EXHIBIT S

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

APPLE INC., a California corporation, Plaintiff, vs. SAMSUNG ELECTRONICS CO., LTD., a Korean entity; SAMSUNG ELECTRONICS AMERICA, INC., a New York corporation; SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, a Delaware limited liability Company, Defendants.	No. 11-CV-01846LHK

VIDEOTAPED DEPOSITION OF TONY GIVARGIS, PH.D.

Los Angeles, California

Tuesday, December 6, 2011

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Reported by:

SUSAN A. SULLIVAN, CSR #3522, RPR, CRR

JOB NO. 44330

A I believe I -- what was provided to me was the entire. I'm not sure. It may have been the entire document but I'm not sure.

Q When counsel provided you the entire file history did they specify what you would need to read or you read the whole thing?

A I read the whole thing that was provided to me and I believe it is Exhibit No. 2 in my deposition, in my -- sorry, in my declaration, yes.

Q Your declaration references a number of what were called extrinsic evidence, dictionary definitions and textbooks. How did you go about selecting those definitions and textbooks excerpts on which you rely?

A Yes. A couple of principles are applied. One was certainly those needed to be definitions or writings that existed prior to 2005, August 30th, and also tried to find textbooks or dictionary definitions that were concise, to the point, and as precise as possible rather than leaving definitions open ended.

Q Any other principles you used to select the extrinsic evidence?

A I also made sure that the sources were credible; that they were either published by a

publisher that I recognized or they were -- if they were references on the website, that they were credible and they were published in a place that I would consider reasonable.

Q Did counsel for Apple instruct you where to search, what types of publications to search for extrinsic evidence?

MR. SHAH: Object to the extent it calls for privileged communication, but you can answer it.

THE WITNESS: Not necessarily. They told me --

MR. SHAH: Again, just a caution on substance of the communication.

Q BY MS. MAROULIS: Let me help you out. I don't want to ask you what you spoke with them about, my question is whether you were the one who selected the extrinsic evidence in your declaration or it was provided by counsel.

A Absolutely, yes, I understand. I selected all of those.

Q In your search for a definition of "applet" in extrinsic sources have you come across any definitions that did not support your opinion?

A Yes, I did.

Q Can you give me examples of those?

A One example of those was Microsoft's

control panel applet which is -- which was a very sort of exceptional use of the term "applet," a very limited in terms of how widely the term "applet" is used and how Microsoft was using it in that context. That was one example.

Q Why do you consider Microsoft's use of the term "applet" exceptional?

A Yes. Most applets are usually considered to be Java applets and/or similar to Java, Java, sort of Java-like applets in the sense that they are interpreted, they are an application or an app running within an application.

The Microsoft control panel applets are executable codes, they're actually dynamically-linked libraries that do not require interpretation, they run directly on the processor.

Q You said that most applets are Java applets. There are any applets that are not Java ones?

A Yes, a number of them.

Q Can you list them, please?

A Yes. For example, there are Python applets, there are AppleScript applets, there are JavaScript applets, there are applets in the context of Flash, the Flash programming environment.

Q So if a colleague came up to you and said they're writing an applet you would not necessarily know which one of those languages they were writing it in?

A I would automatically assume --

MR. SHAH: Just give me a second.

Objection; vague.

You can answer if you understand the question.

THE WITNESS: Yes, I would -- I would assume Java applets because those are the most common types of applets.

Q BY MS. MAROULIS: But they're not exclusive, correct?

A Correct.

Q Besides the reason you stated about why Microsoft was exceptional in use of applets, is there any other reason why you did not pick the Microsoft definition for your declaration?

MR. SHAH: Object to form.

THE WITNESS: Yes. I felt that that represented a very small percentage of all of the applets that or all of the kinds of applets and it would not be the usual or the common understanding of the term "applet."

Q BY MS. MAROULIS: Do you agree that at least some people in the programming community when they hear the word "applet" can think of a Microsoft control panel applet?

A Some, yes.

