United States District Court

EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

WAPP TECH LIMITED PARTNERSHIP and WAPP TECH CORP.,	§	
	§	
	§	CIVIL ACTION NO. 4:18-CV-469
v.	§	(Judge Mazzant)
	§	
SEATTLE SPINCO, INC., et al.	§	
_____	§	
	§	
WAPP TECH LIMITED PARTNERSHIP and WAPP TECH CORP.,	§	
	§	
	§	CIVIL ACTION NO. 4:18-CV-501
v.	§	(Judge Mazzant)
	§	
WELLS FARGO & CO.	§	
_____	§	
	§	
WAPP TECH LIMITED PARTNERSHIP and WAPP TECH CORP.,	§	
	§	
	§	CIVIL ACTION NO. 4:18-CV-519
v.	§	(Judge Mazzant)
	§	
BANK OF AMERICA CORP.	§	
	§	

CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

Before the Court is the Opening Claim Construction Brief (Dkt. #154)[1] filed by Plaintiff Wapp Tech Limited Partnership and Wapp Tech Corp. ("Plaintiff"[2] or "Wapp"), the Responsive Claim Construction Brief (Dkt. #164) filed by Defendants Wells Fargo & Co., Bank of America

[1] References to docket numbers in the present Claim Construction Memorandum Opinion and Order refer to Civil Action No. 4:18-CV-469 unless otherwise indicated.

[2] Although there are multiple plaintiffs, Plaintiffs Wapp Tech Limited Partnership and Wapp Tech Corp. refer to themselves collectively as "Plaintiff," singular, in their claim construction briefing. For purposes of the present Claim Construction Memorandum Opinion and Order, the Court refers to Plaintiffs Wapp Tech Limited Partnership and Wapp Tech Corp. collectively as "Plaintiff."

Corp., Seattle Spin Co., Inc., EntIT Software LLC, EntCo Interactive (Israel) Ltd., Entco Government Software LLC, and MicroFocus (US) Inc. (collectively, "Defendants"), and the Reply Claim Construction Brief (Dkt. #167) filed by Plaintiff. Also before the Court are the parties' February 19, 2020 Joint Claim Construction and Prehearing Statement (Dkt. #152), the parties' April 10, 2020 Joint Patent Rule 4-5(d) Claim Construction Chart (Dkt. #168), Plaintiff's Supplemental Submission Regarding Claim Construction (Dkt. #171), and Defendants' response thereto (Dkt. #174).

The Court held a claim construction hearing on April 20, 2020, to determine the proper construction of the disputed claim terms in United States Patents No. 8,924,192 ("the '192 Patent"), 9,298,864 ("the '864 Patent"), and 9,971,678 ("the '678 Patent") (collectively, the "patents-in-suit").

The Court issues this Claim Construction Memorandum Opinion and Order and hereby incorporates-by-reference the claim construction hearing and transcript as well as the demonstrative slides presented by the parties during the hearing. For the following reasons, the Court provides the constructions set forth below.

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BACKGROUND

Plaintiff alleges infringement of United States Patents No. 8,924,192, 9,298,864, and 9,971,678. Plaintiff submits: "The patents in suit are directed to methods and apparatuses for mobile app development with device and network simulation. The specification discloses a system that models an application executing in real time on a mobile device. The application is played (executed) in real time within the model and monitored to determine resource utilization of the device when executing the application." (Dkt. #154 at pp. 1–2). Defendants submit that "the patents disclose *emulating* the various mobile devices on the developer's desktop computer and testing the application on the *emulated* version of the device." (Dkt. #164 at p. 3).

The '192 Patent, titled "Systems Including Network Simulation for Mobile Application Development and Online Marketplaces for Mobile Application Distribution, Revenue Sharing, Content Distribution, or Combinations Thereof," issued on December 30, 2014, and bears an earliest priority date of June 10, 2005. The Abstract of the '192 Patent states:

> A system and methods emulate an application executing in real time in a mobile device. The mobile device is emulated in real time using a model running on a processor extrinsic to the mobile device. The model is based on characteristics indicative of performance of the mobile device. The application is executed in real time within the model and the application executing in the model is monitored to determine resource utilization information by the application for the mobile device. The resource utilization information for the mobile device is displayed.

The '678 Patent resulted from a continuation application based on the application that issued as the '192 Patent. The '192 Patent and the '678 Patent therefore share a common specification.

The '864 Patent, titled "System Including Network Simulation for Mobile Application Development," issued on March 29, 2016, and bears an earliest priority date of June 10, 2005. The Abstract of the '864 Patent states:

> A system, method and software product emulate and profile an application playing on a mobile device. The mobile device is emulated using a model based upon characteristics related to performance of the mobile device. The application is played and monitored within the model to determine resource utilization of the application for the mobile device.

The ’192 Patent and the ’678 Patent resulted from a series of continuation applications based on an application that issued as United States Patent No. 7,813,910 (“the ’910 Patent”). The ’864 Patent resulted from a continuation-in-part based on the application that issued as the ’910 Patent. The ’864 Patent claims priority to the same provisional patent application claimed by the ’192 Patent and the ’678 Patent. Thus, although the specification of the ’864 Patent is not identical to the specification of the ’192 Patent and the ’678 Patent, the three patents-in-suit are related to one another.

LEGAL STANDARDS

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995). The purpose of claim construction is to resolve the meanings and technical scope of claim terms. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). When the parties dispute the scope of a claim term, “it is the court’s duty to resolve it.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Court examines a patent’s intrinsic evidence to define the patented invention’s scope. *Id.* at 1313–14; *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). Intrinsic evidence includes the claims, the rest of the specification, and the prosecution history. *Phillips*, 415 F.3d at 1312–13; *Bell Atl. Network Servs.*, 262 F.3d at 1267. The Court gives claim terms their ordinary and customary meaning as

understood by one of ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

Claim language guides the Court's construction of claim terms. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Other claims, asserted and unasserted, can provide additional instruction because "terms are normally used consistently throughout the patent." *Id.* Differences among claims, such as additional limitations in dependent claims, can provide further guidance. *Id.*

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). In the specification, a patentee may define his own terms, give a claim term a different meaning than it would otherwise possess, or disclaim or disavow some claim scope. *Phillips*, 415 F.3d at 1316. Although the Court generally presumes terms possess their ordinary meaning, this presumption can be overcome by statements of clear disclaimer. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–44 (Fed. Cir. 2001). This presumption does not arise when the patentee acts as his own lexicographer. *See Irdeto Access, Inc. v. EchoStar Satellite Corp.*, 383 F.3d 1295, 1301 (Fed. Cir. 2004).

The specification may also resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. For example, "[a] claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely,

if ever, correct.'" *Globetrotter Software, Inc. v. Elan Computer Group Inc.*, 362 F.3d 1367, 1381 (Fed. Cir. 2004) (quoting *Vitronics*, 90 F.3d at 1583). But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *accord Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patentee may define a term during prosecution of the patent. *Home Diagnostics Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). The well-established doctrine of prosecution disclaimer "preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). "Indeed, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover." *Spectrum Int'l v. Sterilite Corp.*, 164 F.3d 1372, 1378–79 (Fed. Cir. 1988) (quotation omitted). "As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public's reliance on definitive statements made during prosecution." *Omega Eng'g*, 334 F.3d at 1324. However, the prosecution history must show that the patentee clearly and unambiguously disclaimed or disavowed the proposed interpretation during prosecution to obtain claim allowance. *Middleton Inc. v. 3M Co.*, 311 F.3d 1384, 1388 (Fed. Cir. 2002). Statements will constitute disclaimer of scope only if they are "clear and unmistakable statements of disavowal." *See Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1358 (Fed. Cir. 2003). An "ambiguous disavowal"

will not suffice. *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275, 1285 (Fed. Cir. 2010) (citation omitted).

Although "less significant than the intrinsic record in determining the legally operative meaning of claim language," the Court may rely on extrinsic evidence to "shed useful light on the relevant art." *Phillips*, 415 F.3d at 1317 (quotation omitted). Technical dictionaries and treatises may help the Court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but such sources may also provide overly broad definitions or may not be indicative of how terms are used in the patent. *Id.* at 1318. Similarly, expert testimony may aid the Court in determining the particular meaning of a term in the pertinent field, but "conclusory, unsupported assertions by experts as to the definition of a claim term are not useful." *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

The Supreme Court of the United States has "read [35 U.S.C.] § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S. Ct. 2120. "Indefiniteness must be proven by clear and convincing evidence." *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

ANALYSIS

Agreed Claim Terms

In their February 19, 2020 Joint Claim Construction and Prehearing Statement, the parties submitted that "[t]he parties do not agree on the constructions of any claims terms, phrases, or clauses." (Dkt. #152 at p. 2).

