 41:2,14 41:17,20 42:9 42:17,18,20 43:4 52:1,5,8 52:13,20 53:14 54:13,15,19 55:10,11 63:16 67:21 68:6,13 75:5,8 79:6,7 80:2,16,18 82:11
opinions 27:12 33:11 37:6 39:14 43:13,15 48:3 50:11 53:2,7 54:4,20 54:21 55:1,18 62:6,14,16,19 63:12,19 64:5 67:5,10,15,17 68:5,9 69:4,7 70:2 71:16 72:1
opposing 13:21
option 85:9,10
ordered 73:13
ordering 38:14
ordinary 26:20 46:15 51:11 54:7,16 55:14
original 85:11
outcome 84:8
outline 63:11
outside 53:11 78:13 79:17,22
owner 1:7 3:12 16:2 19:20

P

p.m 72:5 82:21 82:22 83:11
page 4:3 76:8 85:12 86:4 87:11
pages 86:7
paid 64:13,18 65:11,14
paper 64:3
papers 11:9
paragraph 28:21 29:8,14 30:1 30:13 32:10,11 48:8,11,13,17 49:15 50:2,11 51:15 52:3,21 53:8 54:9 56:19 61:4 66:8,10,12,14 68:19,21 69:1

69:3 70:9 71:4 73:12 74:14 75:18,20 76:5 76:17,20 80:21 81:1
paragraphs 56:5 56:10,15 57:9 59:3,18 60:19 72:17
part 28:12 34:14 46:3 48:20 49:15
partes 6:18
particular 28:7,8 28:14 33:3 45:15,18 58:4 58:18 61:8
parties 6:10 84:6 84:7
pass 83:4
passage 75:19
patent 1:1,2,6,7 3:12 6:20,21 10:17,19 13:4 13:6 16:2 19:20 20:4 21:8 22:4,9 24:6 25:22 26:2,9,13,17 27:2,11 28:19 29:10,14,18,19 30:1 31:11 32:6,17,18 33:8,10 34:1,4 34:12,12,15 35:1,3,16,18 36:5,8,11,14 37:16 38:2,7 38:18 39:3,6,7 39:15,16 40:6 40:15,19 41:6 42:2,13 43:1 48:14 68:15 73:9,18 74:11 75:2,21 79:18 80:12 82:9,14
patent's 27:19 28:9 66:16,22 67:11,19 68:2 76:11
patents 17:11,15 17:18,21 18:2 18:7 19:1,3,10 21:13,19,20 29:9 30:5 35:1 35:16 70:15
pattern 73:7
pattern-based 73:4,6,12,22 74:13
pause 9:20
PC 3:4
PDA 57:3,16 58:17 59:5,15 60:11
PDAs 22:22 23:9
PDF 10:16 11:6
PDFs 10:18,19
pending 9:3,4
perform 68:14
period 85:13
persists 8:14
person 26:19 46:15 51:10 54:7,16 55:14
personally 62:3 62:7
perspective 26:19 46:15 55:13
petition 36:16 36:22 37:3 51:2,6 52:16 53:3,22 54:3 54:21,22 55:17 56:2 69:7,9 71:2,7
Petition's 71:13 71:19
petitioner 1:5 3:3 7:1 15:18 16:1
Petitioner's 69:9
Ph.D 1:11 2:2 4:2 6:5 85:1,4 86:5 87:9
phone 10:12
phrases 32:13
pick 30:8
platforms 18:18
player 57:6,7,7 58:4,5,18 59:6 59:7,7,16,17
please 7:20 9:1 9:14 11:4,17 18:6 25:17 28:18 31:4 33:13 48:8 56:5 66:8 68:19 69:2 72:17 80:21 85:6,10,11,14
point 9:17 28:14 42:19 48:22 55:9 67:22
pop-up 76:19 77:3,6,9,10
pops 77:13
portable 19:10 22:12
portion 33:16 51:18
portions 41:10 42:5 43:5,16 51:1
possible 18:15 80:1
potential 20:3
precise 59:14
preliminaries 7:5
premise 66:21
preparation 26:10 46:6 61:20
prepare 69:6
prepared 24:17 26:12 46:8 61:22
preparing 27:1 27:11 46:19 47:16 48:2 50:11 64:5,11 64:14,19
present 21:2 53:6
presented 53:3
previously 5:2 5:10 25:13 44:18 47:4 61:12 75:10
prior 5:3 35:3,7
priority 68:16
probably 14:8 15:20 17:14 27:17 64:8
Procedure 85:14
proceeding 6:18 16:3 19:15,21 26:3 27:2 45:6 46:20 47:9,17 50:12
proceedings 6:2 12:14 13:4,22 15:17 45:8
process 62:13
products 24:22
Professional 2:6
professor 11:21 12:1,2,6,8,9
programs 10:14 11:5
prohibited 9:12
provide 33:8 35:4,8 62:18 62:22 63:1 71:3 74:8,9
provided 14:10 62:10,21 63:8 63:21 66:2 73:11 81:11 82:2
provides 39:15
providing 8:8
provisional 75:20 76:18
provisionals 30:6 67:6
PTAB 81:5
Public 2:9 84:10
publication 35:11
pull 61:11
purchased 85:8
purpose 55:19
put 75:13
putting 64:2

