EXHIBIT F

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

APPLE INC., a California corporation *Plaintiffs*, v. SAMSUNG ELECTRONICS CO., LTD., a Korean business entity, SAMSUNG ELECTRONICS AMERICA, INC., a New York corporation, and SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, a Delaware limited liability company *Defendants*.	§ § § § § § § § § §	CIVIL ACTION NO. 11-CV-01846-LHK

DECLARATION OF TONY GIVARGIS, PH.D.
IN SUPPORT OF APPLE'S PROPOSED CLAIM CONSTRUCTION
FOR U.S. PATENT NO. 7,698,711

I. Introduction

1. I have been retained as an expert in this case by Apple Inc. ("Apple"). In this Declaration I provide my opinions regarding the interpretation of the term "applet" as used in the claims of U.S. Patent No. 7,698,711 to Jeong ("the '711 patent").

II. Qualifications

2. I received a Bachelor of Science degree in Computer Science from the University of California, Riverside, in 1997. In 2001, I received my Ph.D. degree in Computer Science, also from the University of California, Riverside. My doctoral thesis, completed under the supervision of Professor Frank Vahid, was titled "Design Space Exploration of Parameterized System-on-a-Chip Architectures" and related to computer-aided design optimization of highly integrated circuits on chip.

3. Since 2001, I have been a member of the Department of Computer Science faculty at the University of California, Irvine ("UC-Irvine"). From 2001-2007, I held the title Assistant Professor of Computer Science. I was promoted to Associate professor, with tenure, in 2007, and to full Professor in 2011. Beginning in 2011, in addition to my role as Professor of Computer Science, I was appointed Associate Dean for Student Affairs in the Donald Bren School of Information & Computer Sciences at UC-Irvine.

module includes at least one **applet**' as argued during the interview to distinct [sic] from the icon as taught by KOKUBO." U.S. Patent Application No. 11/778,466, Examiner's Interview Summary of December 16, 2009, see Continuation Sheet (bold emphasis added).

37. "The Office did suggest, however, that the inclusion of a limitation further defining the music background play object would distinguish over the prior art of record, though not necessarily be allowable depending on the results of a further search. Specifically, the Office suggested including a limitation indicating that the music background play object includes an application module including at least one **applet**. Applicant appreciates the Office's suggestion and has amended the independent claims as suggested." U.S. Patent Application No. 11/778,466, Applicant's December 8, 2009 Arguments/Remarks Made in an Amendment at pp. 6-7 (bold emphasis added).

38. "For the specific invention as claimed, a music background play object, wherein the music background play object includes an application module including at least one **applet**, is included such that an MP3 file can be played in the background while other menu tasks can be executed by the user." *Id.* at p.7 (bold emphasis added).

39. "By use of the music background play object, which is an application module including at least one **applet** as discussed with reference to para. [0018], the terminal is able to perform multi-tasking. That is, by generating the application module of the music background play object, the music background play object provides an interface for the playing of music, specifically the selecting of an MP3 mode. At the same time, the user is able to execute other menu functions of the device and thus multi-task using the device. It is Applicant's contention that independent claims 1,9 and 17 are allowable based on the unique use of the music background play object, wherein the music background play object includes an application module including at least one **applet**, alone, and not based on the use of the music background play object in a standby or any other mode. That is, none of the prior art discloses a music background play object, wherein the music background play object includes an application module including at least one **applet** in any mode of a device. Accordingly, Applicant believes that the claims are in condition for immediate allowance." *Id.* at pp. 7-8 (bold emphasis added).

40. "As suggested by the Office during the interview, this clarifying limitation is not disclosed, taught or suggested by Kokubo. Rather, as acknowledged by the Office in the outstanding rejection, Kokubo merely discloses the generating of 'an icon corresponding to a task (application software)' *col. 2, lines 34-39*; see also col. 13, lines 8-10 ('manually or automatically generated music [music note symbol] icon 10f is displayed.' The generating of the icon by Kokubo is not a disclosure of generating a music background play object, wherein the music background play object includes an application module including at least one **applet**. That is, Kokubo makes no disclosure that the icon includes an application module, or that the application module includes at least one **applet** as instantly

claimed." *Id.* at pp. 9-10 (italics in original) (bold emphasis added). *See also*, '711 patent claims 1, 9, and 17.

41. These passages from the file history reinforce the clear language of the claims and specification stating that the claimed applet runs within an application module.

3. Extrinsic Evidence

42. The *McGraw-Hill Dictionary of Scientific and Technical Terms* (6th Ed., 2003) at p.124 defines "applet" as "a small program, typically written in Java." This definition supports Apple's proposed construction because persons of ordinary skill in the art in 2005 would commonly associate the term "applet" with an application written in the Java programming language, and Java was well-known to be operating system-independent, as described above.