Disputed Claim Terms

A. "system for testing an application for a mobile device" and "system for developing an application for a mobile device"

"system for testing an application for a mobile device" ('678 Patent, Claims 1, 26, 45; '864 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively, this phrase should be given the full breadth of its meaning as understood by one of ordinary skill in the art and/or its dictionary meaning.	"system that mimics the operation of a real-world mobile device to enable the evaluation of a program designed to run on that real-world mobile device"
"system for developing an application for a mobile device" ('192 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively, this phrase should be given the full breadth of its meaning as understood by one of ordinary skill in the art and/or its dictionary meaning.	"system that mimics the operation of a real-world mobile device to enable the writing of a program designed to run on that real-world mobile device"

(Dkt. #152, Ex. A at pp. 1–3; Dkt. #154 at p. 6; Dkt. #164 at p. 4; Dkt. #168, App'x at pp. 1–3).

1. The Parties' Positions

Plaintiff argues that "[e]ach of the phrases here involves common words that are used as they are normally understood in plain English . . . ." (Dkt. #154 at p. 6). Plaintiff also argues that "[i]n injecting the word 'mimic,' Defendants seek to import a preferred embodiment of the specification in which a device model emulates the mobile device itself." (*Id.* at p. 7). Further, Plaintiff argues that "Defendants have not provided any definition of 'real-world,'" and the specification refers to modeling *types* of mobile devices. (*Id.*)

Defendants respond that "no meaningful distinction exists between the claims' preambles and the bodies of the claims—the preambles necessarily give meaning and vitality to the claims and are limiting." (Dkt. #164 at p. 5). Defendants argue that "the patents unambiguously disparage the use of real-world, physical mobile devices because of their cost both in terms of dollars and time, and thus disavow physical devices from the scope of the claims." (*Id.* at p. 7). Further, Defendants submit that all disclosed embodiments use emulated mobile devices. (*See id.* at pp. 7–8). Defendants conclude that "the claimed system for testing or developing applications for a mobile device does not occur in a vacuum; it requires emulating, or mimicking, the real-world version of that mobile device—as reflected in Defendants' construction." (*Id.* at p. 9).

Plaintiff replies that "the patents repeatedly emphasize that each embodiment is merely 'exemplary.'" (Dkt. #167 at p. 2) (citing '864 Patent at 2:50–55, 3:66–4:2 & 5:3–4). Plaintiff also argues that "Defendants fail to provide any justification for replacing the commonly-understood words 'testing' and 'developing' with 'evaluation' and 'writing.'" (Dkt. #167 at p. 3).

At the April 20, 2020 hearing, Defendants urged that Plaintiff's suggestion of possibly *not* using an emulated mobile device is inconsistent with the disclosed purposes of the claimed invention. Also at the hearing, Plaintiff stated it has no position on whether the preambles are

limiting but, if the Court finds the preambles limiting, then Plaintiff proposes that no construction is necessary.

2. Analysis

Claim 1 of the ’192 Patent recites (emphasis added):

> 1. A *system for developing an application for a mobile device* comprising:
> a software authoring interface configured to simultaneously visually emulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further configured to simulate a network connection state encountered by the mobile device.

Claim 1 of the ’864 Patent recites (emphasis added):

> 1. A *system for testing an application for a mobile device* comprising:
> software configured to simulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulated environments.

Claim 1 of the ’678 Patent, for example, recites (emphasis added):

> 1. A *system for testing an application for a mobile device* comprising:
> a software testing interface configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network.

As a threshold matter, Defendants argue that these preambles are limiting, and Plaintiff does not show otherwise. *See Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002); *see also Eaton Corp. v. Rockwell Int’l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) (“When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.”).

These preambles, however, do not refer to simulating, emulating, or mimicking. Defendants submit, for example, that the specification discloses “[e]mulator 100 generates a

mobile device model 102, based on characteristics 115 of mobile device 114." '864 Patent at 4:3–5; *see id.* at 3:66–4:11. The specification also discloses:

> In one example of operation, processor 136 loads at least part of emulator 101 into memory 132 for execution. Emulator 101 then generates mobile device model 102, based upon characteristics 115, within memory 132. Emulator 101 then loads and plays application 104 within model 102. *In all embodiments described herein, it is to be noted that emulation is performed on a processor extrinsic to the mobile device being emulated.*

Id. at 6:34–41 (emphasis added); *see id.* at 1:57–60 ("Currently[, in the prior art], the only way to determine if an application plays on a particular mobile device is to transfer the application to the device and play it.").

But "simulate" and "emulate" appear in other claim language, and the parties present those as distinct disputed terms, addressed separately herein. Defendants also fail to show that claim language reciting characteristics "*indicative of* performance of the mobile device when executing the application" warrants a narrow interpretation of the "system" terms in the preambles. In other words, Defendants fail to show that the phrase "indicative of" is inconsistent with using a real mobile device. Moreover, the specification discloses methods that can include testing an application on a real mobile device (*see, e.g., id.* at 6:28–33 & 9:60–10:7), and Defendants have not shown any definition or disclaimer to the contrary.

Further, Defendants fail to justify limiting "developing" to "writing." Instead, the specification discloses "developing" an application as a process that includes, for example, authoring, simulating, testing, playing, and publishing. (*See* '864 Patent at 1:51–2:2, 4:34–51 & 10:4–7.) Likewise, Defendants fail to justify limiting "testing" to "evaluation." Finally, as to Defendants' proposal of "real-world," the specification supports interpreting "mobile device" as encompassing not only devices that have actually been produced but also devices that are merely planned or hypothetical. *See* '864 Patent at 10:40–44 ("include modeling capability for a new pre-

release mobile device, scheduled release mobile device and current mobile devices"); *see also id.* at 6:10–14.

The Court therefore hereby expressly rejects Defendants' proposed constructions, and no further construction is necessary. *See O2 Micro*, 521 F.3d at 1362 ("[D]istrict courts are not (and should not be) required to construe every limitation present in a patent's asserted claims."); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) ("Unlike *O2 Micro*, where the court failed to resolve the parties' quarrel, the district court rejected Defendants' construction."); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015).

The Court according hereby finds that **the preambles of Claim 1 of the '192 Patent, Claim 1 of the '864 Patent, and Claims 1, 26, and 45 of the '678 Patent are limiting**, and the Court hereby construes **"system for testing an application for a mobile device"** and **"system for developing an application for a mobile device"** to have their **plain meaning**.

B. "application"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively, this phrase should be given the full breadth of its meaning as understood by one of ordinary skill in the art and/or its dictionary meaning.	"program designed to run on a mobile device"

(Dkt. #152, Ex. A at p. 6; Dkt. #154 at p. 8; Dkt. #164 at p. 10; Dkt. #164 at p. 10; Dkt. #168, App'x at p. 4). The parties submit that this term appears in Claim 1 of the '192 Patent, Claims 1, 26, and 45 of the '678 Patent, and Claims 1, 8, 12, 20, and 29 of the '864 Patent. (Dkt. #154 at p. 8; Dkt. #164 at p. 10; Dkt. #168, App'x at p. 4).

1. The Parties' Positions

Plaintiff argues that "[t]he term 'application' does not have any specialized meaning in the art or in the context of the patents," and "Defendants . . . commit the classic error of reading in examples from the preferred embodiments." (Dkt. #154 at pp. 8–9). Plaintiff submits that "nowhere does the specification equate an application to a 'program,'" and Plaintiff urges that "'[r]unning' an application is, therefore, not the only type of operation contemplated by the invention." (*Id.* at p. 9).

Defendants argue that "[t]he uniform descriptions provided by the figures and specifications confirm that the 'application' is a program designed to run on a mobile device." (Dkt. #164 at p. 13). Defendants conclude that "Wapp effectively concedes that Defendants' construction is required by the claim language, and Wapp does not offer any alternative construction." (*Id.* at p. 14).

