United States Court of Appeals for the Federal Circuit

RAIN COMPUTING, INC.,
Plaintiff-Appellant

v.

SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG ELECTRONICS CO., LTD., SAMSUNG RESEARCH AMERICA, INC.,
Defendants-Cross-Appellants

2020-1646, 2020-1656

Appeals from the United States District Court for the District of Massachusetts in No. 1:18-cv-12639-RGS, Judge Richard G. Stearns.

Decided: March 2, 2021

STEPHEN YEE CHOW, Hsuanyeh Law Group, PC, Boston, MA, argued for plaintiff-appellant. Also represented by HSUANYEH CHANG.

MICHAEL J. MCKEON, Fish & Richardson PC, Washington, DC, argued for defendants-cross-appellants. Also represented by CHRISTOPHER DRYER.

Before LOURIE, DYK, and MOORE, *Circuit Judges*.

MOORE, Circuit Judge.

Rain Computing, Inc. appeals a final judgment of noninfringement of the asserted claims of U.S. Patent No. 9,805,349 and Samsung Electronics America, Inc.; Samsung Electronics Co., Ltd.; and Samsung Research America, Inc. (collectively Samsung) cross-appeal the final judgment that the asserted claims of the '349 patent are not invalid as indefinite. For the reasons below, we reverse the district court's judgment on indefiniteness and dismiss Rain's appeal.

BACKGROUND

Rain sued Samsung for infringement of claims of the '349 patent. The '349 patent is directed to delivering software application packages to a client terminal in a network based on user demands. *See* '349 patent at Abstract, 1:59–2:14. The claimed invention purports to deliver these packages more efficiently by using an operating system in a client terminal rather than a web browser. '349 patent at 1:49–55, 1:59–2:14. Claim 1 is representative:

> 1. A method for providing software applications through a computer network based on user demands, the method comprising:
>
> > accepting, through a web store, a subscription of one or more software application packages from a user;
> >
> > sending, to the user, a user identification module configured to control access of said one or more software application packages, and coupling the user identification module to a client terminal device of the user;
> >
> > a server device authenticating the user by requesting subscription information of the user from the user identification module through the computer network;

> upon authentication of the user, the server device providing, to the client terminal device of the user, a listing of one or more software application packages subscribed through the web store in accordance with the subscription information;
>
> the server device receiving, from the client terminal device and through the computer network, a selection of a first software application package from said listing of one or more software application packages;
>
> the server device transmitting the first software application package to the client terminal device through the computer network; and
>
> executing the first software application package by a processor of the client terminal device using resources of an operating system resident in a memory of the client terminal device.

In a February 12, 2020 order, the district court construed various claim terms. Relevant here, it construed "executing the [first/second] software application package . . . in a memory of the client terminal device" and "user identification module configured to control access of . . . software application packages." *Rain Computing, Inc. v. Samsung Elecs. Co.*, No. 18-12639-RGS, 2020 WL 708125, at *3–7 (D. Mass. Feb. 12, 2020). The district court determined "user identification module" was a means-plus-function term subject to 35 U.S.C. § 112 ¶ 6 and was not indefinite. *Id.* at *3–5. Following that order, the district court entered judgment, based on the parties' joint stipulation, that the asserted claims were neither infringed nor invalid for indefiniteness. Rain appeals and Samsung cross-appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

Rain challenges the district court's construction of the "executing" term. Samsung challenges the court's determination that "user identification module" does not render the claims indefinite. Because we agree with Samsung that "user identification module" renders the claims indefinite, we do not reach the merits of Rain's appeal.

I

Whether claim language invokes 35 U.S.C. § 112 ¶ 6 is a question of law we review de novo. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015). We review any underlying findings of fact for clear error. *Id.* Under § 112 ¶ 6, a patentee may draft claims "as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." But such claims are construed to cover only "the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson*, 792 F.3d at 1347.

To determine whether § 112 ¶ 6 applies to a claim limitation, we must inquire "whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Id.* at 1349. If those words lack a sufficiently definite meaning, § 112 ¶ 6 applies. If the limitation uses the word "means," there is a rebuttable presumption that § 112 ¶ 6 applies. *Id.* at 1348–49. If not, there is a rebuttable presumption that the provision does not apply. *Id.* But that "presumption can be overcome and § 112 para. 6 will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function." *Id.* at 1348 (quotations and brackets omitted).

We first determine whether "user identification module" is a means-plus-function term. Because the term does not include the word "means," there is a rebuttable presumption that § 112 ¶ 6 does not apply. "'Module' is a well-known nonce word that can operate as a substitute for 'means.'" *Id.* at 1350. In *Williamson,* we held that the word "module" in the claim term "distributed learning control module" "does not provide any indication of structure because it sets forth the same black box recitation of structure . . . as if the term 'means' had been used." *Id.* Likewise, "module" here does not provide any indication of structure, and Rain fails to point to any claim language providing any structure for performing the claimed function of being configured to control access. Nor does the prefix "user identification" impart structure because it merely describes the function of the module: to identify a user. *See id.* at 1351 ("The prefix 'distributed learning control' does not impart structure into the term 'module.'"). Thus, the claim language fails to provide any structure for performing the claimed functions.

The parties do not dispute that "user identification module" has no commonly understood meaning and is not generally viewed by one skilled in the art to connote a particular structure. In *Media Rights Technologies, Inc. v. Capital One Financial Corp.*, we held that the written description of a "copyright compliance mechanism," including how it was connected to various parts of the system, how it functioned, and its potential functional components, was not enough to provide sufficient structure to the claimed "compliance mechanism." 800 F.3d 1366, 1372–73 (Fed. Cir. 2015). Here, the specification does not impart any structural significance to the term; in fact, it does not even mention a "user identification module." "Without more, we cannot find that the claims, when read in light of the specification, provide sufficient structure for the [] term." *Id.* at 1373. Accordingly, we hold "user identification module" is a means-plus-function term subject to § 112 ¶ 6.