Q

question 7:19,21 8:3,4 9:3,4 32:1 40:7 50:21 52:4,6 56:13 75:18 78:4 79:8
questions 26:13 26:17 46:9,12 62:1 83:4 85:14 86:10,13
quite 12:19 14:18 21:14 48:6
quote 75:19

R

rate 64:10
read 27:5 37:4 47:20,22 69:2 71:9 81:12 86:6
reading 38:17,21 49:3 54:18
ready 85:6
Realtime 2:7,7
reason 8:17
reasons 80:20
rebuttal 53:2 55:16,17 71:3
rebutted 52:15
rebutting 54:21
recall 17:3 18:15 21:9,16,18 24:5 26:5 27:13 30:6,10 32:20,21 33:4

41:21 45:20 46:2 48:4 50:4 50:5,6,8,16 51:3 63:3 65:12 66:1,5,7
received 38:15
recess 44:1,2 72:4,5 82:21 82:22
recognize 25:21 45:1 47:12
recognized 73:13
recollection 38:10 45:19 52:9
record 6:17 9:21 26:16 46:12 69:2
recorded 86:10 86:14
redirect 83:7
refer 6:20
reference 34:3,7 34:14 45:2,4 45:13 47:16 48:15,20 49:5 51:14 53:19 54:10 69:11 73:17 74:9 75:15,21
referenced 49:21 50:14 67:3,7 69:14,17 85:6
references 49:2 52:14,20 53:8
referencing 73:20 74:18
referral 5:3 25:15 44:20 47:6 61:14 75:12
referred 51:7
referring 51:17 52:3 76:3
refresh 33:15 66:9 68:21 72:19 80:22
refreshing 31:5
regarding 6:19 9:9 20:3 44:6 68:15 72:8
region 57:11,11 57:18,18,22,22 58:9,9,15,16 58:22 59:17,18 60:14,15 61:5 61:6,7
Registered 2:6
relate 30:6
related 18:13 19:1 29:4,9,12 29:18 30:8,12 32:18 33:7 39:2 48:14,19 50:1 51:13 84:5
relates 38:6 39:7
relative 84:7
relevant 30:20 82:13,16
remain 8:12
remember 8:12 12:18 14:7,14 14:18 15:6,13 15:19 20:5,21 41:15,16 52:19 82:4
remote 2:1 3:1 7:10 8:7
remotely 6:11,13
removal 77:6
rephrase 7:21
Reported 1:18
Reporter 2:6,7,8 6:9
require 75:3
requirement 65:10
research 69:22
resembles 31:10 32:5
respect 18:16 20:4 21:8 38:9 41:20 53:8 79:7
respectively 57:7 58:5
respond 61:1
response 77:11 77:17
retained 5:10 12:13
review 6:18 26:9 29:22 30:3,16 30:17 35:15,20 36:13,17,19 37:2,10,21 41:5,7 42:2 46:5 50:1,7 53:18 54:2 56:6 57:8 61:19 69:12 70:14,17 71:2 71:5 80:4 83:9 85:8
reviewed 24:17 30:4,9,11,19 30:19 31:22 36:4,7,10 37:4 37:19 38:4 41:8,18 45:20 46:3 48:5 50:10,22 51:1 51:8 53:22 68:22 69:6 72:21
reviewing 50:4,5 50:8 51:3
RICHARDSON 3:4
right 9:5 10:15 11:9,12 13:18 16:6 26:8 30:7 33:19 35:12 42:3,14 44:8 52:7 71:7,14 73:19
room 10:3
Rose 3:13 20:14 20:16,19,22 85:1
RPR 1:18 2:5 84:3,10
RSA 1:19 2:5
rules 7:4 85:14
rulings 17:3
running 10:14