Plaintiff replies that "Defendants' construction ignores that the specification describes an 'application' as distinct from a 'program.'" (Dkt. #167 at p. 3) (citing '864 Patent at 1:28–30, 3:66–4:2 & 4:34–43). Plaintiff also argues that "Defendants' proposed construction would render superfluous the actual claim language immediately following 'application.'" (Dkt. #167 at p. 4).

At the April 20, 2020 hearing, Defendants urged that the patents-in-suit use the term "application" to refer to a particular type of application. Plaintiff argued that Defendants' proposal of "program" would be confusing because of how the specification uses "program" with regard to systems for testing applications.

2. Analysis

Plaintiff submits that the term "application" is well-known in the relevant art. (*See* Dkt. #154, Ex. 4, *Microsoft Computer Dictionary* 26 (4th ed. 1999) (p. 27 of 37 of Ex. 4) ("A program

designed to assist in the performance of a specific task, such as word processing, accounting, or inventory management."); *see also id.*, *Modern Dictionary of Electronics* (1999) (p. 4 of 37 of Ex. 4); *id.*, *Merriam-Webster's Collegiate Dictionary* 60 (11th ed. 2004) (p. 15 of 37 of Ex. 4)). Defendants do not contend otherwise, and Defendants do not argue that the patents-in-suit contain any lexicography or disclaimer. (*See* Dkt. #164 at pp. 10–14). Nonetheless, Defendants argue that "[t]he claimed 'application' is more specific than these dictionaries provide, and the constructions should reflect that agreed specificity." (*Id.* at p. 14). Defendants argue that the claim language and the specification are consistent with Defendants' proposed construction.

Claim 1 of the '192 Patent, Claim 1 of the '864 Patent, and Claim 1 of the '678 Patent are reproduced above as to the preamble terms. Those preambles explicitly recite "an application for a mobile device," and the Court, above, finds that those preambles (as well as the preambles of Claims 26 and 45 of the '678 Patent) are limiting. As to the remaining claims identified by the parties for the term "application," namely Claims 8, 12, 20, and 29 of the '864 Patent, Claims 8 and 12 of the '864 Patent depend from Claim 1 of the '864 Patent. Claims 20 and 29 of the '864 Patent are independent claims that recite "an application playing on an application player in each of a plurality of mobile devices" and "an application playing on at least one mobile device," respectively. Claim 20 of the '864 Patent, for example, recites (emphasis added):

> 20. A method for emulating *an application playing on an application player in each of a plurality of mobile devices*, the method comprising:
>
> retrieving characteristics, indicative of performance, *for each of the mobile devices*; emulating *each of the mobile devices* in real time using respective models running on a processor extrinsic to *the mobile devices*, wherein each of the models is based on the retrieved characteristics; *playing the application* in real time using the application player within each of the models; *monitoring the application* playing in each of the models to *determine resource utilization information by the application for each of the mobile devices*; and *displaying the resource utilization information for at least one of the mobile devices*.

Plaintiff appears to acknowledge that the preambles of Claims 20 and 29 are limiting because Plaintiff identifies all of these claims and argues that "[e]ach claim reciting an 'application' already clarifies that the application is either 'for a mobile device' or 'play[s] on' a mobile device." (Dkt. #154 at p. 9).

Nonetheless, Defendants' proposal of construing "application" as "program" would tend to confuse rather than clarify the scope of the claims. *See* '864 Patent at 14:63–65 ("authoring environment 1502 may incorporate one or more software *programs* to facilitate creation, modification and testing of *application* 1506") (emphasis added). Also, Defendants' proposal of "run" might be interpreted as being different or narrower than the disclosures regarding "playing" applications. *See* '864 Patent at 1:28–34, 1:43–50 & 2:12–53. Defendants do not appear to attach any substantive significance to their proposal of "run," stating instead in their responsive claim construction brief that "[i]f it helps resolve the dispute, Defendants are amen[]able to replacing 'run' with 'play.'" (Dkt. #164 at p. 14).

Based on all of the foregoing, the Court hereby expressly rejects Defendant's proposed construction, and no further construction is necessary. *See O2 Micro*, 521 F.3d at 1362; *see also Finjan*, 626 F.3d at 1207; *Summit 6*, 802 F.3d at 1291.

The Court according hereby finds that **the preambles of Claims 20 and 29 of the '864 Patent are limiting**, and the Court hereby construes **"application"** to have its **plain meaning**.

C. "simulate" and "emulate"

"simulate" ('678 Patent, Claims 1, 3, 26, 45; '864 Patent, Claims 1, 9; '192 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively, this phrase should be given the full breadth of its meaning as understood by one of ordinary skill in the art and/or its dictionary meaning.	"imitate" Alternatively: "approximately represent"[3]
"emulate" ('864 Patent, Claims 10, 11; '192 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively, this phrase should be given the full breadth of its meaning as understood by one of ordinary skill in the art and/or its dictionary meaning.	"mimic" Alternatively: "precisely represent"

(Dkt. #152, Ex. A at pp. 18 & 21; Dkt. #154 at p. 10; Dkt. #164 at p. 14; Dkt. #168, App'x at pp. 8 & 10).

1. The Parties' Positions

Plaintiff argues: "Defendants' proposed constructions simply substitute a different word for each claim term—words that have no clear association with the respective claim terms, and in fact are themselves interchangeable. This effort is unsupported by the intrinsic or extrinsic evidence and would only serve to confuse the factfinder." (Dkt. #154 at p. 10). Plaintiff also

[3] Defendants proposed this alternative, as well as the below-noted alternative for "emulate," at the April 20, 2020 hearing.

argues that the opinions of Defendants' expert are confusing and unreliable. (*See id.* at pp. 10–13).

Defendants respond: "Defendants' proposed constructions reflect the plain meanings of 'emulate' and 'simulate,' as evidenced by the intrinsic record, technical dictionaries, and the unrebutted opinions of Defendants' expert, Dr. Shoemake. Wapp's effort to avoid a construction leaves the jury without a guide for these nuanced technical terms and fails to resolve the parties' dispute." (Dkt. #164 at p. 14). Defendants argue that the different terms "simulate" and "emulate" must be presumed to have different meanings, and "[a] POSITA would have understood that 'emulate' refers to a relatively precise representation, while 'simulate' would refer to a relatively imprecise representation." (*Id.* at p. 15). Defendants further argue that "Wapp avoids the technical nature of these terms, and even more troublingly fails to account for what the patents disclose." (*Id.* at p. 18).

Plaintiff replies that "[Defendants'] proposed constructions (substituting the single words 'mimic' and 'imitate') find no support at all in the intrinsic evidence, actually blur the differences between 'simulate' and 'emulate,' and are markedly less 'nuanced' than the claim terms themselves." (Dkt. #167 at p. 5) (emphasis omitted). Plaintiff argues that "even a cursory review reveals that the words 'mimic' and 'imitate' do not reflect any potential difference in precision." (*Id.* at p. 5) (emphasis omitted). Plaintiff urges that "[t]he evidence entirely confirms that these terms do *not* have any specialized meaning in the context of the patents." (*Id.* at p. 6).

At the April 20, 2020 hearing, Defendants alternatively proposed that "simulate" means "approximately represent" and "emulate" means "precisely represent." Defendants also noted, for example, that Claim 1 of the '864 Patent recites "simulat[ing] . . . network characteristics" that are "*based on* data of interaction with networks in non-simulated environments." Plaintiff responded

that Claim 20 of the ’864 Patent recites “emulating” mobile devices using models that are “*based on* the retrieved characteristics.”

2. Analysis

As a threshold matter, both sides discuss the deposition testimony of Defendants’ expert, Dr. Matthew Shoemake. For example, Plaintiff argues that the opinions of Dr. Shoemake are unreliable because “Dr. Shoemake admitted that the proposed constructions were not ones that he himself came up with, but were delivered to him by Defendants’ counsel.” (Dkt. #154 at pp. 10–11) (citing *id.*, Ex. 6, Feb. 27, 2020 Shoemake dep. at 38:10–21). Plaintiff also argues that Dr. Shoemake’s reliance on some dictionary definitions but not others renders Dr. Shoemake’s opinions unreliable. (*See* Dkt. #154 at p. 11).

