United States Court of Appeals for the Federal Circuit

UNILOC USA, INC., UNILOC LUXEMBOURG S.A., UNILOC 2017 LLC,
Plaintiffs-Appellants

v.

LG ELECTRONICS USA, INC., LG ELECTRONICS MOBILECOMM U.S.A., INC., LG ELECTRONICS, INC.,
Defendants-Appellees

2019-1835

Appeal from the United States District Court for the Northern District of California in No. 5:18-cv-06738-LHK, Judge Lucy H. Koh.

Decided: April 30, 2020

JAMES J. FOSTER, Prince Lobel Tye LLP, Boston, MA, argued for plaintiffs-appellants.

J. MICHAEL JAKES, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, argued for defendants-appellees. Also represented by JOSEPH PRESTON LONG.

Before MOORE, REYNA, and TARANTO, *Circuit Judges*.

MOORE, *Circuit Judge*.

Uniloc USA, Inc., Uniloc Luxembourg S.A. and Uniloc 2017 LLC (collectively, Uniloc) sued LG Electronics USA, Inc., LG Electronics MobileComm U.S.A., Inc. and LG Electronics, Inc. (collectively, LG) in the United States District Court for the Northern District of California, alleging infringement of claims of U.S. Patent No. 6,993,049. LG moved to dismiss Uniloc's Second Amended Complaint under Fed. R. Civ. P. 12(b)(6), arguing the claims of the '049 patent are ineligible under 35 U.S.C. § 101. The district court granted LG's motion, determining that the asserted claims are directed to an abstract idea and do not recite an inventive concept. *Uniloc USA Inc. v. LG Elecs. USA Inc.*, 379 F. Supp. 3d 974, 1000 (N.D. Cal. 2019). Because we hold the claims are not directed to ineligible subject matter under § 101, we reverse and remand.

BACKGROUND

The '049 patent is directed to a communication system comprising a primary station (e.g., a base station) and at least one secondary station (e.g., a computer mouse or keyboard). '049 patent at Abstract; *id.* at 1:28–31, 3:31–34. In conventional systems, such as Bluetooth networks,[1] two devices that share a common communication channel form ad hoc networks known as "piconets." *Id.* at 1:19–21. Joining a piconet requires the completion of two sets of procedures, namely an "inquiry" procedure and a "page" procedure. *Id.* at 1:54–55. The inquiry procedure allows a primary station to identify secondary stations and it allows secondary stations to issue a request to join the piconet. *Id.*

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[1] Although the claimed invention is described with particular reference to a Bluetooth system, it is also applicable to other communication systems. '049 patent at 1:6–8.

at 1:56–57. The page procedure in turn allows a primary station to invite secondary stations to join the piconet. *Id.* at 1:57–58. Together, it can take several tens of seconds to complete the inquiry and page procedures so that a device joins a piconet and is able to transfer user input to the primary station. *Id.* at 1:58–61. Once a piconet is formed, the primary station "polls" secondary stations to determine whether they have data to share over the communication channel.

Because many secondary stations are battery-operated, secondary stations may enter a "park" mode and cease active communications with the primary station to conserve power. *Id.* at 1:43–45, 1:62–66. A secondary station in parked mode remains synchronized with the primary station, but it must be polled before it can leave park mode and actively communicate with the primary station. *Id.* at 1:43–51. In conventional systems, primary stations alternate between sending inquiry messages to identify new secondary stations and polling secondary stations already connected to the piconet, including parked devices, to determine whether they have information to transmit. Therefore, under the conventional polling process, a secondary station could experience delays of tens of seconds both in initially joining a piconet and in transmitting data after entering park mode.

The specification explains that the invention improves conventional communication systems by including a data field for polling as part of the inquiry message, thereby allowing primary stations to send inquiry messages and conduct polling simultaneously. *Id.* at Abstract. The claimed invention therefore enables "a rapid response time without the need for a permanently active communication link" between a parked secondary station and the primary station. *Id.* at Abstract. Claim 2 of the '049 patent, which the district court treated as representative, recites:

> 2. A primary station for use in a communications system comprising at least one secondary station, wherein means are provided
>
> > for broadcasting a series of inquiry messages, each in the form of a plurality of predetermined data fields arranged according to a first communications protocol, and
> >
> > for adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station.

