UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
TYLER DIVISION

MIRROR WORLDS, LLC Plaintiff, v. APPLE INC. Defendant.	Civil Action No. 6:08-CV-88 LED JURY TRIAL DEMANDED
APPLE INC. Counterclaim Plaintiff v. MIRROR WORLDS, LLC, MIRROR WORLDS TECHNOLOGIES, INC., Counterclaim Defendants.	

MIRROR WORLDS LLC'S REPLY BRIEF REGARDING CLAIM CONSTRUCTION

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Mirror Worlds, LLC ("Mirror Worlds") submits this reply brief in support of its claim constructions.

I. THE DISPUTED CLAIM TERMS[1]

A. "data unit": Apple challenges Mirror Worlds' construction of "data unit" on a single ground—namely, that "data unit" should be construed to mean "a single item of information," instead of "a collection of data ...," as Mirror Worlds proposes. In particular, Apple criticizes Mirror Worlds' construction on the ground that the phrase "a collection of data ..." in Mirror Words' construction "would include an Outlook *.pst* file—a compressed data file containing all the email in a person's email profile—while the patent makes clear that each email is its own data unit." (Apple's Response (Dkt. 160) ("Apple Resp.") at 26-27). But both parties agree that a data unit is something that is "of significance to the user that the user considers as a unit." Thus, if an Outlook *.pst* file does not meet those criteria then it would not be a data unit. Moreover, Apple's construction—limiting a data unit to "a single item of information" (Apple Resp. at 26)—would improperly exclude certain documents, such as a spreadsheet file containing multiple tables or a Powerpoint file containing multiple slides.

B. "stream":

1. *"a diary of a person or an entity's electronic life":* Apple asserts that stream should be construed to mean "a time-ordered sequence of documents that functions as ***a diary of a person or an entity's electronic life***...." (Apple Resp. at 6). As Mirror Worlds explained in its Opening Brief at 6, that language is too imprecise to serve as a part of a formal construction.

[1] With respect to the terms (i) "time-ordered stream," (ii) "including each data unit according to the timestamp in the respective chronological indicator in the main stream," (iii) "controlling operating system," (iv) "complex analysis," (v) "enterprise information management system," (vi) "document object model," and (vii) "means for displaying alternative versions of the content of the data units." Mirror Worlds submits that the Court should adopt its proposed constructions for the reasons set forth in Mirror Worlds' Opening Brief. For many of these terms. Apple does not address, much less rebut, Mirror Worlds' arguments in favor of its claim constructions.

Indeed, Apple's own expert, Dr. Feiner, acknowledged that the terms "diary" and "electronic life" are not terms of art (Declaration of Alexander Solo ("Solo Decl"), Ex. 1 (Feiner Tr. 142:9-18)), and struggled to explain what the phrase "diary of a person or entity's electronic life" actually means. *See id.* at 143:14-149:11. He eventually had to admit that it was "not something [he] thought about very carefully" (*id.* at 148:11-12) and that Apple never asked him "to construe what 'diary of a person or an entity's electronic life' by itself, meant." *Id.* at 150:13-17. He also had difficulty explaining how to identify when something is or is not functioning as such a diary. *See id.* at 146:24-149:11. That phrase plainly is not useful for claim construction purposes.

2. ***"future portion":*** Apple asserts that "a stream ***'has'***—and is designed to have—a future portion, not that it merely be able to handle future documents." (Apple Resp. at 7) (emphasis added). That does not make sense—at a given point in time, a stream can plainly have data items associated with only present and/or past times. A stream does not pop into existence when the first data item associated with a future time is added to it. There is no support in the specifications for such a requirement. To the extent Apple argues that the "future portion" of a stream is a data structure that is distinct from the past and present portions, even Apple's expert does not believe that is required. (Solo Decl., Ex. 1 (Feiner Tr. 161:6-163:2) (explaining that a stream does not need to have "three different data structures" for the past, present and future portions, but could "use pointers ... to indicate where the portions begin and end").