On balance, Plaintiff’s arguments in these regards are unpersuasive. In the course of the Court evaluating the intrinsic evidence and the cited dictionary definitions, the opinions of Dr. Shoemake can be considered (and weighed in light of all relevant circumstances), particularly as to what a person of ordinary skill in the art would know and understand and as to how a person of ordinary skill in the art would tend to view the evidence. *See Phillips*, 415 F.3d at 1318 (“extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field”). Further, Plaintiff’s assertion that “Dr. Shoemake flatly admitted at deposition that ‘emulate’ and ‘simulate’ should be given their plain and ordinary meaning as understood by a POSITA” (Dkt. #154 at p. 13 (citing *id.*, Ex. 6, Feb. 27, 2020 Shoemake dep. at 33:10–35:21)) is unavailing because Dr. Shoemake opines as to the plain

meaning of these terms in the context of the patents-in-suit. Indeed, claim construction "must look at the ordinary meaning in the context of the written description and the prosecution history." *Phillips*, 415 F.3d at 1313 (citation and internal quotation marks omitted).

Claim 1 of the '192 Patent, for example, recites (emphasis added):

> 1. A system for developing an application for a mobile device comprising:
> a software authoring interface configured to simultaneously visually *emulate*, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further configured to *simulate* a network connection state encountered by the mobile device.

Claim 1 of the '192 Patent thus uses both "emulate" and "simulate." "Different claim terms are presumed to have different meanings." *Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008); *see CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co.*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) ("In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings."). Although "it is not unknown for different words to be used to express similar concepts," "the use of both terms in close proximity in the same claim gives rise to an inference that a different meaning should be assigned to each." *Bancorp Servs., LLC v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004).

"That inference, however, is not conclusive; it is not unknown for different words to be used to express similar concepts, even though it may be poor drafting practice." *Id.*; *see Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004) ("[W]hile interpretations that render some portion of the claim language superfluous are disfavored, where neither the plain meaning nor the patent itself commands a difference in scope between two terms, they may be construed identically."); *see also Idenix Pharm., Inc. v. Gilead Scis., Inc.*, No. CV 13-1987-LPS, 2015 WL 9048010, at *7 (D. Del. Dec. 16, 2015) (Stark, J.) (citing *Power Mosfet*).

The claims of the ’678 Patent use only “simulate,” not “emulate.” The claims of the ’864 Patent appear to use these terms interchangeably in Claims 9, 10, and 11, which depend from Claim 1 (emphasis added):

> 1. A system for testing an application for a mobile device comprising:
> software configured to *simulate*, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulated environments.
>
> * * *
>
> 8. The system of claim 1, wherein the software is further configured to create one or more scenarios that include scripts that impact either the performance of the application, or the network, or both.
>
> 9. The system of claim 8, wherein the one or more scenarios define one or more events that occur during the test which includes defining *one or more virtual users to simulate real users*.
>
> 10. The system of claim 9, wherein *the one or more virtual users emulate actions of real user behavior*.
>
> 11. The system of claim 10, wherein the actions that are performed by one or more virtual users are recorded to generate a script which can be modified to *emulate real user behavior*.

At the April 20, 2020 hearing, both sides argued that these claims do not demonstrate interchangeable use because whereas Claim 9 recites simulating “users,” Claims 10 and 11 recite emulating “actions” and “behavior.” The parties fail to demonstrate that this purported distinction is of any significance as to the meaning of “simulate” and “emulate.” The specification is consistent with this understanding of interchangeable use, disclosing:

> Upon connection to operator development server 808, emulator 101 may download characteristic data 815 from operator development server 808 for one or more mobile device types supported by operator development server 808 (i.e., supported by the operator’s wireless network). Characteristic data 815 may, for example, represent mobile device characteristics 115 of FIG. 1. Further, *emulator* 101 may download additional model data 820 for use within device model 102 for increasing

> *simulated* functionality of model 102 (e.g., *simulating additional handset functionality* and/or network functionality).

'864 Patent at 10:29–40 (emphasis added). The specification thus discloses that an "emulator" can "simulate." Moreover, this disclosure of "*simulating* additional *handset* functionality" undercuts the parties' arguments that the patentee consistently used "simulate" with regard to network characteristics and "emulate" with regard to mobile devices. Plaintiff also suggested at the April 20, 2020 hearing that the patentee used "simulate" for some things and "emulate" for other things in an effort to make the claims easier to read. Even assuming that this is true, any such distinction does not justify attributing a difference in meaning to "simulate" and "emulate."

Defendants argue that the patents-in-suit use these terms in a special way and, as a general matter, "[i]diosyncratic language, highly technical terms, or terms coined by the inventor are best understood by reference to the specification." *See, e.g., Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2010). But the words "imitate" and "mimic," proposed by Defendants, do not appear in the patents-in-suit. Admittedly, the dictionary definitions of "simulate" and "emulate" attached to Dr. Shoemake's declaration include definitions of "simulate" in terms of "mimic" and a definition of "emulation" in terms of "imitating." (*See* Dkt. #154, Ex. 7; *see also id.*, Ex. 5 at Exs. C & F).

Yet, one of the dictionaries submitted by Dr. Shoemake defines "emulator" as "[c]omputer hardware and/or software which is designed to work exactly like another" and, in defining "simulator," this dictionary states that computer simulations "may be used to represent or *emulate* almost anything." (*Id.*, Ex. 5, Ex. E, *Wiley Electrical and Electronics Engineering Dictionary* 256, 712 (2004)) (pp. 67–68 of 78 of Ex. 5) (emphasis added).

Thus, even the extrinsic evidence submitted by Defendants is consistent with finding that the terms "simulate" and "emulate" can be used interchangeably. Defendants fail to persuasively

support their contention that "[a] POSITA would have understood that 'emulate' refers to a relatively precise representation, while 'simulate' would refer to a relatively imprecise representation." (Dkt. #164 at p. 15) (citing Dkt. #154, Ex. 5, Feb. 19, 2020 Shoemake Decl. at ¶¶ 36, 44–45). Defendants' reliance on Table 1 in the specification, which Defendants characterize as a precise representation that is used for emulation, is unavailing at least because Table 1 is disclosed as setting forth "exemplary characteristics." '864 Patent at 5:19–38. The opinions of Defendants' expert are unpersuasive. (*See* Dkt. #154, Ex. 5, Feb. 19, 2020 Shoemake Decl. at ¶¶ 36–48; *see also id.*, Ex. 6, Feb. 27, 2020 Shoemake dep. at 43:5–44:3, 47:17–48:11, 67:2–19, 86:24–89:1 ("Emulation is precise and exacting, but a simulation need not be.") & 103:11–105:3). Likewise, Plaintiff fails to support finding any relevant "differences between 'simulate' and 'emulate.'" (Dkt. #167 at p. 5).

As to the parties' apparent dispute that Defendants' proposal of "mimic" would connote representing an actual mobile device, that is, a mobile device that has been produced rather than merely planned or hypothesized (Dkt. #154 at p. 7), the specification supports interpreting "mobile device" as encompassing planned or hypothetical devices as well as devices that have actually been produced. *See* '864 Patent at 10:40–44 ("include modeling capability for a new pre-release mobile device, scheduled release mobile device and current mobile devices"); *see also id.* at 6:10–14 ("As new mobile device types are created, additional mobile device characteristics 115 may be easily created to specify hardware attributes and performance of the new device types, allowing application development to start before a physical mobile device is available."). This potential for confusion and potential for an overly restrictive interpretation of the claims provides an additional reason for rejecting Defendants' proposal of "mimic."

Defendants also suggest that the specification uses "emulate" with reference to representing a mobile device and uses "simulate" with reference to representing a communication network. *Compare* '864 Patent at 1:51–2:2, 4:28–33, 8:1–3, 8:14–30 & 15:39–43 ("Emulator 1510 may operate such that emulated mobile device display 1548, network display 1554 and application display 1552 for each emulated device model 1512 appears to operate substantially in real time (i.e., as if application 1506 is actually running on the mobile device being emulated)") *with id.* at 11:51–67 ("network characteristics . . . may be simulated by simulator 810," and "simulator 810 may allow control of scripted events (e.g., cell tower identification, service message, bandwidth, etc.), consumer events (e.g., checking email, checking messages, browsing network, available minutes, selecting images, etc.) and incoming events (e.g., phone calls, WAP Messages, receiving MMS, receiving SMS, etc.).").

Likewise, in a post-hearing supplemental submission permitted by the Court, Plaintiff submits: "As both parties have noted, the patent claims and specification generally use the term 'emulate' to refer to a 'mobile device' and the term 'simulate' to refer to 'network characteristics.'" (Dkt. #171 at p. 3).