43. The *Dictionary for Library and Information Science* (1st Ed., 2004) at p.34 defines "applet" as "a small application program written in the Java programming language developed by Sun Microsystems for distribution over the Internet. Applets run on any Java-enabled Web browser independent of platform (Windows, Macintosh, UNIX, etc.)." This definition again supports Apple's proposed construction because persons of ordinary skill in the art in 2005 understood "applets" as commonly being written in the Java programming language, which is characterized by programming independent of the platform, including the operating system.

44. The *Java Developer's Resource* (1997) by Eliotte Harold ("the Harold reference") at p.11 states that "[w]hat's most special about Java in relation to other programming languages is that it lets you write special programs called applets that can be downloaded from the Internet and played safely within a Web browser." The discussion in this text supports Apple's construction because it reflects the common understanding of persons of ordinary skill in the art in 2005 that applets, typically written in the operating system-independent Java programming language, are executed within an application module, e.g., a Web browser. The Web browser or other application module provides the execution environment for the applet.

45. The Harold reference at p.12 further explains how applets can be independent of the host platform: "Java solves the problem of platform independence by using byte code…. Java programs that have been compiled into byte code still need an interpreter to execute them on any given platform. The interpreter reads the byte code and translates it into the platform's native language on the fly. The most common such interpreter is Sun's program java (with a little j). Since the byte code is completely platform independent, only the interpreter and a few native libraries need to be ported to get Java to run on a new computer or operating system."

46. Thus, the above excerpt in the Harold reference further supports Apple's proposed construction of "applet" as being "operating system-independent." Persons of ordinary skill in the art in 2005 would have understood Java applications, including applets, as being processor and operating system "agnostic" or independent. Specifically, Java applications, including applets, execute within a standardized execution environment. An "interpreter," designed according to the standardized execution environment and usually a component of the host application module, translates the instructions of the Java applications, including applets, to those of the host platform and operating system. Thus, applets are "independent" of the operating system because they can rely upon the interpreter in the host application module to translate their instructions for them; they do not interact directly with the operating system and instead, in the context of the '711 patent, run within the application module.

47. Further, the Harold reference at p.12 describes the security advantage of applets as programs running within an application module: "Java solves this [security] problem by severely restricting what an applet can do. A Java applet cannot write to your hard disk without your permission. It cannot write to arbitrary addresses in memory and thereby introduce a virus into your computer. It cannot crash your system." *See also*, e.g., Harold at pp. 9-34. Thus, persons of ordinary skill in the art in 2005 would understand "applet" to be a program that runs in the context of another application module, such as a Web browser. The Web browser provides the execution environment for the applet and restricts its access to a user's computer resource and private data.

48. *Java: An Introduction to Computer Science & Programming* (3rd Ed., 2004) by Walter Savitch ("the Savitch reference") explains that "[t]he word *applet* sounds as though it might refer to a small apple, but it is supposed to sound like a small application. Thus, applets are just 'little Java programs,' in some sense of the word *little.* However, the character of applets comes not from their size, but from how and where they are run. Applets are Java programs that can be displayed on a Web site and viewed over the Internet. They can also be run on your local computer, without any connection to the Internet." Savitch at p.797 (italics in original). *See also*, *e.g.*, Savitch at Chapter 1, pp. 3-37, and Chapter 13, pp. 795-821. The Savitch reference supports Apple's proposed construction because it confirms that the person of ordinary skill would understand that applets have the characteristics of Java-based programs, including running within an application module independently of the operating system, as described in other references cited in this declaration.

49. In *IBM e-server pSeries* (12th Ed., 2004) by Hoskins, J. and Bluethman, R. *Exploring* ("the Hoskins reference"), "Java is an object-oriented programming environment that operates independent of any operating system or microprocessor. Java programs, called applications or applets, can be entirely developed using the compiler, debugger, and applet viewer tools provided in IBM's implementation for the AIX for Java development environment. (C and C++ compilers and tools are not needed to create/run Java-based applets.) The same applets can be

dynamically transmitted over a network and run on any client that has been enabled for Java. Because applet execution is platform independent, an applet developed with the AIX 5L tools can be executed on any Java-enabled platform (for example, Solaris)." Hoskins reference at p.226.