Q And do you agree that was the case in 2005 as well?

A Yes.

Q Besides coming across the Microsoft control panel applet, did you see any other definition of "applets" in your research that diverged from the one you picked for your declaration?

MR. SHAH: Objection; vague.

THE WITNESS: No.

Q BY MS. MAROULIS: Did you see any definition of AppleScript applets?

A I first came to -- to see AppleScript applets when I read Mr. Cole's declaration.

Q And upon reading Mr. Cole's declaration did it remind you that there were in fact AppleScript applets back in 2005?

A Yes, that is correct.

Q And in your research did you come across the Python applets?

A I was aware of Python applets but I did not

necessarily come across a writing or a textbook.

Q Is it correct that Python applets existed in 2005?

A Yes, that is correct.

Q In your research did you come across Flash program applets?

A I was very well aware of Flash applets but I did not find or obtain or look for documents describing Flash applets.

Q You are aware they existed in 2005 as well, correct?

A Yes.

Q Are you familiar with Linux applets?

A I am not.

Q Let's turn to your declaration on Page 5.

What is the invention of the '711 patent?

MR. SHAH: Objection; vague.

THE WITNESS: I can summarize the '711 patent as being a method or a teaching of how to accommodate multitasking on a mobile device.

Q BY MS. MAROULIS: Is there any reference to Java in this patent?

A May I take a look?

Q Absolutely.

A No.

operating-system independent?

A This passage does not make reference to operating-system independent. However, the association between an applet and an application module, together with the claim language and the prosecution, the file history, does suggest to me that the applet requires the application module as a, sort of as a context, and that relationship is what one would expect from Java applets or Java-like applets, that interpreted.

Q Setting aside the claim language and prosecution history, is it correct that there's nothing in this particular passage that indicates operating-system independence?

A Nothing in the passage mentions anything about being operating-system independent, yes.

Q Let's take a look at the claim language. For example, Claim 1 in Column 7, do you see that?

A Yes.

Q The relevant limitation is "Generating a music background play object, wherein the music background play object includes an application module including at least one applet."

Is there any mention of operating-system independence here?

A No.

Q Is there anything in this claim that you see that supports your notion of operating-system independence?

A What I see in this sentence, passage, is, again, the association between an applet running or an applet that is within an application module and that association to me suggests a Java-like interpreted environment.

Q Did you review the testimony of the inventor of this patent?

A Yes. I reviewed a subset of it.

Q Did you see that the inventor who was developing this technology was working with system-dependent applets?

A That is correct, yes.

Q Which system-dependent applets was he working with, to your understanding?

MR. SHAH: If you need to see any documents to refresh your recollection, you can ask.

THE WITNESS: Yes. I think this one I can answer without the document, but it was a Qualcomm chipset.

Q BY MS. MAROULIS: Do you disagree that the technology he was working on is described by Claim

1? MR. SHAH: Object to the extent it calls for a legal conclusion. THE WITNESS: I have not formed that position yet. Q BY MS. MAROULIS: Do you understand that he was asked during deposition about the embodiments of the patent? MR. SHAH: Same objection. THE WITNESS: Yes. I'm not sure exactly what he was asked. Q BY MS. MAROULIS: If the technology that he was working on embodies this claim would you agree with me that the claim includes applets that are also system dependent? MR. SHAH: Same objection. THE WITNESS: Based on -- I recognize that the inventor was working with a system that was OS-dependent, specifically the Qualcom chipset. However, that use of the term "applet" within that context was unusual or it was not consistent with the common understanding of the term "applet" at the time and the '711 patent does not make that distinction clear. Q BY MS. MAROULIS: If the '711 patent does

not make a distinction clear between system dependent and system independent, do you agree then that includes both?

MR. SHAH: Objection to form.

THE WITNESS: It could include, it could be both, but the common understanding again would be that it is consistent with applets as being OS-independent, as being the more likely case.

Q BY MS. MAROULIS: It is more likely but it is not exclusively so, correct?

