Exhibit 1

EXHIBIT L
FILED UNDER SEAL

CONTAINS INFORMATION DESIGNATED AS SAMSUNG HIGHLY CONFIDENTIAL ATTORNEY'S EYES ONLY

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

APPLE INC., a California corporation, Plaintiffs, vs. 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. 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 Counterclaim-Plaintiff, v. APPLE INC., a California corporation, Counterclaim-Defendants.	Civil Action No. 11-CV-01846-LHK

Expert Report of Tony D. Givargis, Ph.D.
Regarding Invalidity of the Asserted Claims of U.S. Patent No. 7,698,711

content providers can create malicious applets that are unintentionally downloaded and executed by users, causing damage to the user's computer system (e.g., corruption of files or theft of personal data). Therefore, applets are allowed limited access to the user's operating system services, such as file system, network and main memory. The host application enforces these limitation on the applet, and may provide to the user means to adjust the allowable level of privileges. One example of a host application capable of executing applets is a web browser.

54. The underlying concept of applets as portable applications that are computer and operating system independent, and execute with limited privileges, is not limited to Java applets. Examples of other languages that support Java's interpreted model of execution are Flash, Javascript, Python, and PHP, to name a few.

C. Music Players and MP3 Format

55. Music is made of sounds and sounds are mechanical compressions or wave pressures. These waves are analog in nature, in other words they are continuously varying intensities over time. To capture music digitally, the analog waves are converted to electrical signals using, for example, a microphone. The electrical signal is in turn converted to digital values (i.e., a sequence of sound samples) by a component named an analog-to-digital converter (ADC). Once converted to the digital domain, the sequence of sound samples may be stored in a file, processed by the CPU, transmitted over the Internet, and so on. The same digital sequence of sound samples can be converted to analog form using a digital-to-analog converter (DAC). The output of the DAC can, for example, drive a speaker to recreate the original music.

56. A challenge in processing sound digitally is managing the sound samples. For high quality capture of music (e.g., compact disk (CD) quality), and for each audio channel, it is necessary to capture approximately 44,100 samples per second, each sample being two bytes long. A five minute song, thus, may require about 53 MB (million bytes) of storage (i.e., 2 ch x 44,100 samples/sec x 300 sec x 2 bytes/sample 52,920,000 bytes). Therefore, 74 minutes of music requires about 780 MB of storage, which happens to be the typical storage capacity of

audio CDs. Management of audio data at this rate is impractical, in particular on mobile devices with limited network and storage capabilities.

57. MP3, which stands for the Moving Picture Experts Group (MPEG) level 3 audio encoding, offers a standard compression technique to aggressively reduce the size of audio files. MP3 can achieve 10 times reduction in size. A five minute song, thus, may require about five MB of storage. The MP3 standard governs both algorithms for compression as well as algorithms for decompression and has become a de facto standard in the industry.

58. A music player application can plays music, such as MP3 files. The core of a typical music player is a decompression task that is implemented according to the MP3 standard. Virtually any multitasking system can simultaneously play music while executing other applications. The term *background music player* is often used to highlight the fact that music playback requires little user interfacing (i.e., once a song or a playlist is chosen by the user, the user is likely to allow the music to play for extended periods of time with no further user-computer interactions) and hence once the playback task is initiated, it can be allowed to run with limited access to the display and input devices. A task with limited or no access to the display and inputs of a computer may be referred to as a *background task*.

D. Conclusion

59. The above tutorial is applicable to computers of varying vintages and complexity. From the early mainframe computers to mobile devices of early 2000s, one can readily establish consistent design principles that address the issues of multitasking from a software as well as a hardware perspective.

60. Multitasking techniques have been established for over 60 years, from at least the onset of UNIX, made widely available to industry and academia. *Operating System Concepts*, 4th Ed. (1994) at p.19. The '711 patent identifies an application of multitasking, as a way to eliminate the need for additional hardware resources (see, e.g., '711 patent at Col. 1:49-62) but offers no additional contribution to the technical field.

VII. Summary of the '711 Patent Disclosure and Claims

A. Development Work Leading to the '711 Patent Disclosure

61. The '711 patent was filed on July 16, 2007 and claims priority to Korean application 10-2005-0079921, filed August 30, 2005. [redacted]

62. [redacted]

64. [redacted]

				
The media player application is selected.	A song by the name "Coo-coo" is played.	The music player application is minimized.	The messaging application is selected. Note the music icon on top left corner.	Music plays (see music icon) while messaging application is in use.

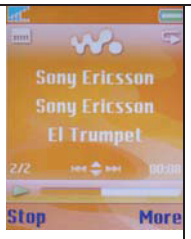
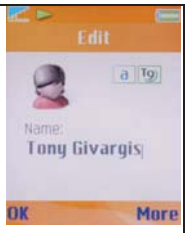
Sony Ericsson W800i and User Guide

99. The Sony Ericsson W800i User Guide (1st Ed.) was published in May 2005, before the August 30, 2005 filing of the priority application for the '711 patent priority date and describes the functions of the W800i phone. The W800i phone itself was released publicly on January 1, 2005 (APLNDC-WH0000015950), prior to the invention in the '711 patent and prior art under 35 U.S.C. §102 [redacted]

100. The W800i is a mobile phone with background music playback capabilities. The W800i follows a similar design evolution as the Sony Ericsson K700i, having similar features and functionalities and adding elements such as a flight mode operation, 512 MB memory stick, and new packaging/cosmetic features. The W800i has Bluetooth, Infrared and USB connectivity as well as a 2 megapixel digital camera. The W800i is capable of playing MP3 and AAC music files and incorporates the Java ME environment, including the Mobile Media API.