3. ***"unbounded in number":*** Apple objects to the phrase "unbounded in number in Mirror Worlds' construction, because the "word 'unbounded' does not appear anywhere in the intrinsic record." (Apple Resp. at 7-8). But, as Apple acknowledges, the specification states that "lifestreams may have millions of documents ***or more***"—which is plainly another way of saying that the documents in a lifestream are *unbounded* in number. (Apple Resp. at 8; '227 Patent, 14: 2-4 (attached as Ex. 2 to Mirror Worlds' Opening Br.); Solo Ex. 2 (Levy Tr. 55:19-56:24)).

4. *"transparent to the user":* Apple does not dispute that a characteristic of a stream is that "the location of file storage is transparent to the user." That characteristic is in Mirror Worlds' construction, but omitted from Apple's.

C. "main stream":

1. *"store":* Apple argues that the "main stream" must "'***store***' every document it receives," as opposed to "contain pointers to those documents." Apple's Response at 9. In so doing, Apple fails to address Mirror Worlds' point that, in the field of computers, the term "store" applies to a variety of actions, including storing information via pointers. As Dr. Levy explained, the term "store" is used to refer to, *inter alia*, "placing information in a data structure in main memory or elsewhere," in which case "[t]he data structure may have pointers, identifying ... the location of the information on, for example, a physical disk drive or in memory ...." (Levy Decl., ¶¶ 28-29 (Dkt. 151-6)). Apple does not dispute that Dr. Levy is correct. Indeed, even Apple's expert, Dr. Feiner, acknowledged that information may be "stored" in a data structure using a pointer that identifies the location of the information. (Solo Ex. 1 (Feiner Tr. 178:19-180:3; 251:24-253:9). As Dr. Feiner explained, "storing" a document in a directory may involve placing a pointer to that document into the data structure for the directory. *See id.* at 178:19-180:3. Similarly, storing a document in a stream can involve placing a pointer into the data structure for the stream. Accordingly, even if the word "store" is included in the construction of "main stream," as Apple proposes, it would not exclude pointers.

In addition, the portion of the file history, cited by Apple, referring to the main stream as the "storage backbone" does not mean or imply that pointers cannot be used. It simply explained that unlike prior art in which only certain data units are stored in certain data structures (such as the "primary queue" of a "conventional email system," which stores only email messages that have not been removed from the queue), each data unit is stored in the main stream.

2. *"each":* Again, there is simply no reason to substitute "each," used in the claim, for "every," as Apple proposes. (Mirror Worlds' Opening Br. at 7). Moreover, Apple's expert testified that they may be construed to have different connotations, in which case it would clearly be improper to make the substitution. (Solo Ex. 1 (Feiner Tr. 189:25-190:7)).

D. "substream": Contrary to Apple's assertion, Mirror Worlds does not construe substream to mean "***any*** subset of data units" (Apple Resp. at 10-11)—but instead construes it to mean "a subset of data units ... ***yielded by a filter on a stream***." (Mirror Worlds' Opening Br. at 8). Notably, Apple does not dispute that it is clearer to separate the terms "stream" and "substream" for definitional purposes because the two may be implemented differently.

E. "stream-based operating system" and **"document stream operating system":** Apple asserts that the terms "stream-based operating system" and "document stream operating system" must be limited to a "non-hierarchical operating system." (Apple Resp. at 3-6). In so doing, Apple attempts to add a limitation to the claims that Apple apparently believes will give rise to a non-infringement argument. The Mirror Worlds' Patents, however, do not preclude an operating system from including streams, as well as conventional hierarchical directories. In fact, the specifications expressly describe implementing streams on top of a conventional operating system—in which case both streams and hierarchical directories would be supported. '227 Patent, 14:43-51 (attached as Ex. 2 to Mirror Worlds' Opening Br.).