S

S 3:13
San 3:14 85:2
SARASOTA 84:12
saw 54:8
saying 45:11
says 17:4 34:18 38:13 40:1,9 48:16
school 12:2
scope 40:20 55:12 75:6 76:11,15
search 70:11
second 40:4 48:10
section 29:3 31:3 31:10,12 34:1 35:2,17 52:14 72:22 73:3
sections 41:22 56:7
see 21:11 29:11 35:10 39:22 40:9,12 50:14 57:9 81:7
seen 26:6 45:16 52:16
selected 85:10
selection 77:5
send 10:22 11:7 25:11 44:14 66:6
sent 11:16 47:8
September 84:19
sequence 73:13
series 7:4
served 15:2 16:4 24:18
sheet 85:11 86:11 87:6
short 69:1
Shorthand 2:8
shortly 64:20,22
shown 56:11,17 57:21 60:10
shows 57:17
side 13:20 14:5 17:4 34:9
sign 83:9 85:7,8
signal 38:15
signature 83:10 85:6,12 86:4 86:17 87:22
signed 21:12,15 85:11
signing 85:10
similar 32:9 65:13
similarly 57:5,19 58:2
Sincerely 85:18
sir 27:15
sitting 30:7
skill 26:20 46:15 51:11 54:8,16 55:14
Slack 18:10
slight 7:12
slowly 7:15
smartphones 22:21 23:8
Smith 1:6 19:14 19:18,20 20:3 20:13 21:6,10 21:17 24:8,13 26:4 64:11,13 66:3 85:3 86:4 87:8
Smith's 24:21
sorry 22:15 32:22 40:3 55:4 73:20 74:6

sort 24:11 39:15 77:11,17
sounds 9:6 16:6
Southern 24:8
speak 7:15 44:5 44:9 72:8,11
speaking 6:22
speaks 60:21
specialize 24:3
specialized 23:12
specific 11:22 23:16 30:8 41:14 52:3,13 57:6,13 58:11 60:3,8,11,17 60:22 61:1,7 65:18 66:5 80:2,4,10,16
specifically 20:21 30:14 31:18 41:21 50:15 60:15 66:1
specification 30:19 37:21 38:4,18 39:6 39:14 40:18 41:6,9,11,19 42:3,6,14 43:6 43:12,17 60:21 74:5
specifications 34:10 49:7
specifics 18:16 24:10 30:10 48:4 63:4 65:8 66:7
spend 27:11 31:4 48:2 64:4
standard 57:11 57:17,22 58:9 58:15 59:17 60:14 61:5 77:21 78:7 79:3,11,19 80:13
starting 31:18 35:2,11,17 36:3
state 2:9,9,10,11 69:4 80:20 84:12,14,15,18
stated 70:9
statement 51:15 54:8 60:6 78:12,17 80:6 80:8 82:1
states 1:1 56:21 57:14
Steven 45:12
Street 1:20 86:1 87:2
strike 36:18 37:1 78:3
structure 62:16
study 27:2 28:21 46:20 47:17
studying 27:11 48:2
subject 22:8
subset 37:7
substance 44:6 72:9
substantiated 54:5
substantive 9:8
sufficiently 35:22
Suite 1:20 3:7,15 85:2 86:1 87:2
summary 31:14 31:18 32:4,17
support 33:9 39:16 70:1
supported 35:22 43:17
supporting 70:12
sure 7:5 11:4 16:22 43:2,8 47:2 67:9 76:7 81:21
suspended 83:11
sworn 6:7,12 84:5
Systems 2:7