101. The W800i is a multitasking phone with extensive background music playback capabilities. The W800i music player application is selected from the main menu. Once selected, the music player application provides an interface to play a song from a list of songs or

play a multi-song playlist. The music player application can be minimized to return to the standby mode: "Press [icon] to go to the WALKMAN player, or to minimize the WALKMAN player during playback," page 9, W800i User's Manual." Once minimized, the W800 returns to the standby display, where alternate phone functions (e.g., phone book, calculator, calendar) may be used while music playback continues in the background. During music playback, including background music playback, a small music indicator is displayed at the top of the display. The background music playback capabilities of the W800 are illustrated in the following sequence of photos taken from an actual W800i mobile phone by me.

				
The music player application is selected.	A song by the name "El Trumpet" is played.	The music player application is minimized.	The messaging application is selected. Note the music icon on top left corner.	Music plays (see music icon) while messaging application is in use.

Nokia 3300 mobile phone and user guide

102. The Nokia 3300 User Guide was published in 2003 and the device itself was on sale in the U.S. no later than August 4, 2003 (APLNDC-WH-A0000005340), making both the user guide and the mobile phone it describes prior art under 35 U.S.C. §102 because they were publicly available more than one year before the filing date of the priority application leading to the '711 patent.

103. The Nokia 3300 is a multitasking phone capable of playing music in the MP3, AAC, Midi, and WAV formats. Moreover, the Nokia 3300 is able to play music in the background while the user engages other application such as, email, web browser, calendar and

- Displaying an indication that the music device is being played
- Selecting and performing at least one function of the pocket-sized mobile communication device while the playing of the music continues
- Continuing to display the indication that the music file is being played while performing the selected function
- Selecting a message function as required by claims 7 and 15
- A controller for selecting and playing a music file in the pocket-sized mobile communication device and selecting and performing at least one function of the pocket-sized mobile communication device while the playing of the music file continues as required by asserted independent claim 9
- A multi-tasking apparatus in a pocket-sized mobile communication device and a display unit for displaying an indication that the music file is being played as relates to independent claim 17

U.S. Pub. App. 2004/0077340 to Forsyth

124. U.S. Pub. App. 2004/0077340, referred to as the Forsyth reference, published on April 23, 2004 and is therefore prior art under 35 U.S.C. §102 because it published more than one year prior to the earliest filing date of the '711 patent.

125. Forsyth outlines a mobile device having a screen that displays realtime information of particular intrest to the user while the phone is not in use and essentially in idle mode. Forsyth specifically provides the example of a mobile device playing an MP3 music file and displaying information about the current track being played or the artist information on the standby screeen.

Q.H. Mahmoud, "The J2ME Mobile Media API"

126. The article by Q. H. Mahmoud titled "The J2ME Mobile Media API" has a publication date of June 2003, more than a year before the earliest filing date of the '711 patent, making it prior art under 35 U.S.C. §102.

127. The Mahmoud article describes the design of an MP3 player, with background playback capabilities intended for mobile phones. The specific example provided by Mahmoud

builds a "MIDlet" application. See, e.g., "J2ME Tutorial" provided at p.3 ("MIDlets are applets for mobile phones.")(APLNDC-WH-A0000025002). A MIDlet is an applet but with slightly restricted access to resources (such as display or memory). As with applets, MIDlets are usually written in Java, are object-oriented, are interpreted by a host application. On very resource-constrained systems, such a low-end mobile phones, a developer might chose to target a MIDlet rather than an applet, but the person of ordinary skill would recognize that the code segment disclosed in Mahmoud is consistent with what one would have to write in order to design an less-constrained applet for a mobile device.

128. Mobile phones leading up to 2005 commonly provided support for the Java Micro Edition (JME) and the Mobile Media API (MMAPI). The JME is a Java Virtual Machine (JVM) specification specifically designed for resource constrained mobile devices. Benefits of supporting the JME include an object oriented programming model and a device-independent API that facilitates rapid application design and deployment. The Mobile Media API (MMAPI) disclosed in Mahmoud is noted as being "designed to run with any protocol and format." Mahmoud at abstract. The Mahmoud article outlines an implementation of an MP3 player application with background play capabilities in as little as 29 lines of Java code. The MP3 play object, named "player" is constructed as follows:

```
Player player =
Manager.createPlayer(Manager.TONE  DEVICE  LOCATOR);
```

129. The Mahmoud article further demonstrates how an MP3 play object can be instructed to begin the music playback, for instance when a User Interface (UI) command is issued by the user, as follows.

```
// non-blocking start
p.start();
```

130. Of particular note is the "non-blocking" nature of the start method described in the paragraph above. A person of ordinary skill would recognize that a non-blocking method, in

136. In each of the proposed combinations of art below, the Wong patent, Shaffer patent, and Mahmoud article would, taken alone, have motivated the person of ordinary skill in the art to include an applet in a music background play application module. I discuss the reasons the ordinary artisan would have been motivated to include such an applet when programming the background music functions of the prior art.

137. For ease of reference, I have designated the elements of claims 1, 9, and 17 as elements [a]-[h] in the order they appear in the claim language.

1. The '711 claims are obvious over the Sony W800i alone or in view of the Wong or Shaffer patents or Mahmoud article

138. It is my opinion that Claims 1, 2, 7-10, and 15-18 of the '711 patent would have been obvious to a person of ordinary skill in the art in 2005 over the Sony W800i device and associated User Guide in view of Wong, Shaffer or Mahmoud.