The parties' arguments in this regard, and the opinions of Defendants' expert, are unpersuasive. (*See* Dkt. #164, Ex. 5 at ¶ 46). For example, Claim 1 of the '192 Patent refers to "emulat[ing]" a plurality of network characteristics. Defendants argue that the patentee mistakenly failed to change "emulate" to "simulate" when the patentee amended this claim to replace "hardware" with "network." (*See* Dkt. #164 at p. 17 n.10; *see also id.*, Ex. B, Oct. 17, 2014 Amendment After Allowance at p. 8 (modifying application claim 44); *id.*, Ex. C, Oct. 17, 2014 Remarks at p. 12 (requesting that application claim 44 be renumbered to claim 1)). Plaintiff now agrees. (*See* Dkt. #171 at p. 3 n.1). Upon review, the parties have not presented sufficient evidence

for the Court to find that the patentee erred. Instead, Defendants' argument regarding Claim 1 of the '192 Patent is premised on the above-rejected argument that the specification attributes different meanings to "simulate" and "emulate." Moreover, the parties do not address the requirements for judicial correction set forth by the Federal Circuit. *See Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003) (judicial correction of an error in a patent may be available "only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.").

The Court therefore hereby expressly rejects Defendants' proposed constructions. No further construction is necessary except to clarify that the patentee used the terms "simulate" and "emulate" interchangeably. *See O2 Micro*, 521 F.3d at 1362; *see also Finjan*, 626 F.3d at 1207; *Summit 6*, 802 F.3d at 1291.

The Court accordingly hereby construes the disputed terms as set forth in the following chart:

Term	Construction
"simulate"	**"emulate"**
"emulate"	**Plain meaning**

D. "simultaneously visually [simulate/emulate], via one or more profile display windows" and "simulate, via one or more profile display windows"

"simultaneously visually simulate, via one or more profile display windows" ('678 Patent, Claims 1, 26, 45)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively: "simulate, while at the same time displaying one or more windows showing resources of the mobile device that are available to or utilized by the application"	"imitate, while at the same time displaying one or more windows showing in real time resources of the mobile device that are available to the application as a result of the imitated activity" Alternatively: "imitate, while at the same time displaying one or more windows showing resources of the mobile device that are available to the application as a result of the imitated activity"

"simultaneously visually emulate, via one or more profile display windows" ('192 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively: "emulate, while at the same time displaying one or more windows showing resources of the mobile device that are available to or utilized by the application"	"imitate, while at the same time displaying one or more windows showing in real time resources of the mobile device that are available to the application as a result of the imitated activity"[4] Alternatively: "imitate, while at the same time displaying one or more windows showing resources of the mobile device that are available to the application as a result of the imitated activity"

[4] Defendants previously proposed: "*mimic*, while at the same time displaying one or more windows showing in real time resources of the mobile device that are available to the application as a result of the mimicked activity." (Dkt. #152, Ex. A at p. 14) (emphasis added). In their responsive claim construction brief, Defendants assert that "'emulate' here should be construed as 'simulate' based on [a] drafting error." (Dkt. #164 at p. 20 n.11) (citing *id.* at p. 17 n.10).

"simulate, via one or more profile display windows" ('864 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction necessary. Alternatively: "simulate and display one or more windows showing resources of the mobile device that are available to or utilized by the application"	"imitate, and make available for display one or more windows showing resources of the mobile device that are available to the application as a result of the imitated activity" Alternatively: "imitate, and display one or more windows showing resources of the mobile device that are available to the application as a result of the imitated activity"

(Dkt. #152, Ex. A at pp. 7, 11 & 14; Dkt. #154 at p. 14; Dkt. #164 at p. 20; Dkt. #168, App'x at pp. 13–16; *see* Dkt. #171 at p. 2; *see also* Dkt. #174 at p. 3).

1. The Parties' Positions

Plaintiff argues that "Defendants once again read in examples from the preferred embodiments or merely substitut[e] narrower terms for those actually recited in the claims." (Dkt. #154 at p. 14). Plaintiff also argues that "Defendants' proposed constructions introduce unnecessary words with contorted phrasing that are unsupported by the intrinsic or extrinsic evidence and will only serve to confuse the finder of fact." (*Id.*) Plaintiff submits that "Defendants' inclusion of the phrase 'showing in real time resources of the mobile device that are available to the application as a result of the imitated/mimicked activity' is . . . inconsistent with many embodiments of the specification and should be rejected." (*Id.* at p. 16).

Defendants respond that construction is necessary because "[a]s written, the phrases have no ordinary meaning apart from the patents." (Dkt. #164 at p. 21). Defendants argue: "[I]t is clear that what the claims meant was not that the profile display window would *do* the emulation or

simulation. Rather, the patents disclose that the *system* would perform the emulation or simulation, and the results of the simulation or emulation would be visually presented in the profile display window; that is, the profile display window would visually show the resources consumed by the application and mobile network, against total available resources, at a given point in time." (*Id.* at p. 22). Finally, as to claims that recite "simultaneous," Defendants argue that "[t]o say that the emulation or simulation must occur simultaneously with the display of the resource information is to say that the display must happen in real time; that is, the resource availability of the mobile device is displayed as the emulated mobile device is playing the application and is subjected to the simulated network events." (*Id.* at pp. 22–23).

Plaintiff replies that "[t]here is no meaningful risk that a fact-finder would read the claim language to require that the display window itself performs the emulation (or simulation)." (Dkt. #167 at p. 7). Plaintiff submits that "the word 'via'—which Defendants seemingly ignore but which carries meaning here—sufficiently informs that the results of a simulation or emulation are visually presented in a 'profile display window.'" (*Id.*) Further, Plaintiff argues that "surrounding claim language clarifies that 'simultaneously' qualifies the 'plurality' of simulated network characteristics," not "monitoring an application 'in real time'" as proposed by Defendants. (*Id.* at pp. 7–8). Finally, Plaintiff argues that "a profile display window primarily displays resource utilization *by* an application." (*Id.* at p. 8) (citing '864 Patent at 3:60–62, 4:28–30 & 10:60–65). Plaintiff submits that "resources available to the application are merely indicated by a *static* 'capacity line,' while the profile display window displays resource utilization *by* the application over time." (*Id.* at p. 8) (citing '864 Patent at 20:48–54 & Fig. 21).

At the April 20, 2020 hearing, Plaintiff argued that the patents-in-suit disclose displaying resources *utilized by* an application and also disclose displaying resources *available to* the

application. Plaintiff argued that the patents-in-suit encompass displaying either or both. Plaintiff urged that the claims at issue do not necessarily require displaying resources *available to* the application. In a post-hearing supplemental submission permitted by the Court, Plaintiff submits the above-noted alternative proposed constructions. (Dkt. #171 at p. 2).

Defendants responded at the hearing that the purpose of the purported invention is to determine if an application will run properly or will crash. Defendants argued that fulfilling this purpose requires displaying what resources are available. Defendants also argued that their proposals of "at the same time" and "in real time" are not redundant because whereas the former refers to two things being contemporaneous, the latter refers to something happening while the application is running.

2. Analysis

The specification discloses that a "profiler" may estimate resources used by an application:

> When developing a software program, a software developer often utilizes a software profiler to generate a report on the amount of time a processor spends in each routine of the software program during execution. The report may be used to find and optimize resource intensive areas of the software program. Some profiling modes report units other than time (such as call counts) and/or report at granularities other than per-routine. In the following description and examples, *the term profiler may refer to a utility or function that determines or estimates mobile device resource utilization by an application running* on that mobile device. For example, resource utilization may be determined for each output frame of a running frame-based application and displayed as a percentage of available resources for a particular mobile device.

'864 Patent at 3:52–65 (emphasis added).

Claim 1 of the '192 Patent, for example, recites (emphasis added):

> 1. A system for developing an application for a mobile device comprising:
>
> a software authoring interface configured to *simultaneously visually emulate, via one or more profile display windows*, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further configured to simulate a network connection state encountered by the mobile device.

As another example, Claim 1 of the ’864 Patent recites (emphasis added):

> 1. A system for testing an application for a mobile device comprising:
> software configured to *simulate, via one or more profile display windows,* a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulated environments.

Defendants propose referring to “a result of the imitated activity,” but Defendants’ proposals in this regard are confusing and unnecessary. Instead, the claims are sufficiently clear that simulated network characteristics affect performance of the mobile device.