T

take 8:20,22 28:20 33:15 43:20 50:19 56:6 66:9 68:20 72:3,19 80:22 82:17
taken 44:1 72:4 82:21 84:6
talk 11:13 17:5 18:8 19:13 72:22
talked 32:22 48:18
talking 22:21 60:22 73:18,21
teaches 76:18
teachings 51:12 51:13
Teams 18:11
Tech 11:21 12:5 12:11
technical 9:18 9:22 15:16 16:4
technologies 1:7 19:15 28:3,4,5 85:3 86:4 87:8
technology 18:9
tell 25:2
ten 14:8 27:17
testified 6:7
testify 45:14
testimony 8:9,18 9:10 14:11 16:8,11,14,17 17:8 44:6 49:4 72:9 79:5 84:4
Texas 3:8,15 85:2
text 31:10 32:16 39:2,5 40:9 74:17
Thank 83:3,8
thing 47:21
things 17:5 18:18 70:22
think 7:6 16:9 16:12,15,19 17:9,20 19:12 20:9 21:5 22:3 22:6 24:2,19 35:19 49:10 53:17 64:20,21 73:11 81:15,16 82:18
thoughts 52:2
time 1:15 6:10 16:1,3 20:10 22:13 23:2 27:10 48:1 50:19 65:15,17 66:16,21 67:2 67:12,18 68:2 68:7,13 83:3 85:13
times 12:17,19 14:13,15,17,19 15:5,16 45:7 48:5 67:8
title 12:1
titled 29:4,11 31:13 73:3
titles 12:4
today 7:19 8:18 10:3 11:10 21:2 26:13 46:9 62:1 83:3
today's 26:10,18 46:13 61:20
tools 18:11
touchscreen 13:7 40:2,11
touchscreens 23:5,8 28:6
track 42:5,9 43:5
tracked 43:16
TRADEMARK 1:1
trading 18:18
training 69:5 70:6
transcript 83:9 85:6,7 86:7
transcription 86:10,12
treat 66:15 67:1 67:14 68:2
tree 73:15,22
trial 1:2 17:5
trials 45:14
triggered 77:16
triggers 77:2
true 8:18 42:22 43:3,9 79:18 80:8,12 86:9 86:11
try 7:15 8:20
Tuesday 2:3 6:1
turn 28:18 33:13 37:15 48:8 56:5 66:8 68:19 72:17 80:21
turned 63:16
two 27:14,16
type 62:8
types 58:11

U

U.S 6:20
unable 79:1
understand 7:20 8:8 10:5,9 38:11 54:17 67:9
understanding 15:22 19:22 28:1 29:13,17 29:20 34:6,18 34:21,22 37:11 37:14 38:1,5 49:5,9,12,14 49:21 53:16 65:1,3,6,13 71:1
understood 8:3

56:1
UNITED 1:1
unreliable 16:14
unsupported 16:17,20 17:1
upload 11:14
use 10:22 11:16 59:8,20 61:5,6 80:19
user 13:7,16 17:19 18:3,14 18:17 22:18 28:3 38:14 56:11,16 57:10 58:7,22 59:12 60:18 70:18 77:3,14,22 78:8 79:3,12 79:20 80:14
utilizing 40:2,11

V

v 1:5 85:3 86:4 87:8
various 17:16 56:20 76:1
verbally 10:6
version 62:19
versus 81:5
video 7:11 57:7 58:5 59:6,16
view 27:20 28:9 32:3 41:6,8,11 42:3 48:22 51:10
viewable 77:14 77:19 78:6 79:2,10,18 80:12
Vijay 1:11 2:2 4:2 6:5 85:1,4 86:5 87:9
virtual 59:1,8,10 59:20 60:1,2,3 60:10,16,20 61:6

W

W 3:5
waive 85:9
waived 83:10
WALDROP 3:14
want 43:8 65:8 75:15
Washington 1:21 84:17 86:2 87:3
way 21:9 22:7 26:5 28:7,8 31:16 32:20,21 33:5 35:6 42:11 46:2 50:9,16 68:8 71:17
welcome 44:4 83:1
weren't 33:2
wireless 19:8,13
wish 71:17
witness 4:2 6:6 6:12 7:1 12:14 15:3 32:8 39:9 39:18 40:5,21 42:16 43:22 44:21 49:19 51:17 52:12 53:1,21 54:12 55:16 63:3 70:5 75:5,16 78:11 83:5,8 84:4 85:8 86:5 86:17 87:9
words 62:8 63:14 64:2
work 24:13 26:3 45:6 46:4 53:11 64:14,18 65:13,20 66:3
worked 9:20,22 20:15,18 21:3 62:9 63:10,19 63:20
write 22:2 62:3,7 63:13
written 33:8,12 39:11 41:20 43:16 62:19 85:22
wrote 21:21