139. Independent claim 1 would have been obvious to the person of ordinary skill in the art because all claim elements were present in the Sony W800i phone with the possible exception of the limitation requiring that the background play object includes an application module including at least one applet. While the presence of the J2ME environment in the phone would have encouraged the use of Java applets, the source code for the Sony W800i was not available for my inspection, and therefore I could neither verify nor rule out that it indeed contained an applet relating to music background play.

140. Attached as **Exhibit 3** is a claim chart that sets forth in detail where each element of claim 1 is found in the Sony W800i device and corresponding User Guide.

141. Claim 1 requires "a multi-tasking method in a pocket-sized mobile communication device including an MP3 playing capability." This element is disclosed by the Sony W800i phone and User Guide. See, for example, the Sony Ericsson W800i User Guide (1st Ed., May 2005) at pp.16-17: "Getting to know your phone" including "Internet Services", "Entertainment" including "MusicDJ", "File Manager", "Contacts", "Radio", "Camera", Messaging", "Walkman", and "Organizer". Furthermore, the User Guide describes the

Taken together, the User Guide thus discloses that the Sony W800i is compatible with Java J2ME.

147. If the Sony W800i lacks a background music player application including at least one applet, which cannot be determined in the absence of the appropriate source code for the device, it nevertheless would have been obvious to the person of ordinary skill in the art in 2005 to include an applet in the application that controls music background play on the W800i.

148. Each of the Mahmoud article, Shaffer patent, and Wong patent disclose use of applets that would have motivated the ordinary artisan to use an applet to control a music player function.

149. For example, Wong teaches application modules including applets for music background play objects, specifically discussing the use of Java programming (see, e.g., Wong '648 patent at Col. 1:24-34), Java applets (e.g., Wong '648 patent at Col. 5:5-11), and discusses applications for providing playback for MP3 audio files (Wong at Col. 9:16-20). Given all the known advantages of programming using Java applets and Wong's disclosure of Java programming to support MP3 audio file playback, the Wong reference would have motivated the straightforward modification of the source code underlying Sony W800i music playback to include an applet.

150. The Mahmoud article would likewise have motivated the person of skill to include an applet for music player control functionality in the Sony W800i phone to the extent it lacks such programming. Mahmoud provides sample code for a music player applet compatible with the Mobile Media API (MMPAI) on J2ME-enabled devices (the Sony W800i is J2ME-enabled as discussed above), including the MP3 format. See Mahmoud at Abstract, p.1, and pp.8-10.

151. As discussed above, Shaffer discloses transferring an applet with a music file and music player to telephone callers while the callers are placed on hold. See para. 116-117.

> [A] first embodiment of the invention, when a caller is placed on hold, the music-on-hold system is configured to transfer a small application program or applet, having a music file and a media

keys 2-9 to reach a contact beginning with a specific letter on that key, as instructed by the User Guide at page 19.

164. Independent **claim 9** is very similar to claim 1, but recites an apparatus rather than a method. As shown in detail in the claim chart attached as Exhibit 3, the corresponding claim limitations may be found in each of the prior art references in the identical locations as provided above for claim 1. In my opinion, claim 9 is obvious over the W800i, alone or in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claim 1. The minor differences between claim 9 and claim 1 are discussed below.

165. In addition to the elements required by claim 1, claim 9 also requires a "controller" for generating the music background play object of element [a]. The '711 specification states that "[a] controller 110 controls the overall operation of the portable terminal." '711 patent at Col. 3:52-53. I have inspected the Sony W800i phone and verified that it comprises a processor, which the person of ordinary skill would recognize controls the overall operation of the portable terminal.

166. In addition to the elements required by claim 1, claim 9 also requires "a display unit for displaying an indication that the music file is being played in the standby mode." The Sony W800i phone and User Guide, as shown in the chart provided at Exhibit 3, disclose a display unit which indicates that a music file is being played in the background while in standby mode or while performing another function, such as messaging or opening the contacts phone book. The indication is presented on the display as a green icon in the shape of an arrow (see above for each of claims 1, 2, 7, and 8).

167. Dependent **claim 10** requires the same elements as claim 9, and further requires "wherein the indication comprises an icon." This additional limitation is the same as that required by claim 2 and is disclosed by the Sony W800i as discussed above. See para. 158 above. Therefore, claim 10 is obvious over the W800i in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claims 1-2 and 9.

168. Dependent **claim 15** requires the same elements as claim 9, but additionally requires "wherein the function selected from the standby mode comprises a message function." This additional limitation is the same as that required by claim 7 and is disclosed by the Sony W800i as discussed above for claim 7. See para. 159 above. Therefore, claim 15 is obvious over the W800i in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claims 1, 7 and 9.

169. Dependent **claim 16** requires the same elements as claim 9, but additionally requires "wherein the function selected from the standby mode comprises a phonebook function." This additional limitation is the same as that required by claim 8 and is disclosed by the Sony W800i as discussed above for claim 8. See para. 160 above. Therefore, claim 16 is obvious over the W800i in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claims 1, 8 and 9.

170. Independent **claim 17** is similar to claim 9, but does not require the "selecting and performing at least one function of the pocket-sized mobile communication device from the standby mode while the playing of the music file continues" limitation, nor does it require the "continuing to display the indication that the music file is being played while performing the selected function" limitation of claim 9. All elements of claim 17 are otherwise disclosed as described above for claim 9 and claim 1 in this section. Therefore, claim 17 is obvious over the W800i in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claims 1 and 9.