In arguing against Defendants’ proposal of “resources of the mobile device that are available to the application,” Plaintiff cites the Abstracts of the patents-in-suit. The Abstract of the ’864 Patent states (emphasis added): “The application is played and monitored within the model to determine *resource utilization of the application* for the mobile device.” The Abstracts of the ’192 Patent and the ’678 Patent similarly state (emphasis added): “The application is executed in real time within the model and the application executing in the model is monitored to determine *resource utilization* information *by the application* for the mobile device.”

Reading these claims as a whole, however, these claims are directed to the *available* resources of the mobile device when executing the application. Thus, as noted above, simulated network characteristics affect performance of the mobile device, and the above-reproduced language in the Abstracts does not override the claim language and the context provided by the remainder of the specification. This understanding is reinforced by recitals in other claims of determining resources *utilized by* the application, such as in Claims 20 and 25 of the ’864 Patent (emphasis added):

> 20. A method for emulating an application playing on an application player in each of a plurality of mobile devices, the method comprising:

> retrieving characteristics, indicative of performance, for each of the mobile devices; emulating each of the mobile devices in real time using respective models running on a processor extrinsic to the mobile devices, wherein each of the models is based on the retrieved characteristics; playing the application in real time using the application player within each of the models; monitoring the application playing in each of the models to *determine resource utilization information by the application* for each of the mobile devices; and *displaying the resource utilization information* for at least one of the mobile devices.
>
> * * *
>
> 25. The method of claim 20, further comprising identifying one or more frames of a frame-based application where *resource utilization of the application* exceeds a maximum resource availability threshold of any one of the mobile devices.

The specification reinforces this understanding, disclosing a profiler that generates a "profile display window":

> Profiler 106 monitors playing of frame-based application 104 within model 102 to estimate *resource usage* of application 104 and generates a profile data display window 110. Profile data display window 110 allows a user of system 100 to identify areas within application 104 that would *exceed resources of mobile device 114*.

'864 Patent at 4:28–33 (emphasis added); *see id.* at 6:50–54 ("profile data display 110 may be used to identify areas within application 104 whereupon playing of application 104 within mobile device 114, performance of mobile device 114 would be stressed").

The specification further discloses that Figure 3 "shows one exemplary profile data display window" that displays "per-frame (or point-in-time) processor resource utilization":

> FIG. 3 shows one exemplary profile data display window 110 showing a frame-based display of profiled data 152, FIG. 1B, determined by processor profile module 202. In particular, profile window 110 is shown with a time line 302 that represents timeline 222 of application 104. In this example, each bar 304 indicates processor resource utilization for each of certain frames 223 of application 104. In each embodiment of the present system described herein, each bar may, alternatively, represent a particular point or period in time during the execution of an application 104 which is non-frame-based. During play of application 104 within model 102, a current position indicator 306 shows the frame (i.e., frame 1 in this example) currently displayed by emulated mobile device display 111 (see FIG. 4). *A capacity line 308 (capout line)* indicates the maximum processor resource

> available to application 104. Where bars 304 rise above capacity line 308 at locations 310, resource utilization for indicated frames of application 104 *exceed the available processor resources* of mobile device 114; thus application 104 may *'capout' or crash* when playing those frames. Profile window 110 displays *per-frame (or point-in-time) processor resource utilization of application 104*, thereby facilitating assessment of stresses applied to mobile device 114 when playing application 104. Where the number of frames 223 of application 104 exceeds the display capacity of profile window 110, a scroll bar 312 allows the user to scroll through bars 304 for application 104.

Id. at 8:4–30 (emphasis added). Figure 3 is reproduced here:

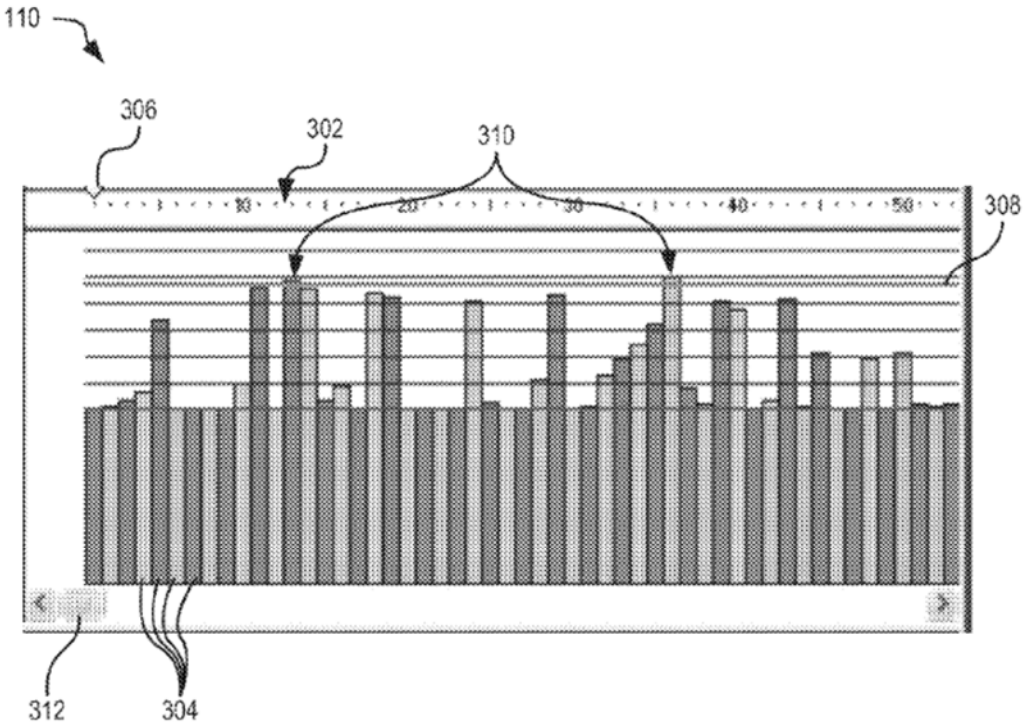

FIG. 3

Plaintiff does not show that "profile display window," let alone "via one or more profile display windows," has any different meaning in the relevant art or has any well-established meaning in the relevant art at all. Plaintiff appears to argue that "via one or more profile display windows" refers to selecting network characteristics (such as selecting from a pulldown menu list) rather than displaying available resources. (*See* Dkt. #152 at p. 15). Disclosures regarding "pull-down" lists, cited by Plaintiff, do not support such an interpretation. *See* '864 Patent at 11:51–67.

Instead, the above-cited disclosures explain that a "profile display window" displays results of emulation. The opinion of Defendants' expert is further persuasive in this regard. (*See* Dkt. #154, Ex. 5, Feb. 19, 2020 Shoemake Decl. at ¶¶ 52–54).

Defendants' proposal of "resources of the mobile device that are available to the application" is consistent with disclosures that the position of the "capacity line 308" can vary and that tracking available resources is necessary to determine whether an application will consume too many resources and "crash" as a result:

> In one embodiment, *capacity line 308 in profile data display window 110 is dynamically modified* to show actual resource availability to application 104 resulting from resource utilization by simulated wireless network activity within device model 102. For example, if a message is received and/or retrieved by model 102 while playing application 104, certain resources are required to handle the received message, and therefore *available resources for application 104* is [*sic*] *reduced* accordingly.
>
> * * *
>
> A user may interact with one or more of frame based profile data displays 1544 of device model 1512 to modify resources available to application 1506. For example, the user may interactively adjust a resource capacity line (e.g., capacity line 308, FIG. 3) of one or more of frame based profile data displays 1544 to control the resource amount available to application 1506 within the associated device.
>
> * * *
>
> A capacity line 2108 indicates the maximum total resources available to application 104. Where bars 2104 rise above capacity line 2108, resource utilization for indicated frames of application 104 exceed the available resources of mobile device 114; thus application 104 may 'capout' or crash when playing those frames.

'864 Patent at 10:65–11:2, 15:61–67 & 20:48–54 (emphasis added).

As to Defendants' proposals of "at the same time" and "in real time," Defendants cite disclosure in the specification:

> In one example of operation, application player 154 plays application 104 within model 102. In particular, player 154 processes frames 223 of application 104 based upon ordering of frames 223 within timeline 222. One or more profiled modules

> 202, 204, 206 and 208 within profiler 106 monitor resource utilization of each frame, storing results as profiled data 152. Profiled data 152 is then displayed as profiled data display window 110 on display 140 for review by the user. *Profiled data 152 may be displayed in real time as application 104 is played within model 102.* Alternatively, the user may scroll through profiled data 152 as desired by interacting with profile data display 110. *Alternatively, profiled data 152 may be output as a report* (not shown).