LG moved to dismiss Uniloc's Second Amended Complaint under Fed. R. Civ. P. 12(b)(6), arguing the claims of the '049 patent are directed to ineligible subject matter under § 101. Treating claim 2 of the '049 patent as representative, the district court granted LG's motion. The district court held that the asserted claims are directed to the abstract idea of "additional polling in a wireless communication system," analogizing the asserted claims to data manipulation claims we held ineligible in *Two-Way Media Ltd. v. Comcast Cable Communications, LLC*, 874 F.3d 1329 (Fed. Cir. 2017) and *Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014). *Uniloc USA Inc.*, 379 F. Supp. 3d at 990. The district court further determined that the claims fail to recite an "inventive concept sufficient to save the claim[s]." *Id.* at 1000. The district court entered judgment in favor of LG. J.A. 1. Uniloc timely appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a district court's Rule 12(b)(6) dismissal under the law of the regional circuit, here the Ninth Circuit. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1124 (Fed. Cir. 2018). The Ninth Circuit reviews such dismissals de novo, construing all allegations of

material fact in the light most favorable to the nonmoving party. *Livid Holdings Ltd. v. Salomon Smith Barney, Inc.*, 416 F.3d 940, 946 (9th Cir. 2005). Patent eligibility under 35 U.S.C. § 101 is a question of law, based on underlying factual findings. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018). It may be resolved on a Rule 12(b)(6) motion "when there are no factual allegations that, taken as true, prevent resolving the eligibility as a matter of law." *Aatrix*, 882 F.3d at 1125.

Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof," may obtain a patent. 35 U.S.C. § 101. The Supreme Court has held that "[l]aws of nature, natural phenomena, and abstract ideas are not patent eligible." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). We follow the Supreme Court's two-step framework for determining patent eligibility under § 101. First, we determine whether the claims are directed to a "patent-ineligible concept," such as an abstract idea. *Id.* at 217. If so, we "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)).

At *Alice* step one, we determine whether the claims are directed to an abstract idea. *Alice*, 573 U.S. at 217. In cases involving software innovations, this inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies an abstract idea for which computers are invoked merely as a tool. *Customedia Techs., LLC v. DISH Network Corp.*, 951 F.3d 1359, 1364 (Fed. Cir. 2020) (citing *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018)). We have

routinely held software claims patent eligible under *Alice* step one when they are directed to improvements to the functionality of a computer or network platform itself.

In *DDR Holdings, LLC v. Hotels.com, L.P.*, for example, we held patent eligible claims directed to a system for generating a hybrid web page that maintained the "look and feel" of a host website. 773 F.3d 1245, 1257–59 (Fed. Cir. 2014). We emphasized that in "overcom[ing] a problem specifically arising in the realm of computer networks," the claimed invention changed the normal operation of the computer network itself and was "necessarily rooted in computer technology." *Id.* at 1257–58. Similarly, in *Enfish, LLC v. Microsoft Corp.*, we held patent eligible claims directed to a self-referential database that improved the way computers operated and handled data, allowing the more efficient launching and adaptation of databases. 822 F.3d 1327, 1336–39 (Fed. Cir. 2016). And in *Visual Memory LLC v. NVIDIA Corp.*, we held patent eligible claims "focus[ed] on a 'specific asserted improvement in computer capabilities,'" namely the accommodation of different types of processors without compromising performance. 867 F.3d 1253, 1259–60 (Fed. Cir. 2017). In holding the claims patent eligible, we noted that the claims were not directed to categorical data storage but rather were limited to certain types of data to be stored. *Id.*

In *Ancora Technologies, Inc. v. HTC America, Inc.*, we held patent eligible claims directed to a non-abstract improvement to computer security. 908 F.3d 1343, 1347–49 (Fed. Cir. 2018). We determined the claims addressed the "vulnerability of license-authorization software to hacking" and were thus "directed to a solution to a computer-functionality problem." *Id.* at 1349; *see also Finjan*, 879 F.3d at 1304–06 (holding that claims to a "behavior-based virus scan" provided greater computer security and were thus directed to a patent-eligible improvement in computer functionality). In *Data Engine Technologies LLC v. Google*

LLC, we held patent eligible claims reciting "a specific method for navigating through three-dimensional electronic spreadsheets" because the claimed invention "improv[ed] computers' functionality as a tool able to instantly access all parts of complex three-dimensional electronic spreadsheets." 906 F.3d 999, 1007–08 (Fed. Cir. 2018). And in *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, we held patent eligible claims directed to an improved user interface that enabled users to more quickly access stored data and programs in small-screen electronics. 880 F.3d 1356, 1359–63 (Fed. Cir. 2018). We determined that the claimed invention in *Core Wireless* "improve[d] the efficiency of using the electronic device by bringing together a limited list of common functions and commonly accessed stored data, which can be accessed directly from the main menu." *Id.* at 1363. We therefore held that "the claims [we]re directed to an improvement in the functioning of computers, particularly those with small screens." *Id.*

In accordance with this precedent, we hold the claims at issue are directed to a patent-eligible improvement to computer functionality, namely the reduction of latency experienced by parked secondary stations in communication systems. Claim 2 of the '049 patent recites a primary station for use in a communication system "wherein means are provided for . . . adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station." '049 patent at Claim 2. The additional data field enables a primary station to simultaneously send inquiry messages and poll parked secondary stations. *Id.* at Abstract. The claimed invention therefore eliminates or reduces the delay present in conventional systems where the primary station alternates between polling and sending inquiry messages. *See, e.g.*, *id.* at 2:8–15, 6:55–60. Therefore, like the claims in *DDR*, the claimed invention changes the normal operation of the communication system itself to "overcome a problem specifically arising in the realm of computer networks." *See* 773 F.3d at

1257–58. In doing so, the claimed invention, like the improvement in computer memory we held patent eligible in *Visual Memory*, enables the communication system to accommodate additional devices, such as battery-operated secondary stations, without compromising performance. *See* 867 F.3d at 1258–60.