171. Dependent **claim 18** requires the limitations of claim 17 above, and further requires "wherein the indication comprises an icon." This additional limitation is the same as that required by claims 2 and 10 and is disclosed by the Sony W800i as discussed above for those claims. See para. 158 and 167 above. Therefore, claim 18 is obvious over the W800i, in view of Wong, Shaffer or Mahmoud for the same reasons discussed with respect to claims 1-2 and 9-10.

2. Motivation to combine the above references as claimed

172. I understand that the motivation to combine the teachings of the prior art references in the combinations identified above can be found in each of (1) the references themselves, (2) the nature of the problem being solved, (3) the express, implied and inherent teachings of the prior art, (4) the knowledge of persons of ordinary skill in the art, and (5) the predictable results obtained in combining the elements of the prior art.

173. As described above, the Sony W800i cell phone together with the accompanying Sony W800i User Guide disclose all elements of the asserted claims with the possible exception of a music background play object that includes an application module including at least one applet. I was not able to examine the source code to determine if the Sony W800i device included an applet in the application module responsible for background music.

174. One skilled in the art would have been motivated to modify the Sony W800i with the teachings of Wong, Shaffer or Mahmoud regarding applets because it would have been desirable for numerous reasons relating to the advantages of using applets in general, as described below, and because of specific disclosures in the references.

175. The nature of the problem being solved, as articulated in the '711 patent itself, was "a need for an improved system and method to allow a user to simultaneously work on multiple menus of the portable terminal while listening to music" without the additional cost and complexity of a dedicated control processor. '711 patent at Col. 1:49-51. The problem itself would have motivated the ordinary artisan in 2005 to look at applets which would obviate the need for additional hardware or software complexity, and preserve scarce computing resources.

176. One of ordinary skill in the art would have been motivated to employ mobile devices running Java or other applet-compatible applications, and in particular to use applets for the purpose of multitasking and playing of background music on a mobile device, in order to obtain (1) third party and post manufacturing addition of functionality, (2) added security against malicious software, (3) a method to accommodate multitasking, (4) forward

182. As described above at para. 69-72, [redacted]

183. The Wong, Shaffer, and Mahmoud publications show that applets with music play function were well known in the art and it would have been obvious to the ordinary artisan that modifying the Sony W800i to include a music background play applet would be desirable. Each of these references discloses the use of applets specifically in the context of music player functions on phones, including mobile devices. Moreover, the presence of Java J2ME on the Sony W800i phone makes adding applet control even more straightforward because of the Java-applet compatible environment, further motivating the ordinary artisan to do so. The end-user license in the Sony W800i User Guide indicates that Java J2ME was used on the device (see Sony W800i User Guide at p.2).

184. Furthermore, implementing an applet for a music background play function on the Sony W800i mobile phone would have been a simple application of known technology for its known function to provide predictable results. The Sony W800i mobile phone is compatible with Java J2ME (see W800i User Guide at p.2), which means it supports running Java applications, which may include "applets" for performing specific tasks. The Wong, Shaffer, and Mahmoud articles provide evidence that music applets were well known prior to 2005, and the '711 patent claims require only the known use of an applet running within a music player application to provide an expected result, the ability to multitask while playing a music file in the background.

185. The Mahmoud article would have motivated the ordinary artisan to employ applets for running MP3 music files on mobile devices. As described in para. 126-131 above, Mahmoud describes implementation of an MP3 player application with background play capabilities in as little as 29 lines of Java code, a simple player that would be straightforwardly implemented as an applet running within a larger application. In 2005, a person of ordinary skill in the art would have appreciated the benefits of the J2ME environment as described in

Mahmoud , including a device-independent Application Programming Interface (API) that facilitated rapid application design and deployment. See Mahmoud at Abstract. Further, Mahmoud's teaching of a "non-blocking" start method, as explained above in para. 130, would have particularly motivated the ordinary artisan because such methods are particularly useful for multitasking functions.

186. Likewise, the Wong patent would have motivated the ordinary artisan to combine mobile devices with MP3 players including an applet because it discloses methods of running small media applications, including applets, independently of a device's native operating system. *See*, e.g., Wong patent at Col. 1:24-34 and Col. 9:16-20. Furthermore, Wong would have motivated the ordinary artisan to combine with the Sony W800i because it saves memory, important for mobile applications. See, e.g., Wong at Col. 2:45-47 ("Broadly speaking, the present invention fulfills these needs [for systems and methods providing mobile multimedia frameworks capable of operating on mobile computing devices] by providing a mobile multimedia framework, having a reduced memory footprint.")

187. The Shaffer patent would have motivated the ordinary artisan in 2005 to use an applet in a music background play object in any of the cited primary references because Shaffer teaches a system for providing music on a network by providing an applet having a music file and a media player from the server to the client. *See*, e.g., Shaffer at Col. 1:61-2:8. The Shaffer patent would also have motivated the person of ordinary skill to use an applet for music background play in the Sony W800i phone to the extent it lacks such programming, because using an applet for a music player function is described in Shaffer as conserving resources. Shaffer at Col. 2:49-51. The ordinary artisan would recognize that the resource-saving advantages of using an applet for music player function would be particularly important in resource-constrained devices such as mobile phones.