MR. SHAH: Objection; mischaracterizes his testimony.

THE WITNESS: If I were to read this or if somebody who would be familiar with the area were to read this in 2005 it would be assumed or it would be understood for an applet to be an OS-independent applet.

Q BY MS. MAROULIS: Would a person reading this in 2005 be aware of applets in other language environments?

A Yes.

MS. MAROULIS: Okay. We can take a five-minute break.

THE WITNESS: Thank you.

THE VIDEOGRAPHER: The time is 9:54 a.m. and we

are off the record.

(Recess)

THE VIDEOGRAPHER: The time is 9:59 a.m. and we are back on the record.

BY MS. MAROULIS:

Q Mr. Givargis, before the break we were discussing the '711 patent. Other than the "specification," quote, we discussed and the coding language, there's no other portion of the '711 patent that you are relying on in your declaration, correct?

A I believe so, yes.

MS. MAROULIS: I would like to now switch to the prosecution history which is Exhibit 5 and, for the record, the document control numbers are SAMNDCA00007840 through 8459.

Q What is your understanding, sir, of what a file history is?

A Yes. It has three components, some of it are identifying information or titles of various documents and so on. Then it has another component which is sort of the examiner's rejections and a description of why those rejections are followed by a response to the office action which comes from the applicant in response to the rejections.

the relevant passage you were relying on appears on Page 7873 of Exhibit 5?

A This appears to be a summary of the interview that is consistent with the passage I have been relying on, yes.

Q Did you interview any participants of this interview?

A No, I did not.

Q So the only record of this interview you are relying on is this summary here, correct?

A This summary and some of the additional text, yes.

Q And the --

A Surrounding it.

Q And the followup filings by the applicants.

A Correct.

Q Is there anything in this interview summary that mentions Java?

A No, there is not.

Q And is there anything in this summary that mentions applet being system independent?

MR. SHAH: Objection. The document speaks for itself.

THE WITNESS: No, there is not.

Q BY MS. MAROULIS: What in particular about

this summary that leads you to believe that it supports your opinion?

A Yes. The term "applet" and how it is used as being an application module includes at least one applet; that phrase, once again, that association between an applet requiring an application module to exist.

Q Can both an applet and application module exist even if applet is system dependent?

MR. SHAH: Objection; vague.

THE WITNESS: Yes.

You may have to tell me, elaborate a little bit more on how this, how this applet is system dependent.

Q BY MS. MAROULIS: Do you agree that in general you can have a system-dependent applet and the application module to exist at the same, in the same space?

A You can have a system-dependent applet separately from having an applet that is operating-system independent that runs within an application system module if that is the question, yes.

Q In the context that the inventor of this patent testified about where he was working with Qualcom on this technology, isn't that correct that

he had the application module and a system-dependent applet?

MR. SHAH: Objection; calls for speculation.

THE WITNESS: Based on what I know it is not clear to me if both of those existed in the same system.

Q BY MS. MAROULIS: Is there anything that leads you to believe that the application module did not exist in the system that Mr. Jeong was working with?

A Based on the very little I know about that effort, it is not clear to me if there was an application module in addition to the applet or if -- if there was no application module in addition to the applet.

Q If the technology he was working with was the embodiment of the claims of the '711 patent would you agree that it would include both the application module and the system-dependent applet?

MR. SHAH: Object to the extent it calls for a legal conclusion.

THE WITNESS: I believe I'm not familiar enough with the system he was building as I mentioned earlier. I know it involved the Qualcom chipset and I do know it involved things that were called

applets which were OS-dependent but to the extent of what other application modules existed in this system or what other software systems were executing in the environment, I do not have enough information about that to draw a conclusion, yes.

Q BY MS. MAROULIS: Did you review his notes relating to the system that he was building that was part of the '711 patent?

A I recall being provided some notes that were in Korean which I was unable to understand.

In those notes there were certain English phrases or words, including the word "applet," and so I did come across those but I was unable to draw any conclusions from that or to be able to understand anything about the system.