'864 Patent at 7:56–8:1 (emphasis added).

The claim language, however, recites that what is simultaneous is not displaying but rather is simulation of a plurality of network characteristics. For example, above-reproduced Claim 1 of the '192 Patent recites "a software authoring interface configured to *simultaneously visually emulate*, via one or more profile display windows, *a plurality of network characteristics* indicative of performance of the mobile device when executing the application." This understanding is consistent with disclosure in the specification that various network characteristics may be simulated:

> [N]etwork simulator interface 804 within model 102 interacts with data provider 812 and event generator 814 to determine resource utilization resulting from network interaction by model 102. Thus, as application 104 plays within model 102, the effects of mobile device 114 interacting with a wireless network are simulated such that frame-based profile data display window 110 shows resource utilization that includes the live or scripted effects of interaction with the wireless network. In one embodiment, capacity line 308 in profile data display window 110 is dynamically modified to show actual resource availability to application 104 resulting from resource utilization by simulated wireless network activity within device model 102. For example, if a message is received and/or retrieved by model 102 while playing application 104, certain resources are required to handle the received message, and therefore available resources for application 104 is [*sic*] reduced accordingly.
>
> * * *
>
> Window 1200 shows a pull-down list 1202 of network characteristics that may be simulated by simulator 810. For example, simulator 810 may allow control of scripted events (e.g., cell tower identification, service message, bandwidth, etc.), consumer events (e.g., checking email, checking messages, browsing network, available minutes, selecting images, etc.) and incoming events (e.g., phone calls, WAP Messages, receiving MMS, receiving SMS, etc.). Based upon selection from

> list 1202, a second list may be presented to allow further simulation requirements to be entered. In the example of window 1200, consumer events entry of list 1202 was selected, resulting in display of pull-down list 1204 from which check messages was selected resulting in the display of pull-down list 1206. In this example, the user may select 'send message' from list 1206 to evaluate the performance of application 104 while a message is received from the network.

'864 Patent at 10:57–11:6 & 11:51–67; *see id.* at 10:8–16 ("FIGS. 9, 10, 11 and 12 show exemplary windows that allow a user to interact with emulator 101 for configuring and testing operation of application 104 within model 102 when simulating connection to a wireless network.").

Finally, as to Claim 1 of the '864 Patent, Defendants' proposal of "*make available* for display" is vague. Instead, the limitation of "one or more profile display windows" requires software configured to display such windows (albeit not necessarily at the same time that the emulation occurs, *see* '864 Patent at 7:67–8:1 (quoted above)).

The Court therefore hereby construes these disputed terms as set forth in the following chart:

Term	Construction
"simultaneously visually simulate, via one or more profile display windows" ('678 Patent, Claims 1, 26, 45) **"simultaneously visually emulate, via one or more profile display windows"** ('192 Patent, Claim 1)	**"emulate simultaneously, and display one or more windows showing resources of the mobile device that are available to the application"**
"simulate, via one or more profile display windows" ('864 Patent, Claim 1)	**"emulate, and display one or more windows showing resources of the mobile device that are available to the application"**

E. "configured to"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
No construction necessary. Alternatively: "programmed or implemented with hardware or software to"	"actually programmed or implemented with hardware or software to" Alternatively: "that must be programmed or implemented with hardware or software to"

(Dkt. #152, Ex. A at p. 23; Dkt. #154 at p. 16; Dkt. #164 at p. 26; Dkt. #168, App'x at p. 16; *see* Dkt. #171 at p. 2; *see also* Dkt. #174 at p. 2). The parties submit that this term appears in Claims 1, 2, and 3 of the '192 Patent, Claims 1, 2, 3, 26, 45, and 46 of the '678 Patent, and Claims 1, 2, and 8 of the '864 Patent. (*Id.*)

1. The Parties' Positions

Plaintiff argues that Defendants' proposal "is seemingly adopted from unrelated cases, is meaningless here, and will only serve to confuse the finder of fact." (Dkt. #154 at p. 16). Plaintiff also argues that "[t]he narrowing term 'actually programmed or implemented' is unsupported by the intrinsic record and the claim language here." (*Id.* at p. 18).

Defendants respond that "[c]ourts have repeatedly recognized that 'configured to' has a narrow definition in patent law, and that fact may be lost on the jury absent a construction." (Dkt. #164 at p. 28).

Plaintiff replies that Defendants fail to demonstrate that "configured to" has a "narrow definition in patent law." (Dkt. #167 at p. 9) (quoting Dkt. #164 at p. 28). Plaintiff also argues that "Defendants provide no basis for including 'hardware' in claims that do not recite hardware." (Dkt. #167 at p. 9). Further, Plaintiff argues, "Defendants' injection of the word 'actually'" is "redundant and adds nothing that would assist the fact-finder." (*Id.*)

At the April 20, 2020 hearing, Plaintiff argued that Defendants' proposal of "actually" is unclear as to what it adds to the construction. In a supplemental submission permitted by the Court, Plaintiff proposes construing "configured to" to mean "programmed or implemented with hardware or software to." (Dkt. #171 at p. 2). In their response thereto, Defendants alternatively propose construing "configured to" to mean "that must be programmed or implemented with hardware or software to." (Dkt. #174 at p. 2).

2. Analysis

Claim 1 of the '192 Patent recites (emphasis added):

> 1. A system for developing an application for a mobile device comprising:
>
> a software authoring interface *configured to* simultaneously visually emulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further *configured to* simulate a network connection state encountered by the mobile device.

As a general matter, "claims of unrelated patents must be construed separately." *e.Digital Corp. v. Futurewei Techs., Inc.*, 772 F.3d 723, 727 (Fed. Cir. 2014).

As to the particular phrase here at issue, though, the Court of Appeals for the Federal Circuit has noted that the phrase "configured to" has a narrower meaning than merely "capable of" or "suitable for." *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012) (interpreting "adapted to" in the "narrower" sense of "configured to" rather than the "broader sense" of "capable of" or "suitable for"; "the phrase 'adapted to' is most naturally understood to mean that the arms and magnetic members are designed or *configured to* accomplish the specified objective, not simply that they can be made to serve that purpose"); *see also Radware Ltd. v. A10 Networks, Inc.*, No. C-13-02024-RMW, 2014 WL 1572644, at *12 (N.D. Cal. Apr. 18, 2014) (recognizing "configured to" as a "patent term of art"; noting that "courts have generally interpreted 'configured to' more narrowly than simply 'capable of'") (collecting cases); *cf.*

Telemac Cellular Corp. v. Topp Telecom, Inc., 247 F.3d 1316, 1330 (Fed. Cir. 2001) ("[T]hat a device is capable of being modified to operate in an infringing manner is not sufficient, by itself, to support a finding of infringement.").

Disclosures in the specification that use the phrase "configured to" do not compel otherwise. *See* '864 Patent at 4:57–59 ("In another embodiment, emulator 101 is an add-in module that may be configured to operate within flash development tool 112."); *see also id.* at 14:59–65 ("Application developer 1504, emulator 1510 and network simulator 1520 may each be a part of authoring environment 1502, or may each be an external software program that is configured to cooperate with components of authoring environment 1502."). The relevant evidence and authorities therefore support Defendants' proposal of requiring actual programming.

At the April 20, 2020 hearing, Plaintiff argued that Defendants' proposal of "actually" would create confusion and might be interpreted as requiring that particular programming is *executed*. Plaintiff failed to show, however, how construing "configured to" as "actually programmed to" would require *execution* of programming rather than merely that the programming is present.

The Court therefore hereby construes **"configured to"** to mean **"actually programmed to."**

F. "the software"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Not indefinite. A person of skill in the art would understand this phrase to refer to the "software testing interface."	This phrase is indefinite for lack of proper antecedent basis.

(Dkt. #152, Ex. A at p. 24; Dkt. #154 at p. 18; Dkt. #164 at p. 28; Dkt. #168, App'x at p. 20–21). The parties submit that this term appears in Claims 2, 26, and 45–50 of the '678 Patent. (*Id.*)

1. The Parties' Positions

Plaintiff argues that there is no lack of antecedent basis because "a POSITA [person of ordinary skill in the art] would understand that 'the software' refers to the 'software testing interface.'" (Dkt. #154 at p. 19).