188. Furthermore, the results obtained by making any of the prior art combinations identified above would have been entirely predictable. The known elements of music player applets performing their known functions, playing MP3 music files, with the expected result of a

phone with multitasking capability when playing a music file would have been obvious whether combining the Sony W800i with Mahmoud, Shaffer, or Wong. Neither the specification of the '711 patent nor the associated file history indicates any unexpected results from the use of an applet within an application module in a music background play object. I cannot see any functionality in the '711 patent that would not have been expected from the combination of a well-known applet and a well-known music player on mobile device such as the Sony W800i.

189. In light of the above, one of ordinary skill in the art in 2005 would have found it obvious to combine the prior art teaching mobile devices with multitasking music functions, including displaying icons indicating background music play, with routine programming of well-known applets, such as Java 2 Micro Edition (J2ME) applications, including for MP3 player functions. It has been explained to me that according to the Supreme Court's standard in the *KSR* case, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co.* v. *Teleflex, Inc*., 550 U.S. 398, 416 (2007). As described above, the asserted claims of the '711 patent represent the application of commonly known programming methods to existing mobile devices, with entirely predictable results.

3. The '711 claims are obvious over Kokubo and Senpuku in view of the Wong or Shaffer patents or Mahmoud article

190. It is my opinion that Claims 1, 2, 7-10, and 15-18 of the '711 patent would have been obvious to a person of ordinary skill in the art in 2005 over the Kokubo and Senpuku patents in view of either Wong, Shaffer or Mahmoud.

191. During the prosecution of the '711 patent as described above in Section VII C, the PTO examiner found that the combination of the Kokubo and Senpuku references rendered most of the pending claims obvious, including all the claims which eventually issued as the asserted '711 patent claims. See '711 Patent File History, Office Action of November 9, 2009 and discussion above at para. 87-88. Only after the applicant amended the claims to include the "applet" limitation were the claims allowed over this combination. It is my opinion that, had the

appropriate references been before the Examiner, it would have been clear that programming the background music play function application to include at least one applet would have been obvious. Each of the Mahmoud article, Shaffer patent, and Wong patent disclose use of applets as described above in Section IX A and each would individually motivate the ordinary artisan to use programming including an applet for providing music background play as otherwise provided by the combination of Kokubo and Senpuku. The reasons why the person of ordinary skill would have been motivated to combine the Kokubo and Senpuku references together along with any of the references motivating use of an applet are detailed below in Section IX B 4.

192. For clarity and brevity, I have not reproduced each of the referenced figures and illustrations from the prior art references discussed here; where necessary, I have cited to illustrations and longer quotations in the references and as provided in the chart attached as **Exhibit 4**.

193. Claim 1 requires "a multi-tasking method in a pocket-sized mobile communication device including an MP3 playing capability." I agree with the PTO examiner that Kokubo discloses a portable phone capable of multitasking, including music file play capability. For example, Kokubo that the device is operable for both "phone calls" and "music reproduction," and is further "capable of processing a plurality of application software (tasks) in parallel, and of generating icons for each of the application software (tasks) and switching between the tasks." See, e.g., Kokubo at Col. 10:52:62. See also, Kokobu at abstract, Col. 2:34-41, Col. 2:63-3:3, and FIGS. 10-13.

194. Senpuku likewise teaches "[a] multi-tasking method in a pocket-sized mobile communication device including an MP3 playing capability." The specification points out that the speaker for the disclosed portable phone device "is not limited to reproducing voice signals but can also reproduce music and sound effects" as discussed in Senpuku para. [0048]. Senpuku likewise teaches multitasking, including providing "a task display switching method" including "a portable apparatus and a portable communications apparatus which, when a plurality of

that required by claims 2 and 10 and is disclosed by Kokubu as discussed above for those claims and not repeated here.

4. Motivation to combine the above references as claimed

221. The person of ordinary skill would have been motivated to combine the teachings of Kokubo with the standby mode taught by Senpuku. As discussed above, when the sub-display in Senpuku is closed, the active screen on the display continues to execute the application other applications are continued in the background. *See, e.g.*, Senpuku publication at paragraphs ¶¶ 105, 106, 110. The ordinary artisan would therefore recognize that the combination of Senpuku and Kokubo would the user to switch into a standby mode with an MP3 file still continuing to play. Further, the music play indication icon taught in Kokubo would have been obvious to combine with the standby screen disclosed in Senpuku. The person of ordinary skill would have found it desirable to indicate music file play on the display in standby mode, and the convenience of selecting and performing a function of the phone from the standby screen while the music play continued.

222. As described above in paragraphs 175-189 describing the known advantages of applets, the ordinary artisan would have read the Wong, Shaffer, or Mahmoud references and been motivated to add music player functionality to the Kokubo and Senpuku device. Any programming environment, whether Java or otherwise, compatible with using applets would have provided the well-appreciated advantages of applets for mobile devices, particularly as they relate to multi-tasking. The specific teachings of Wong, Shaffer, or Mahmoud also provide added motivation to use applets for music play function in order to preserve computing resources. Rather than repeat the details of these teachings, please refer back to paragraphs 175-189, which are applicable for the combination of Kokubo and Senpuku as well as for the Sony W800i and accompanying User Guide because applets would confer the same advantages to a mobile device in either scenario.

Sony K700i and associated User Guide disclose a mobile device that generates a music background play object as shown in the chart at Exhibit 5. See, e.g., K700i User Guide at p.63 ("You can listen to music and view video clips that you have saved in your phone. The music list keeps on playing until you press Stop."). The User Guide also describes, at p.98, the object on the display screen that selects the audio/video player application. Please see the screenshot, taken by me, as provided in the chart at Exhibit 5.