Q Did you ask counsel for an English translation of the document?

A I may have indicated --

MR. SHAH: I will just caution you not to reveal the substance of the communications between us.

THE VIDEOGRAPHER: Sorry to interrupt.

Could you bring your microphone a little bit higher? It is sliding. Thank you.

THE WITNESS: It is possible I may have asked that a translation would help.

Q BY MS. MAROULIS: Did counsel provide you with a translation?

A I do not recall having reviewed the translated versions.

MR. SHAH: Just I would like to state for the record we only received permission for Dr. Givargis to review the declaration from Cole on Sunday night.

MS. MAROULIS: I'm going to mark the next exhibit, Exhibit 6, and this one bears a protective order designation of "Highly Confidential - Attorneys' Eyes Only." It has production range SAMNDCA00139800.

(Givargis Exhibit 6, a document, Bates No. SAMNDCA00139800, marked for identification, as of this date.)

Q BY MS. MAROULIS: Dr. Givargis, have you seen Exhibit 6 before?

A Yes. More recently as part of Mr. Cole's declaration.

Q Did you understand that this was the working records of the inventor of the '711 patent relating to conception reduction to practice?

A Yes.

Q And this one is in English, correct?

A That is correct, yes.

Q So the answer is no?
A Yes. No.
Q Let's turn to Exhibit 5 on Pages 7879 through 7885.
MR. SHAH: Take whatever time you need to review the document.
THE WITNESS: Yes.
Q BY MS. MAROULIS: The particular document that I will be asking you about is called "Remarks/ Argument," do you see that?
A Yes.
Q Is that a paper that you relied on in your report?
A Let me just read through it one second.
Q Take your time.
A Yes.
MR. SHAH: Let me just -- if you need to refer to your report to answer your questions, you can do so.
Q BY MS. MAROULIS: If it would help you, the portion of your report that reviews the file history starts with Page 8. In Paragraph 37 of your declaration you cite to the passage that starts on Page 6 of the file history.
This passage does not discuss applet being

system independent, correct?

A That is correct, yes.

Q What about this passage do you believe supports your opinion?

A This passage also refers to, includes an application module including at least one applet so there is this applet being included within an application module property that is consistent with the Java-like execution environment of applets which I rely on for my definition of "applets."

Q Can this notion of inclusion of the applet within the application that you refer to exist outside Java?

MR. SHAH: Objection; form.

THE WITNESS: Yes. This notion of inclusion is actually a very, very common design, sort of a paradigm where one application serves as a host interpreting another application or a set of application on, if you will, on top. And this is the Java model of execution where the Java codes or Java applications are interpreted by the host application. For example, a browser. It is also consistent with all interpreted language like Ruby or PHP or even AppleScript and JavaScript.

Q BY MS. MAROULIS: In the context of the

host application can an applet be still system dependent or are you saying it is always system independent?

A Typically.

The purpose of this inclusion or this framework that I just described is to make the applet OS-independent. I'm certain there is an example or an exceptional case or a scenario where one would build an applet that bypasses that notion so -- it is not universally the case but commonly the case.

Q Can you give me an example of such a situation where you would have a host application and still have a system-dependent applet?

A Well, one example could be an applet that exploits certain weakness or error or shortcoming of the host application to gain access to the underneath operating system, so in that sense that applet is certainly OS-dependent.

In another example, it could be that that applet is designed to take advantage of certain resources of Operating System A and those resources may not be available on Operating System B and in that case too that applet would be dependent on Operating System A and not portable to Operating

I do recognize that there are sometimes in conversational computer science used interchangeably.

Q BY MS. MAROULIS: Do you agree these two terms can be used interchangeably in the context of the '711 patent?

MR. SHAH: Objection; asked and answered.

THE WITNESS: Yes, my answer would be the same. I believe that it is important to recognize that an application is more than just a program but that in the field of computer science oftentimes a program is used when an application would work equally as well.

Q BY MS. MAROULIS: Besides Paragraph 11, are there any other portions of Mr. Cole's declaration that you agree with?