Apple does not dispute that the Mirror Worlds Patents disclose embodiments implemented on top of conventional operating systems having hierarchical directories, but argues that the "hierarchical 'desktop metaphor' of the conventional operating system ... ***must be*** replaced by the stream-based operating system described in the patents." (Apple Resp. at 6). But the specifications, in fact, state only that the "graphic user interface" of the conventional operating system "***can be*** replaced by the present invention viewports"—not that the user

interface "***must be***" replaced, as Apple asserts. '227 Patent, 14:42-49. Moreover, even if the user interface was replaced—the operating system would still support hierarchical directories.

In addition, Apple ignores the statement in the specifications that "[a]lternatively, the present invention can operate as a document stream utility for the other [conventional] operating system." '227 Patent, 14:49-51. It is clear from that statement that the hierarchical file system and other aspects of the conventional operating system would not be removed—instead, the features of the present invention can be implemented as a utility to that system.[2]

As Mirror Worlds explained, Apple's construction inserts numerous limitations that go far beyond the plain claim language and should be rejected. (Mirror Worlds' Opening Br. at 9).

F. "timestamp to identify": Apple proposes that "timestamp" be construed to mean "a date and time value that uniquely identifies each document." (Apple Resp. at 11). Not even Apple's own expert, Dr. Feiner, agrees with that construction. To the contrary, he testified that the timestamp could include additional information, beyond the date and time, that would ensure the uniqueness of each timestamp. (Solo Ex. 1 (Feiner Tr. 192:12-194:14, 196:22-197:7)). One of ordinary skill in the art simply would not construe "timestamp" in the context of the Mirror Worlds Patents in the manner proposed by Apple—Apple's construction should be rejected.

Apple cites the following statement from the file history in support of its claim construction: "A 'timestamp' is a date/time used to uniquely identify each data unit, see page 12, lines 6-7 and page 20, lines 14-20 of the present specification." (Apple Resp. at 12). That statement cites two passages from the specification as support. The first portion ("page 12, lines 6-7") simply states that "[t]he stream preserves the order and method of document creation"—it

[2] The cases cited by Apple on pages 4-5 of its Brief are inapposite. Unlike those cases, the specifications here expressly contemplate a system in which streams and a conventional hierarchical directory structure can co-exist. *E.g. Ventana Med. Sys., Inc. v. Biogenex Labs, Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006). (claim scope is not limited by "general statements by the inventors indicating that the invention is intended to improve upon prior art . . . methods").

says nothing about the timestamp being a "date and time value" alone. (Solo Ex. 3, APMW0014466). The second portion ("page 20, lines 14-20") describes the user interface, depicted in Figs. 4 and 5, that enables the user to set the viewport time. *Id*. at APMW0014499. After that portion, the specification explains that, for example, "[s]etting the time-cursor to the future allows the user to see documents in the future part of the stream," and that "[c]reating a document in the future results in a document with a future timestamp." *Id*. at APMW0014475. That portion also says nothing about the timestamp being a "date and time value" alone.

As both parties' experts agree, one skilled in the art would understand that, for example, in creating future documents, a user might easily set the viewport time to the same value on more than one occasion and that, therefore, the timestamps for those documents would contain the same date and time values. (Levy Decl., ¶ 38; Solo Ex. 1 (Feiner Tr. 197:15-199:8)). That is one reason why both experts agree that a timestamp may include additional information to ensure uniqueness when the data and time values for two documents are the same. *Id., See also* Feiner Report Page 11. To the extent that Apple reads the file history in a manner that conflicts with the plain teachings of the specifications, as the Federal Circuit has held, the specifications are the more useful guide. *See Phillips v. AWH Corp.,* 415 F.3d 1303, 1317 (Fed. Cir. 2005).

G. "abbreviated form" or "abbreviated version(s)": Apple fails to explain why the common word "abbreviated" is unclear and what the phrase it wants to substitute for it (*i.e.*, "shortened version of the content to be displayed from the data unit or document") actually means. Apple's construction adds no more clarity to the claims than the original clam language.