228. I played a music file on the K700i phone with ease by following the simple on-screen instructions. This included launching the music player from the menu, selecting a song, playing it, then minimizing the music player to return to the main menu. From there, I was able to select any of the remaining functions of the K700i while the music playback continued in the background. Throughout this process, a small icon on the top left gave in indication that music playback is in progress. The screenshot provided in the chart, taken by me, illustrates the selection of the music player from the main menu.

229. I note that the K700i User Guide "icon description" at p.99 also describes an icon that indicates a Java application is running, indicating the K700i phone would be expected to be compatible with Java applets for the music player function.

230. If the Sony K700i lacks a background music player application including at least one applet, which cannot be determined in the absence of the appropriate source code for the device, it nevertheless would have been obvious to the person of ordinary skill in the art in 2005 to include an applet in the application that controls music background play on the K700i.

231. Each of the Mahmoud article, Shaffer patent, and Wong patent disclose use of applets that would have motivated the ordinary artisan to use an applet to control a music player function in combination with the Sony K700i and associated User Guide for the same reasons as given above for the Sony W800i phone and User Guide. See explanation above at para. 172-189.

232. **Element [b]** of Claim 1 requires "providing an interface for music play by the music background play object." The Sony K700i and associated User Guide each discloses this element. For example, the K700i User Guide illustrates the device and provides a key to the functions of the interface, which can be used to play music, including background music. See,

249. Dependent **claim 15** requires the same elements as claim 9, but additionally requires "wherein the function selected from the standby mode comprises a message function." This additional limitation is the same as that required by claim 7 and is disclosed by the Sony K700i as discussed above for claim 7. See paragraph 242.

250. Dependent **claim 16** requires the same elements as claim 9, but additionally requires "wherein the function selected from the standby mode comprises a phonebook function." This additional limitation is the same as that required by claim 8 and is disclosed by the Sony K700i as discussed above for claim 8. See paragraph 243-244.

251. Independent **claim 17** requires similar limitations as claim 9, but does not require the "selecting and performing at least on function of the pocket-sized mobile communication device from the standby mode while the playing of the music file continues" limitation, nor does it require the "continuing to display the indication that the music file is being played while performing the selected function" limitation of claim 9. All elements of claim 17 are otherwise disclosed as described above for claim 9 and claim 1.

252. Dependent **claim 18** requires the limitations of claim 17 above, and further requires "wherein the indication comprises an icon." This additional limitation is the same as that required by claims 2 and 10 and is disclosed by the Sony K700i as discussed above for those claims.

6. Motivation to combine the above references as claimed

253. The ordinary artisan in 2005 was fully aware of the advantages of using applets and even in the absence of explicit teachings in the references would have been motivated by the known advantages to use an applet for the music background object as claimed in the '711 patent. Please see above at para. 172-189 for an explanation of the known advantages of programming applets in Java or similar languages. The person of ordinary skill in 2005 would have further read the Wong, Shaffer, or Mahmoud references and been motivated to add music player functionality to the Sony K700i device as disclosed by the phone and accompanying User Guide. *Id.*. The Sony K700i, like the Sony W800i, is also a Java J2ME compatible phone and in fact

has a specific icon for display when the phone is running a Java-based application. See Sony K700i User Guide at p.99 and end-user license agreement at p.2. Sony Ericsson K700i User Guide at p.34 notes the storage folder for Java applications and games. Taken together, the User Guide thus discloses that the Sony K700i is compatible with Java J2ME, which the person of ordinary skill would understand is an ideal environment for applet control of music player function.

7. The '711 claims are obvious over the Nokia 3300 and Miyasaka or Kokubu references in view of the Wong patent, Shaffer patent, or Mahmoud article

254. It is my opinion that Claims 1, 2, 7-10, and 15-18 of the '711 patent would have been obvious to a person of ordinary skill in the art in 2005 because (1) all elements of claim 1 were present in the Nokia 3300 device and associated User Guide, together with either of the Miyasaka or Kokubu references in view of any of the Wong, Shaffer, or Mahmoud references and (2) the ordinary artisan would have been motivated to combine the teachings of the prior art in the manner claimed in the '711 patent and doing so would require only the simple application of known elements to perform known functions with predictable results. Thus, the difference, if any, between what is taught by the prior art and what is claimed in the '711 patent would have been obvious to the person of ordinary skill in the art by 2005.

255. Independent **claim 1** would have been obvious to the person of ordinary skill in the art because all claim elements were present in the Nokia 3300 phone and associated User Guide with the possible exceptions of the limitation requiring that the background play object includes an application module including at least one applet, and the limitation requiring display of an indication, such as an icon, when a music file is being played in the standby mode. However, it would have been obvious to the person of ordinary skill in the art in 2005 that including an applet in an application module controlling music background play function would be desirable for numerous reasons as discussed below in paragraphs 175-189.

256. Independent **claim 1** requires "A multi-tasking method in a pocket-sized mobile communication device including an MP3 playing capability." The Nokia 3300 mobile phone and accompanying Extended User Guide each teaches a device with MP3 file playing capability that is capable of multitasking. "You can listen to MP3 and AAC music files stored on the memory card in your phone with the Music player, or you can listen to the Radio." Nokia 3300 and Extended User's Guide at p.38. See attached chart in **Exhibit 6**.

257. Miyasaka also teaches a mobile device with a multitasking ability, including an MP3 playing capability. See, e.g., Miyasaka at para. [0020]. During prosecution, Samsung admitted Miyasaka teaches this element of the claim. See discussion of prosecution history above.