MR. SHAH: Take whatever time you need to review the document.

THE WITNESS: Yes. If you don't mind, I will quickly look at the exhibits. Not the exhibits but the description in the declaration.

Q BY MS. MAROULIS: Please go ahead.

A I believe we both agree that the '711 patent and the prosecution history does not define the term "applet" adequately.

Q Do you believe Mr. Cole says that applet is not adequately defined by the intrinsic record?

A Mr. Cole mentions that there is limited discussion in the specification and claims of the '711 patent, as well as the prosecution history, as to the definition of the term "applet." That is consistent with my understanding of my view of things that the term "applet" is not adequately defined in the patent.

Q Mr. Cole himself does not use the word "inadequate" or "not adequate," right?

A That is correct, yes.

Q So you agree with Mr. Cole that there is limited intrinsic material in which to rely on.

A That is correct, yes.

Q Anything else that you and Mr. Cole agree on?

A Yes. In the "Extrinsic Evidence" section I do agree with many of the examples that are presented; for example, AppleScript applets, Linux applets, Ruby applets, as being the kinds of applets, different, not necessarily Java applets. However, all of these, or at least the ones I just enumerated, do follow the Java-like interpreted nature of applets.

Q And by that you mean AppleScript ones and Ruby ones?

A By that I mean AppleScript applets, Linux applets, Ruby applets and the Flash and Visual Basic applets. Those are all based on an interpreted language.

Q Are any of these applets system dependent?

A In my view what makes an applet system independent is the fact that it can be transported or transferred from one, one environment, one operating system to another without the need of reprogramming it or, you know, verbatim, in essence, without having to redesign it. And these interpreted -- the interpreted nature of these other kinds of applets is consistent with that model.

Q So you are saying that, for example, AppleScript applet is an operating-system independent applet?

A In my view AppleScript applets are specifically or mostly found or maybe even entirely found within the Mac OS operating-system environment, but my definition of being operating-system independent is not based on availability of an applet or the fact that it is only popular or used within a particular operating system, but it is

the interpreted nature of it which makes it a very high-level program easily portable to, in the sense that it would not require reprogramming to another operating system. In that sense, yes, AppleScript applets are scripts that can be executed on another operating system.

Q Does the definition of operating-system independent that you just used appear anywhere in your expert declaration?

A I do not think so.

Q When did you form this opinion about what it means to be operating-system independent?

A In the process of research and on this case it was necessary to think and to try to formulate a working definition so that I could actually do my work.

Q Is there any reason why you did not include this definition in your declaration?

A No particular reason other than I felt that it is -- it is well understood in this case.

Q In your declaration you primarily define -- strike that.

In your declaration you refer to operating-system independence as equivalent to Java most of the time, correct?

MR. SHAH: Objection. The document speaks for itself.

THE WITNESS: In my document I use Java as a very good example of an operating-system independent environment in programming language paradigm, you will say. But it certainly is not the only operating-system independent kind of applet for language.

Q BY MS. MAROULIS: The definition of operating-system independent you just used today is broader than what you used in your declaration, correct?

MR. SHAH: Objection; mischaracterizes his testimony.

THE WITNESS: Can you refer me to the definition I have used in the declaration?

Q BY MS. MAROULIS: I understand your declaration to equate Java and operating-system independence; is that right?

A It is the case that Java is an operating-system independent programming language.

Q Nowhere in your declaration have you actually stated the definition of the operating-system independence that you used a few minutes ago when I asked you a question; is that right?

MR. SHAH: Objection; the document speaks for itself.

THE WITNESS: That is correct, yes.

Q BY MS. MAROULIS: Now Mr. Cole considers the applets you and I have been discussing systems, operating-systems dependent, correct?

A Mr. Cole lists these applets and in some cases draws that conclusion. For example, in the case of AppleScript it says that AppleScript is a system scripting language used for the Macintosh OS operating system.

Q Do you disagree with him with respect to that?