LG does not dispute that reducing latency experienced by parked secondary stations in conventional communication systems is a patent-eligible improvement to computer functionality. Instead, it contends that the claims are not sufficiently directed to this purported improvement. It argues the claims merely recite the observation that conventional inquiry messages can accommodate conventional polling "using result-based functional language" and generic Bluetooth components. LG therefore contends that the district court correctly analogized to the abstract "data manipulation" claims we held ineligible in prior cases. We do not agree.

The district court's reliance on our prior cases is misplaced. In *Digitech*, the claims recited "a process of taking two data sets and combining them into a single data set," called a device profile. 758 F.3d at 1351. Although the claimed device profile could purportedly be used in reducing image distortion, merely generating the claimed device profile did not alone reduce image distortion or otherwise improve image processing. *Id.* at 1347–48. The claims were not directed to a patent-eligible technological improvement but rather recited "the ineligible abstract idea of gathering and combining data that does not require input from a physical device." *Id.* at 1351.

The claims we held ineligible in *Two-Way Media* similarly failed to concretely capture any improvement in computer functionality. In *Two-Way Media*, the claims recited a method of transmitting packets of information over a communications network comprising: converting information into streams of digital packets; routing the streams

to users; controlling the routing; and monitoring the reception of packets by the users. 874 F.3d at 1334. Two-Way Media argued that the claims solved data transmission problems, including load management and bottlenecking, but the claimed method was not directed to those improvements. *Id.* at 1336–37. We therefore held the claims ineligible because they merely recited a series of abstract steps ("converting," "routing," "controlling," "monitoring," and "accumulating records") using "result-based functional language" without the means for achieving any purported technological improvement. *Id.* at 1337.

The claims at issue do not merely recite generalized steps to be performed on a computer using conventional computer activity. Instead, they are directed to "adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station." *See, e.g.*, '049 patent at Claim 2. And this change in the manner of transmitting data results in reduced response time by peripheral devices which are part of the claimed system. As the patent explains, for secondary stations joining a piconet in the prior art systems, "it could take half a minute or more from the time a user moves a mouse to a cursor moving on a screen." *Id.* at 2:10–12. Because polling was "suspended during this cycle, for up to 10.24 seconds at a time," parked secondary stations in prior art systems could experience similar delays after each period of inactivity. *Id.* at 2:13–16. The claimed addition of a data field for polling to the inquiry message significantly reduces the response time, enabling secondary stations to respond a fraction of a second later. *See, e.g.*, '049 patent at 5:36–41. Even LG concedes that this reduction in latency "is the very reason for polling during the inquiry process in the first place." Appellees' Br. 54 (citing, *e.g.*, J.A. 1375–77, 1394). To the extent LG argues that the claims themselves must expressly mention the reduced latency achieved by the claimed system, LG is in error. Claims need not articulate the advantages of the

claimed combinations to be eligible. We conclude that the claims at issue are not directed to the abstract idea of performing additional polling in wireless communication systems or performing additional polling using inquiry messages. These claims are directed to a specific asserted improvement to the functionality of the communication system itself.

The claimed invention's compatibility with conventional communication systems does not render it abstract. Nor does the fact that the improvement is not defined by reference to "physical" components. *Enfish*, 822 F.3d at 1339. "To hold otherwise risks resurrecting a bright-line machine-or-transformation test, or creating a categorical ban on software patents." *Id.* (citations omitted). Our precedent is clear that software can make patent-eligible improvements to computer technology, and related claims are eligible as long as they are directed to non-abstract improvements to the functionality of a computer or network platform itself. *See Customedia Techs.*, 951 F.3d at 1364 (collecting cases). The claims of the '049 patent recite a specific improvement in the functionality of the communication system itself, namely the reduction of latency experienced by parked secondary stations. This is sufficient to pass muster under *Alice* step one. Because we hold the claims patent eligible under *Alice* step one, we need not proceed to the second step of *Alice*. *Visual Memory*, 867 F.3d at 1262.

CONCLUSION

We have considered LG's remaining arguments and find them unpersuasive. For the foregoing reasons, we conclude that the claims of the '049 patent are not directed to patent-ineligible subject matter under § 101 and therefore reverse and remand the district court's decision.

REVERSED AND REMANDED