258. **Element [a]** of claim 1 recites "generating a music background play object, wherein the music background play object includes an application module including at least one applet." The Nokia 3300 and Extended User Guide teach generating music background play, as I tested myself.

259. I played a music file on the Nokia 3300 with ease by following the simple on-screen instructions. This included launching the music player from the menu, selecting a song, playing it, then minimizing the music player to return to the main menu. From there, I was able to select any of the remaining functions of the Nokia 3300 while the music playback continued in the background. The image presented in the accompanying chart in Exhibit 6, taken by me, illustrates the selection of the music player from the main menu.

260. I also note that the Extended User Guide points out that the Nokia 3300 "supports Java 2 Micro Edition (J2ME), which is a version of Java technology specifically designed for small consumer products. The phone includes some Java applications and games, and supports downloading new applications and games from different WAP services." Nokia 3300 Extended User's Guide at p.18. As discussed above, J2ME provided the perfect environment to execute Java applets for a music player functionality. A person of skill in the art would have been motivated to modify the Nokia 3300 to include an applet because of the known advantages of

applets, particularly when the phone is J2ME-compatible as is the Nokia 3300 phone. For the same reasons as described above for the Sony W800i and Sony K700i, the person of ordinary skill would have been motivated by the teachings of Wong, Shaffer, or Mahmoud to include a music player function including at least one applet. See para. 172-189 specifying relevant disclosure in these three references above.

261. Miyasaka also generates a music background play object because it plays digital music files and displays an indication that music play is occurring during multitasking. See Miyasaka FIGS. 17A-D.

262. **Element [b]** of claim 1 requires "providing an interface for music play by the music background play object." The Nokia 3300 mobile phone and Extended User Guide both teach the user interface for music play by the music background play object. For example, see the Extended User Guide at p.20, and further the photograph, taken by me, of the Nokia 3300 user interface. The photograph is presented in the corresponding chart in Exhibit 6.

263. Miyasaka also teaches an interface for music play. For example, see illustrated user interface for the mobile phone disclosed in Miyasaka at FIG. 11 (provided in attached chart for Exhibit 6). See also, Miyasaka at para. [0012-0013].

264. **Element [c]** of claim 1 requires "selecting an MP3 mode in the pocket-sized mobile communication device using the interface." The Nokia 3300 and Extended User's Guide teach "selecting an MP3 mode in the pocket-sized mobile communication device using the interface". For example, the Nokia 3300 Extended User's Guide at p.28 describes pressing the music key and selecting the music player from the menu. Furthermore, the Extended Guide teaches the user "[y]ou can listen to MP3 and AAC music files on the memory card in your phone with the Music player, or you can listen to the Radio. The special Music key on the top left of your phone enables you to quickly turn on and off both the Music player and the Radio." Nokia 3300 Extended User Guide at p.38.

265. The screenshot of the Nokia 3300 provided in Exhibit 6 for claim 1 element [c], taken by me, illustrates how one selects the music player application from the application menu.

performing the selected function" limitation of claim 9. All elements of claim 17 are otherwise disclosed as described above for claim 9 and claim 1.

285. Dependent **claim 18** requires the limitations of claim 17 above, and further requires "wherein the indication comprises an icon." This additional limitation is the same as that required by claims 2 and 10 and is disclosed by the Kokubo patent as discussed above for those claims.

8. Motivation to combine the above references as claimed

286. The person of ordinary skill in the art would have been motivated to combine the Nokia 3300 device and accompanying manual with the teachings of Miyasaka because while the Nokia 3300 does display an indication that the music device is being played, it does not necessarily continue to display the indication while performing multitasking. As Samsung admitted during prosecution (see para. 123), Miyasaka teaches continuing to display the indication that the music file is being played while performing the selected function. To the extent this element is deemed to be missing from the disclosure of the Nokia 3300 device and accompanying manual, the advantage of indicating to the user that a music file is being played while performing another selected function would have been evident to the person of ordinary skill by 2005. Displaying a music play indication during multitasking helps to remind the user that a music file is playing in the background, for example if the user has turned the volume down and forgotten that the file is playing. The user may wish to turn off the music play application in order to preserve battery life in the mobile device.

287. The person of ordinary skill in the art would have been motivated to combine the Nokia 3300 device and accompanying manual with the teachings of Kokubo because Kokubo teaches the use of an display icon indicating music play (see above at para. 107-109), which would be useful for the user of a multitasking device such as the Nokia 3300 mobile phone for the same reasons as described above for the combination of the Nokia 3300 art and Miyasaka.

288. Wong, Shaffer, or Mahmoud would also have been obvious to combine with the disclosure of the Nokia 3300 and one of Kokubo or Miyasaka because these references motivate

the ordinary artisan to program the music player application with at least one applet. For a discussion of the general advantages of applets and the specific advantages explicitly recited by these references, please see paragraphs 175-189 above. Like the Sony W800i and K700i phones, the Nokia 3300 also supports Java J2ME, making it all the more likely that an applet would have been straightforward to implement in this phone. See Nokia 3300 Extended User Guide at p.18.

9. The '711 claims are obvious over Miyasaka or Kokubu, in view of Forsyth and any of the Wong patent, Shaffer patent, or Mahmoud article

289. It is my opinion that Claims 1, 2, 7-10, and 15-18 of the '711 patent would have been obvious to a person of ordinary skill in the art in 2005 because (1) all elements of claim 1 were present in the prior art, specifically in a combination of Kokubo, Forsyth, and any of Wong, Shaffer, or Mahmoud, or alternatively in a combination of Miyasaka, Forsyth, and any of Wong, Shaffer, or Mahmoud. To the extent that Samsung suggests that, contrary to the findings of the Examiner, the Kokubo reference does not teach "switching the MP3 mode to a standby mode while the playing of the music file continues" as required by claims 1, 9, and 17, it is my opinion that this element is further taught by the Forsyth patent as detailed below.