H. "archiving": Apple asserts that its construction should be adopted "because the specification makes clear that moving, not copying, is what is meant by 'archiving,'" Apple's Response at 14. In so doing, Apple improperly imports a limitation from the specifications into the claims. Even Apple's expert admitted that archiving software in the relevant timeframe

(when the first Mirror Worlds Patent was filed) enabled users to ***copy***, not just move, documents. (Solo Ex. 1 (Feiner Tr. 202:13-203:15). Indeed, Apple's expert testified that an archiving utility that required the user to move documents would be a very bad idea.[3] *Id*. at 203:6-203:22.

I. "glance views": The crux of Apple's argument, as Mirror Worlds understands it, is that both the glance view of a selected document and the document representation for that document must be displayed simultaneously as distinct graphical elements on the screen. Apple is wrong. The claims do not contain such a requirement.

For example, Fig. 1 of the '227 patent depicts a stream displayed as a stack of partly overlapping document representations (*i.e.*, the document representations after the top one are partially obscured). It is certainly within the scope of the claims to cover an implementation in which a glance view in the form of a non-obscured version of a selected document representation is displayed *in-situ* (in the same screen position as the previously obscured document representation). Contrary to Apple's assertion, Dr. Levy's testimony supports the fact that such an implementation is possible. (*E.g.*, Solo Ex. 2 (Levy Tr. 180:13-19, 188:8-189:12)). Also, Apple's construction goes well beyond the term "glance view"—which, as described in the specification, is intended simply to help a user identify a document. '227 Patent, 7:64-8:2.

J. "receding foreshortened stack": Apple asserts that Mirror Worlds' proposed construction does give effect to both the terms "receding" and "foreshortened." Apple's Response at 16. Those two terms, in fact, overlap—both involving the concept of giving the illusion of space, as the provided dictionary definitions evidence. (Exs. 12 and 13 to Mirror Worlds' Opening Br.). In any event, while Apple did not previously ask for separate constructions of "receding" and "foreshortened" and the phrase at issue is properly construed as

[3] The cases cited by Apple on page 15 of its brief are inapposite. There is no basis for concluding that the Applicants here were acting as their own lexicographers and redefining or limiting the meaning of the term "archiving."

a whole, Mirror Worlds' construction does give effect to both terms. In particular, the "receding" characteristic is reflected in the requirement that the representation of a stack "create[s] the illusion of increasing distance from the viewpoint implied by the image." "Foreshortening" is reflected in the use of "perspective" in Mirror Worlds' construction. Notably, Apple's expert did not offer an opinion on this term, despite the fact that he wrote a textbook on computer graphics, his research focus has been computer graphics, and he has served as an expert on computer graphics in other litigations—it would not be unreasonable to infer, therefore, that he agrees with Mirror Worlds' construction. (Solo Ex. 1 (Feiner Tr. 8:25-9:9; 10:23-11:9; 28:6-16).

As Mirror Worlds explained in its Opening Brief at 14, Apple improperly attempts to limit this term to the specific examples shown in the specification. Apple cites to the file history, in which the Cowart reference was distinguished—but Cowart does not disclose a receding, foreshortened stack under Mirror Worlds' construction. Apple also criticizes Mirror Worlds' use of the phrase "from the viewpoint implied by the image"—but that phrase simply supplies context for the term "receding" (it specifies from where the stack is receding).

K. "archiving the documents and indicators in consistent format for selective retrieval": Apple asserts that "Apple's proposed construction is exactly what Mirror Worlds is telling the Patent Office these claim terms mean." Apple's Response at 30. Apple neglects to mention, however, that on November 30, 2009 Mirror Worlds filed an amendment in the '427 re-examination explaining what that term means in the same manner as Mirror Worlds' proposes here. (Solo Ex. 4 (11/30/09 Amdt., p. 16).