Defendants respond:

> "The software" in claim 2 could reasonably be interpreted to refer to the overall software system ("a system"), the specific software interface ("a software testing interface"), or some other software module (*e.g.*, "the application"). The distinction is important. If "the software" refers back to the overall system, then nearly any configuration that enables selection of connection simulations could meet the claim limitation. But if "the software" refers specifically to the software testing interface, then it must be that specific, claimed software interface that allows the user to select the connection simulations.

(Dkt. #164 at p. 29).

Plaintiff replies that "[t]he word 'software' . . . describes the 'testing interface' that is configured to perform the claimed simulation." (Dkt. #167 at p. 9). Plaintiff further argues:

> The preamble does not mention any "software," so a POSITA reading claim 2 would not understand "the software" to refer to the overall system of claim 1. Similarly, no POSITA would believe that the application being tested would allow a user to "select from one or more connection simulations" to test itself. That functionality is clearly within the testing interface.

(*Id.* at pp. 9–10) (emphasis omitted).

At the April 20, 2020 hearing, the parties reiterated the arguments set forth in their briefing. Defendants also argued that there are other software modules, not just the "software testing interface," that are part of the system.

2. Analysis

Claims 1 and 2 of the '678 Patent recite (emphasis added):

> 1. A system for testing an application for a mobile device comprising:
>
> a *software* testing interface configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network.
>
> 2. The system of claim 1, wherein *the software* is configured to enable a user to select from one or more connection simulations for testing how well mobile content performs on the mobile device.

Because Claim 1 recites "a software *testing interface*," the antecedent basis for "the software" in Claim 2 is perhaps not obvious at first blush.

Nonetheless, reading these claims as a whole, Claim 1 relates to a testing interface that is implemented in software (to simulate network characteristics). This comports with the context provided by the '678 Patent as whole, which discloses using software to simulate network characteristics. *See Phillips*, 415 F.3d at 1313 ("the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification"); *see also* '678 Patent at 11:39–48. Defendants fail to persuasively support their suggestion that "the software" in Claim 2 could be read as referring to the recital of "[a] system" or "an application" in Claim 1.

Substantially the same analysis applies to Claim 26 of the '678 Patent and Claims 45–50 of the '678 Patent. Claims 26 and 45–50 of the '678 Patent recite (emphasis added):

> 26. A system for testing an application for a mobile device comprising:
>
> *a software testing interface* configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network and *the software* is further configured to display data of either application performance, or network performance, or both.

* * *

45. A system for testing an application for a mobile device comprising:

a software testing interface configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network and interaction with a network enables *the software* to import real-world mobile network profiles.

46. The system of claim 45, wherein *the software* is further configured to allow tests to be managed and results analyzed from a personal computer or mobile device.

47. The system of claim 45, wherein *the software* can import real-world mobile network profiles captured by one or more networks.

48. The system of claim 45, wherein *the software* can import real-world mobile network profiles provided by a storage library of mobile network conditions.

49. The system of claim 45, wherein *the software* can import real-world mobile network profiles from geographical locations worldwide.

50. The system of claim 45, wherein *the software* enables a user to discover and import network conditions from geographical locations worldwide.

Defendants argue as to Claims 47–49 that "[t]hose dependent claims require the software to 'import real-world mobile network profiles'—activities that are rarely done by 'interfaces,' which more frequently refer to the visual presentation of information." (Dkt. #164 at p. 29). The specification, however, demonstrates that the patentee did not use the word "interface" so narrowly. *See, e.g.,* '678 Patent at 11:28–34 ("Network simulator interface 804 includes functionality that allows device model 102 to communicate with simulator 810 to simulate connectivity of mobile device 114 with a wireless network."); *id.* at 11:56–59 ("Simulator 810, using data provider 812 and event generator 814, thus interacts with network simulator interface

804 to model operation of a wireless network (e.g., a mobile phone network).") The Court thus rejects Defendants' arguments that these claims are unclear.

The Court therefore hereby finds as follows:

Claim(s)	Construction
Claims 1 and 2 of the '678 Patent	**The antecedent basis for "the software" in Claim 2 of the '678 Patent is "a software testing interface" in Claim 1 of the '678 Patent.**
Claim 26 of the '678 Patent	**The antecedent basis for "the software" in Claim 26 of the '678 Patent is "a software testing interface" in Claim 26 of the '678 Patent.**
Claims 45–50 of the '678 Patent	**The antecedent basis for "the software" in Claims 45–50 of the '678 Patent is "a software testing interface" in Claim 45 of the '678 Patent.**

G. "the test"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
Not indefinite. A person of skill in the art would understand this phrase to refer to the test of the application recited in claim 1.	This phrase is indefinite for lack of proper antecedent basis.

(Dkt. #152, Ex. A at p. 25; Dkt. #154 at p. 20; Dkt. #164 at p. 30; Dkt. #168, App'x at p. 23). The parties submit that this term appears in Claim 9 of the '864 Patent. (*Id.*)

1. The Parties' Positions

Plaintiff submits that "Claim 9 of the '864 patent depends from [C]laim 8, which depends from [C]laim 1," and "[f]rom even a cursory review of these three claims, a POSITA [person of

ordinary skill in the art] would reasonably ascertain that 'the test' recited in [C]laim 9 is the test of the application recited in [C]laim 1." (Dkt. #154 at p. 20).

Defendants respond that "neither claim 8 nor claim 1 (upon which claim 8 depends) recites any sort of 'test' for which 'the test' in claim 9 could reasonably depend." (Dkt. #164 at p. 30).

Plaintiff replies, in full:

> Defendants again ignore the plain language of the claims. Defendants argue that "the test" in claim 9 of the '864 patent is so "vague" that it cannot be understood without imposing additional restrictions on the "testing" recited by claim 1. As with "the software," Defendants simply seek to manufacture an indefiniteness issue here by demanding to know whether "there has been a single test or series of tests, and whether the event in question occurred during the same test or in an earlier, now-concluded test." (Opp. at 30.) These additional limitations are unsupported by anything in claim 9 and should not be imported into the claim. Instead, as set forth in the Opening Brief, a POSITA would reasonably ascertain that "the test" recited in claim 9 refers to a test of the application in claim 1. Claim 9 is, therefore, not indefinite.

(Dkt. #167 at p. 10).

At the April 20, 2020 hearing, the parties reiterated the arguments set forth in their briefing. Plaintiff urged that Defendants' arguments, such as regarding purported ambiguity as to whether there is one test or multiple tests, should be rejected because the activity defined by Claims 1 and 8 is "the test" referred to in Claim 9.

2. Analysis

Claims 1, 8, and 9 of the '864 Patent recite (emphasis added):

> 1. A system *for testing* an application for a mobile device comprising:
> software configured to simulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulated environments.
>
> * * *

> 8. The system of claim 1, wherein the software is further configured to create one or more scenarios that include scripts that impact either the performance of the application, or the network, or both.
>
> 9. The system of claim 8, wherein the one or more scenarios define one or more events that occur during *the test* which includes defining one or more virtual users to simulate real users.

These claims nowhere recite "a test." The recital of "the test" in Claim 9 of the '678 Patent thus lacks explicit antecedent basis. As a general matter, "the failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite." *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001) (quoting *Manual of Patent Examining Procedure* § 2173.05(e) (6th ed., rev. 1, Sept. 1995)). Plaintiff also cites *Messerschmidt v. U.S.*, 29 Fed. Cl. 1, 41–42 (Fed. Cl. 1993), in which the Federal Circuit stated that "claims rendered initially indefinite for lack of antecedent basis may nevertheless remain definite when read in light of the specifications."

Here, however, Plaintiff relies on the recital, in the preamble of Claim 1, of "[a] system *for testing* an application for a mobile device." Even assuming that the entire preamble of Claim 1 is a limitation, this statement that the system is "for testing" does not recite any particular test. Thus, "the test" in Claim 9 lacks antecedent basis. This lack of antecedent basis renders Claim 9 indefinite. *See Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) ("a claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable").

The Court thus finds that **"the test"** in Claim 9 of the '678 Patent lacks antecedent basis and thereby renders Claim 9 of the '678 Patent **indefinite**.

CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

IT IS SO ORDERED.

SIGNED this 27th day of April, 2020.

AMOS L. MAZZANT
UNITED STATES DISTRICT JUDGE