290. Independent claim 1 would have been obvious to the person of ordinary skill in the art because all claim elements but the requirement that the music background play object application module include at least one applet were present in the Kokubo patent or the Miyasaka publication. However, it would have been obvious to the person of ordinary skill in the art in 2005 that including an applet in an application module controlling music background play function would be desirable for numerous reasons as discussed below in para. 175-189.

291. As described above at para. 123, Samsung admitted in the Accelerated Examination Support Document filed July 16, 2007 that the Miyasaka reference teaches at least the following elements:

- A multi-tasking method in a pocket-sized mobile communication device, the method comprising:

commerce functionality such as buying CDs)." Forsyth application at para. [123]. See also, Forsyth at para. [002] as provided in the chart at **Exhibit 7**.

295. See para. 175-189 above specifying relevant disclosure in the references disclosing the use of applets for music play functions, including Wong, Shaffer, and Mahmoud.

296. **Element [b]** of claim 1 requires "providing an interface for music play by the music background play object." Miyasaka teaches an interface for music play by a music background play object at para. [0112] and [0113], referencing FIG. 11, provided in the accompanying chart at Exhibit 7.

297. Kokubo, as described above at para. 197, discloses this limitation. See also, Kokubo at 2:34-41, 12:44-48, 13:4-10, and FIGS. 1A, 1B, 3, 5, 7, and 10-13.

298. **Element [c]** of claim 1 requires selecting an MP3 mode in the pocket-sized mobile communication device using the interface. Miyasaka and Kokubo both teach this element. Miyasaka, for example, teaches a "music reproduction task" or mode on the disclosed mobile phone. See, e.g., Miyasaka at para. [119] and [135].

299. Kokubo discloses this element as shown above at para. 198. See, e.g., Kokubo at 12:44-48 and 13:4-10.

300. **Element [d]** of claim 1 requires selecting and playing a music file in the pocket-sized mobile communication device in the MP3 mode. At the same locations as the above cites, both Miyasaka and Kokubo teach selecting and playing a music file on a mobile phone. See accompanying chart at Exhibit 7.

301. **Element [e]** of claim 1 requires switching the MP3 mode to a standby mode while the playing of the music file continues. Forsyth teaches this element at para. [002] and [123]. The mobile phone described has an idle or standby screen that is the default setting when the user is not using applications such as the messaging, but music play continues in the idle state.

302. **Element [f]** of claim 1 requires displaying an indication that the music file is being played in the standby mode. Forsyth discloses this limitation at para. [123] because it

of a standby screen on a mobile phone device and would have provided the device disclosed in Miyasaka the opportunity to provide information to the user without navigating to any further screens, as described in the paragraph above.

324. Wong, Shaffer, or Mahmoud would also have been obvious to combine with the disclosure of either Kokubo or Miyasaka because these references motivate the ordinary artisan to program the music player application with at least one applet. For a discussion of the general advantages of applets and the specific advantages explicitly recited by these references, please see paragraphs 175-189 and the discussions of these references in Section IX A above.

X. Secondary Considerations

325. I understand that so-called "secondary considerations" or "objective indicia of non-obviousness" may provide evidence that a claimed invention was not obvious at the relevant date. These secondary considerations of non-obviousness include the following:

- Commercial success
- Skepticism of experts at the time
- Evidence of copying
- Evidence that others tried and failed to solve the same problem
- Unexpected results
- Evidence of acclaim by others or other recognition
- Evidence of a long-felt need in the art

326. I have been informed by counsel that Samsung provided supplemental interrogatory responses on "secondary considerations" topics just two days ago, allegedly supporting their position that the asserted patents were not obvious. Because of the last-minute nature of these responses, I cannot conduct a thorough analysis into Samsung's supposed evidence. Upon initial review, it appears the "evidence" Samsung puts forth is extremely general and does not link the individual features of the phones to their supposed commercial success. I

XII. Trial Exhibits

351. If called as a witness at trial, I may rely on visual aids and demonstrative exhibits that demonstrate the bases of my opinions. Examples of these visual aids and demonstrative exhibits may include, for example, claim charts, patent drawings, excerpts from patent specifications, file histories, interrogatory responses, deposition testimony and deposition exhibits, as well as charts, diagrams, videos and animated or computer-generated video.

352. Other than as referred to in this report, I have not yet prepared any exhibits for use at trial as a summary or support for the opinions expressed in this report, but I expect to do so in accordance with the Court's scheduling orders.

XIII. Previous Testimony

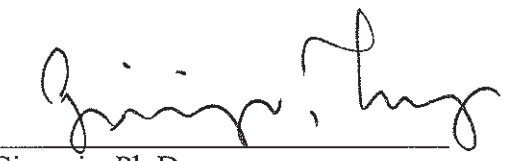
353. On November 14, 2011, I submitted a declaration in support of Apple's proposed claim construction of the term "applet." I testified on the subject matter of that declaration in a deposition on December 6, 2011.

354. Apart from my previous testimony above, I have not previously testified nor served as an expert in a litigation.

XIV. Supplementation of opinions

355. 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: 3/22/2012



Tony D. Givargis, Ph.D.