A I do not disagree with him but I'm not certain if what Mr. Cole, for instance, says in 52 eliminates the possibility of AppleScript being operating-system independent.

Q Would you be able to run an AppleScript applets on a Windows computer?

A If I could obtain the specification for AppleScript programming language, the scripting language, and if I were to build an interpreter that ran natively on Windows, then I could take an AppleScript applet and, without modification, run it or interpret it on the Windows environment.

THE WITNESS: That is my understanding, yes.

Q BY MS. MAROULIS: In reviewing the extrinsic evidence sources that Mr. Cole cites did you seen any sources that you have previously encountered in your day-to-day job as a programming professor, an expert?

MR. SHAH: Object to form.

THE WITNESS: The one that I would be most familiar with is Python applets. Python is -- has become a popular language and it is used heavily in universities for teaching.

Q BY MS. MAROULIS: Do you agree with Mr. Cole's description of Python applets?

A I recognize that Python applets are used in the context of Linux or Ubuntu, a particular distribution of Linux. However, Python applets are written in the language Python which is an interpreted language and Python is available for Windows, Python is available for various flavors of Linux, there is even a Python interpreter that would run on a MAC OS, so I believe the conclusion that these applets, these Python applets are specific on Linux or Ubuntu is false.

Q So you don't believe that Python apps -- pardon me, Python applets are systems dependent in

the Linux program?

MR. SHAH: Objection; mischaracterizes.

THE WITNESS: Python is a programming language independent of Linux and it is an interpreted language and there exists interpreters on a number of platforms that I know of including Windows, Mac OS and Linux that would support executing a Python applet on those other operating systems.

Q BY MS. MAROULIS: You would only be able to -- strike that.

You would only be able to execute those applets with a help of a translator or interpreter, correct?

A That is correct. And it is applicable to interpreted languages in general, yes.

Q And the same is true of all the applets listed in Mr. Cole's declaration on Paragraphs 14 -- strike that. Paragraphs 51 through 58, correct?

A That is not correct. 51 is a control panel applet that Microsoft has, has used. This particular applet is -- is one that is OS-dependent and does not follow the interpreted nature of some of these other applets that we have been looking at.

Q You are referring to Paragraph 51 that describes the desktop applets, correct?

A That is correct, yes.
Q So that's an example of an applet that is strictly systems dependent, operating-systems dependent?
A Microsoft-controlled panel applets are operating-system dependent. In particular, the Microsoft operating system.
Q I think we've talked about AppleScript and Linux applets before. What about the Ruby applet?
A Yes. Ruby applets are also interpreted and the Ruby language is an interpreted language. Applets written in this language can be executed by any translator or interpreter available on a particular platform.
Q And, again, without a translator it only can run on the window-specific environment, correct?
MR. SHAH: Objection; calls for speculation.
THE WITNESS: Any Ruby program would just be a file and unusable unless there is a translater available to parse and interpret and translate instructions to in this case Windows.
Q BY MS. MAROULIS: Are you familiar with the Flash applets mentioned in Paragraph 57 of Mr. Cole's declaration?
A Yes, I'm familiar with Flash to the extent

that I know there is a Flash language and there is a Flash Plug In or player that is very, in common use, and that it follows the same model of Ruby or Python applets that we were discussing earlier but it has an emphasis towards graphical display and video streaming and multimedia in general.

Q Is it systems dependent or independent?

A Flash applets would require a Flash player. Any system that supports the Flash player can operate or run a Flash applet.

Q So would you agree with me that Flash applets are systems, operating-systems dependent insofar as they need to have a Flash Plug In to operate?

A If you were to call the Flash Plug In an operating system then yes.

Q Can you please review the portion of Mr. Cole's declaration that starts with Paragraph 59 and is entitled "Applet Does Not Have to be Operating System Independent" And let me know if there are any portions that you agree with.

A So in section, in Paragraph 59 I do agree that applet, the term "applet" is an overloaded term, it has been defined in many, many ways. However, most, the common or the rule when it comes