L. "means for generating a main stream of data units . . . the main stream for receiving each data unit received by or generated by the computer system"; and "means for generating … at least one substream": Apple misses the point with respect to whether

§112, ¶6 governs these limitations—which is that generating a *main stream* and *substreams* does not require an algorithm. (Mirror Worlds' Opening Br. at 16). Apple does not dispute this; thus, identification of an algorithm for performing the recited function is unnecessary.

M. "means for associating each data unit with at least one chronological indicator having the respective timestamp"; and **"means for associating each data unit with at least one chronological indicator having a respective timestamp which identifies the data unit":** Mirror Worlds' point here is that the association between a data unit and chronological indicator is contained within a data structure—either in the chronological indicator data structure or in another portion of the main stream's data structure. Again, no algorithm is required. Apple, again, fails to address that point.

N. "document organizing facility": Apple asserts that "a person of ordinary skill in the art would not understand 'document organizing facility' to refer to a particular structure or class of structures." (Apple Resp. at 24). But even Apple's own claim expert, Dr. Feiner, referred in his deposition to other well-known software structures in the same way, e.g., "... we're talking about a user interface *facility* or a *facility* that has some kind of user interface ...," and "make a call to some *facility* that generates that amount of space and return the address of that space." (Solo Ex. 1 (Feiner Tr. 90:5-7; 253:22-24) (emphasis added)). In addition, contrary to Apple's argument at p. 24 of its Response, Dr. Feiner admitted that one skilled in the art would not understand "document organizing facility," as used in the Mirror Worlds Patents, to refer to a "public library" or "the desk of a government worker." *See id*. at 259:21-260:5.

Apple also asserts that, even if "facility" would be understood to be a module or subsystem that provides some particular capability or facility, "the generic phrase 'module or subsystem' is not structure." (Apple Resp. at 24). But, as explained in Mirror Worlds' Opening Brief at p. 30, courts have held that claim terms reciting a particular type of "module"

sufficiently designates structure" and that, therefore, "§112 ¶ 6 treatment is inappropriate."

O. Contrary to Apple's Assertion, Mirror Worlds Properly Identified Sufficient Structure for Performing the Recited Functions and Mirror Worlds' Proposals for Corresponding Structure Should be Adopted.

Apple asserts that "where Mirror Worlds has proposed structures for 'means for' elements, those proposed structures are simply: 'computer hardware' and/or 'executable code' for performing the claim function." (Apple Resp. at 25). Apple is wrong—Mirror Worlds did, in fact, properly identify corresponding structure for each of the eighteen "means for" elements in dispute; did not simply identify generic executable code and/or computer hardware ***for performing the claimed function***," as Apple asserts. Indeed, Mirror Worlds Opening Brief not only identified the corresponding structure for each of the "means-for" limitations, but identified where corresponding structure could be found in the specifications and explained why Apple's identification of corresponding structure is incorrect. (*See generally* Mirror Worlds' Opening Br. at 16-29 and Ex. 1 to that Brief at pp. 4-15). For the two specific limitations cited in Apple's Response at pages 25-26, Mirror Worlds explained why Apple's corresponding structure for the "means for generating a main stream ..." and "means for maintaining ..." limitations are incorrect at pages 17 and 22-23 of its Opening Brief.

In addition, to the extent that Apple asserts that the use of the phrase "executable code that ..." is improper, courts have adopted similar formulations in construing means-plus-function limitations. *See, e.g., IP Innovation, LLC v. Red Hat, Inc.*, No. 2:07 CV 447, 2009 WL 2460982, at *12 (E.D. Tex., Aug. 10, 2009) (Solo Ex. 5) (construing the structure of a means-plus-function limitation as "***executable computer code*** implementing selectable graphical user interface pop-up menus and icons and equivalents") (emphasis added).

II. CONCLUSION

For the foregoing reasons, the Court should adopt Mirror Worlds' constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document was filed electronically in compliance with Local Rule CV-5 via the Court's CM/ECF system on this 18th day of January 2010.

/s/ Alexander Solo