X

Y

Yeah 18:7,16 19:12
years 14:9 22:14 22:16,18

Z

Zoom 11:5,15 18:10 25:12 44:15 47:9 75:14

0

1

1 28:15,16,18 29:1 31:5,18 31:20 32:4,6 32:19 33:8 36:4 38:6 39:3 39:7,22 40:6 40:15 42:12 43:9 84:17
10 57:3,5,19
10,671,212 1:7 6:20
10:01 1:15 2:4 6:1
10:56 44:1
100 12:22 14:22 15:10
1001 5:4 25:11 25:14,20 73:21 74:1,12 76:2
1004 5:5 44:15 44:19 45:3 51:5
11 57:5 58:2
11:09 44:2
11:54 72:4
1100 3:15 85:2
111 3:6
12 58:2 84:13
12:07 72:5
12:27 82:21
12:33 82:22 83:11
13959 1:19 2:6 84:4,14
14 66:8,12,14
15 2:3 6:1 22:14 22:15 85:4 86:5 87:10
15,2025 1:14
152 57:18,22 58:15
154 57:18,22 58:16
16 31:6 36:8
17 56:12,17,20 57:10,13 58:8 58:11 59:1
1730 1:20 86:1 87:2
180 57:20,21
1980s 78:1,9 79:4,13,21 80:15

2

2 31:19 32:5 48:8,11,13,17 49:15 50:2,11 51:15 52:14,21 53:8 54:9 84:16
20 22:14,16,18 68:19 69:3 70:9 71:4
200 15:12
2000 3:7
2000s 23:9,14
20024 3:8
20036 1:21 86:2 87:3
2004 5:6 47:5
2005 5:7 47:8 50:18 61:11,13
2006 35:11
2007 5:8 74:8 75:11,14 76:2
2011 22:12 23:2 23:4,7 66:16 66:21 67:2,8 67:12,16,20 68:17
2015 67:20
2019 68:4,10
202 1:22 86:2
202)-232-0646 85:15
202)232-0646 87:4
2023 24:9
2024-01089 6:19
2025 2:3 6:1 20:8 84:16,19 85:4,20 86:5 87:10
2026 84:17
2027 84:14
2028 84:13
212 6:21 20:4 21:8 22:4,9 24:6 25:22 26:2,9,13,17 27:2,11,19 28:9,19 29:10 29:19 31:11 32:6,17 33:8,9 34:1 35:3,17 36:4,8,11,14 36:20 37:15 38:2,6,18 39:3 39:6,7,15,16 40:6,15,19 41:6,8 42:2,13 43:1 66:16,22 67:11,19 68:2 68:15 73:9,18 74:5,11 75:2 75:21 76:11

78:13 79:17 80:1,11 82:9 82:14
22 84:14
232-0646 1:22 86:2
24 28:19 29:1 74:19
25 5:4
26 72:17
27 73:12 74:14
28 73:14,17

3

3 31:6 37:15 38:6,9,11,13 38:22
3-D 13:16
30 14:15 72:18 75:18 76:17,20
30th 68:3,10

4

4 33:14,19 34:2 35:2,17
40 14:15 31:6
42 31:19 32:4
44 5:5 74:20
45 74:20
46 33:14,20 34:2
47 5:6 38:22

5

5 28:19 29:1 31:19 32:5 67:1
50 12:20 14:20 15:8 64:8
51 39:1
512-472-5070 3:8
512-474-5201 3:16
529 75:20 77:8
54 80:21
55 36:3
564 76:5
566 76:5
581 76:5,5
5th 66:15,21 67:12,15 68:16

6

6 4:4
60 40:12 41:12
61 5:7 40:13 41:12

7

7 61:3
70 17:14 74:15
700 64:12
70s 24:4
72 74:1
74 56:5,19 59:3 59:18 60:19 74:16,17
75 5:8 17:14 61:4,4
78701-4255 3:15 85:2

8

80 64:8
80s 23:21
812 1:20 86:1 87:2
83 56:6 59:4,19 60:19 61:4
84 36:11
85 33:13,18,19 34:1 35:2,17

9

9 56:12,17,20 57:3,10,12,16 58:7,10 59:1 84:19
90s 23:17,19
94 61:4
95 33:14,20 34:2 36:3 40:6,13 41:12
98 3:14 85:2