50. The Hoskins reference as cited above supports Apple's proposed construction of applet because it shows that persons of ordinary skill in the art in 2005 would define an "applet" as an application which "operates independent of any operating system." Further, Hoskins notes that "applet execution is platform independent," again supporting Apple's proposed construction that "applet" would have been understood to be a computer program that runs independent of the operating system. Java applications, including applets, are designed to execute within a standardized execution environment. A Java-enabled device provides an environment that translates the instructions of the Java applications, including applets, to those of the host platform and operating system.

51. Further academic publications prior to 2005 support Apple's proposed construction of "applet" as including operating system independence. *See*, e.g., "Healy, M.R., Berger, D.E., Romero, V.L., Aberson, C.L., & Saw, A. Evaluating JAVA applets for teaching on the Internet. *Proceedings of the Scuola Superiore G. Reis Romoli Advances in Infrastructure for e-Business, e-Education, e-Science, and e-Medicine on the Internet International Conference*. (2002) at p.1: "Java applets are computer applications designed for the Internet. Applets are platform-independent, meaning that they can run on any operating system that has a Java Virtual Machine to translate applet bytecodes into appropriate platform-dependent instructions." *See also*, *e.g.*, Healy at pp. 1-5, available online at: http://ccdl.libraries.claremont.edu/cdm4/item_viewer.php?CISOROOT=/irw&CISOPTR=432 .

52. Operating system-independence was an understood characteristic of applets in the art by 2005. As a further example, "*Interactive Programming with Java Applets*" (2005) by Elizabeth Boese ("the Boese reference") at p.8 notes that "Java is platform independent because the source code is compiled to bytecode, and it's the bytecode that can be used on any platform (operating system)."

53. The Boese reference further discusses at p.9: "There are two different types of Java programs that we can create: applets and applications. Applets are Java programs embedded into a web page. Applications are stand-alone programs that can be run by themselves." The Boese reference thus supports Apple's proposed construction of "applet" as a program "running within an application module" because applets, unlike applications, are not stand-alone programs and cannot run by themselves. *See also*, Boese at Chapter 1, pp. 7-20 (available online at http://books.google.com/books?id=mEC7H9WxXHEC&pg=PA8&dq=applets+are+operating+system+platform+independent&hl=en#v=onepage&q&f=false)

54. Apple's proposed construction of "applet" is further supported by *Web Technologies TCP/IP Architecture, and Java Programming*" (2nd Ed., 2002) by

Godbole, A. S. and Kahate, A. ("the Godbole reference") at p.524: "[b]y virtue of the Java heritage, applets are platform independent." (available online at http://books.google.com/books?id=uEufGycOJRsC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=true). Thus, a person of ordinary skill in the art in 2005 would understand "applets" to be platform-independent, which necessarily includes "operating system-independent."

4. Conclusion

55. Based on the above intrinsic and extrinsic evidence, it is my opinion that a person of ordinary skill in the art in 2005 would have interpreted the term "applet" in the '711 patent claims according to Apple's proposed construction as "an operating system-independent computer program that runs within an application module."

X. Samsung's Proposed Construction of "Applet"

56. I have reviewed Samsung's Patent Local Rule 4-2 Disclosures, including Exhibit A at p.51. I understand that Samsung has proposed "applet" should be construed as "a small application designed to run within another program."

57. As support for its proposed construction, Samsung cites to the *Wiley Electrical and Electronics Engineering Dictionary* (2004), which offers the same definition. Samsung further cites to the single reference to "applet" in the '711 patent specification at Col. 3:10-14, as discussed above in this declaration.

58. It is my opinion that a person of ordinary skill in the art in 2005 would not have construed "applet" as broadly as proposed by Samsung. As an initial matter, the '711 patent specification and claims explicitly require a narrower reading in accordance with Apple's proposed construction. For example, as discussed above, each of claims 1, 9, and 17 requires "an application module including at least one applet." Based on the claim language alone it is clear that the claimed applet must run within an application module. Furthermore, the only reference to applet in the specification (at Col. 3:10-12) states that "[a]pplication modules of the portable terminal include at least one applet," confirming that the claimed applets run specifically within "application modules" and not simply any "program" in general as proposed by Samsung. As discussed above, the file history of the '711 patent also includes numerous statements reinforcing that the claimed applet runs within an application module.

59. It is further my opinion that "applets" would have been understood by a person of ordinary skill in the art in 2005 to be operating system-independent as required by Apple's proposed construction. As shown above in numerous supporting references, an "applet" was widely understood as a program that runs independently of the host operating system and within the confines of a Web browser or other application module.

XI. Supplementation of opinions

60. I reserve the right to supplement my analysis in light of any critique of my report or alternative opinions advanced by or on behalf of Samsung.

Dated: 11/14/2011

Tony D. Givargis, Ph.D.