Rain argues an amendment made during prosecution of "a user identification module *for accessing . . .*" to "a user identification module *configured to control access of* . . ." prevents "user identification module" from being a means-plus-function term. Appellant Resp. & Reply Br. at 12–13, 56–57 (emphases added). According to Rain, replacing "for" with "configured to" removed the means-plus-function language. *Id.* But the purely functional claim language reciting what the "user identification module" is configured to do provides no structure. *See MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1343 (Fed. Cir. 2019) (construing "a mechanical control assembly . . . configured to actuate . . ." as a means-plus-function limitation).

Rain also argues that an appellate brief filed by Patent Office examiners defending a final rejection of the applicant's claims supports its position that the term is not a means-plus-function term. The examiners' brief states, in relevant part:

> Additionally, as claim 20 is directed to a method rather than an apparatus, the limitation "user identification module configured to control access of said one or more software application packages," does not invoke 112, 6th paragraph, or 112(f).

J.A. 531. To the extent the examiners or the Patent and Trademark Office understood that a means-plus-function term cannot be nested in a method claim, they were incorrect. Applicants are free to invoke § 112 ¶ 6 for a claim term nested in a method claim. We have never held otherwise. *See, e.g.*, *Media Rights*, 800 F.3d at 1374 (holding "compliance mechanism" nested in a method claim was a means-plus function term); *On Demand Machine Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) (holding "providing means for a customer to visually review" nested in a method claim was a means-plus-function term).

II

Having concluded "user identification module" is a means-plus-function term, we must consider the term's construction, which occurs in two steps. The first step in construing a means-plus function claim is to "identify the claimed function." *Williamson*, 792 F.3d at 1351. After identifying the function, we then "determine what structure, if any, disclosed in the specification corresponds to the claimed function." *Id.* "Under this second step, structure disclosed in the specification is corresponding structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Sony Corp. v. Iancu*, 924 F.3d 1235, 1239 (Fed. Cir. 2019) (citation omitted).

If the function is performed by a general-purpose computer or microprocessor, then the second step generally further requires that the specification disclose the algorithm that the computer performs to accomplish that function. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). However, "in the rare circumstances where any general-purpose computer without any special programming can perform the function . . . an algorithm need not be disclosed." *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1365 (Fed. Cir. 2012). For means-plus-function claims "in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm," we have held that "the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999).

And finally, if the patentee fails to disclose adequate corresponding structure, the claim is indefinite. *Williamson*, 792 F.3d at 1352. We review the district court's indefiniteness determination de novo and any underlying

factual questions for clear error. *Media Rights*, 800 F.3d at 1371.

The parties do not dispute that the function of "user identification module" is "to control access to one or more software application packages to which the user has a subscription," as determined by the district court. We agree.

Next, we must identify the structure in the specification that is clearly linked with this function, controlling access. The district court found that the structural examples linked to the function of the "user identification module" are all "computer-readable media or storage device[s]." *Rain Computing*, 2020 WL 708125, at *5; *see e.g.,* '349 patent at 4:28–31 ("a SIM card, an IC card, a flash memory drive, a memory card, a CD-ROM, and the like"). The district court erred, however, in concluding that the disclosure of computer-readable media or storage devices provided sufficient structure for the "control access" function. *Id.* These computer-readable media or storage devices amount to nothing more than a general-purpose computer. *See, e.g.*, *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1280 (Fed. Cir. 2012) (the disclosed "processor and transceiver amount[ed] to nothing more than a general-purpose computer"). And "control[ling] access to one or more software application packages to which the user has a subscription" requires more "than merely plugging in a general purpose computer." *Ergo Licensing*, 673 F.3d at 1365. Rather, some special programming, *i.e.*, an algorithm, would be required to control access to the software application packages. Rain even agrees that the "user identification module" should include software algorithms. *See, e.g.*, Appellant's Resp. & Reply Br. at 22, ("the module would . . . be configured to . . . respond to requests for information (using common software algorithms)"), *id.* at 27 n.17 ("the user identification module should include software implementations"). And the inventor agreed that "there are certain algorithms out there" such as "open source software that can implement" the user identification module. J.A.

297–99. Under these circumstances, where a general purposes computer is the corresponding structure and it is not capable of performing the controlling access function absent specialized software, an algorithm is required.

Nothing in the claim language or the written description provides an algorithm to achieve the "control access" function of the "user identification module." When asked at oral argument to identify an algorithm in the written description, Rain could not do so. Oral argument at 32:54–34:40, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=20-1646_02022021.mp3. Without an algorithm to achieve the "control access" function, we hold the term "user identification module" lacks sufficient structure and renders the claims indefinite.[1] As this term appears in all of the claims relating to Rain's appeal, our decision moots the noninfringement appeal.

CONCLUSION

Because we hold "user identification module" renders the asserted claims indefinite, we reverse the district court's judgment that the asserted claims of the '349 patent are not invalid as indefinite and dismiss Rain's appeal as moot.

REVERSED-IN-PART, DISMISSED-IN-PART

COSTS

No costs.

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[1] We recently held, in a separate proceeding involving a different patent, that the failure to provide an algorithm for the recited function of a "user identification module" rendered the challenged claims indefinite. *See Synchronoss Techs., Inc. v. Dropbox, Inc.*, Nos. 2019-2196, 2019-2199, slip op. at 15 (Fed. Cir. Feb. 12, 2021).