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Paper 54
Entered: October 15, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

IPA TECHNOLOGIES INC.,
Patent Owner.

IPR2019-00733
Patent 7,036,128 B1

Before KEN B. BARRETT, TREVOR M. JEFFERSON, and BART A. GERSTENBLITH, *Administrative Patent Judges*.

BARRETT, Administrative Patent Judge.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background and Summary

Google LLC ("Petitioner")[1] filed a Petition requesting *inter partes* review of U.S. Patent No. 7,036,128 B1 ("the '128 patent," Ex. 1001). Paper 1 ("Pet."). The Petition challenges the patentability of claims 1–12, 20, and 21 of the '128 patent. We instituted an *inter partes* review of all challenged claims on all proposed grounds of unpatentability. Paper 13, 38. IPA Technologies, Inc. ("Patent Owner")[2] filed a Response to the Petition. Paper 36 ("PO Resp."). Petitioner filed a Reply (Paper 46, "Pet. Reply") and Patent Owner filed a Sur-reply (Paper 50, "PO Sur-reply"). An oral hearing was held on June 4, 2020, and a transcript of the hearing is included in the record. Paper 53 ("Tr.").

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–12, 20, and 21 of the '128 patent are unpatentable.

B. Related Proceedings

One or both parties identify, as matters involving or related to the '128 patent, *IPA Technologies Inc. v. Google LLC*, No. 1:18-cv-00318 (D. Del. Feb. 26, 2018); *IPA Technologies Inc. v. Microsoft Corp.*, No. 1:18-cv-00001 (D. Del. Jan. 2, 2018); *IPA Technologies Inc. v. Amazon.com, Inc.*

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[1] Petitioner identifies Google LLC as the real party-in-interest. Pet. 2.
[2] Patent Owner identifies as the real party-in-interest "Patent Owner, IPA Technologies Inc., which is a wholly owned subsidiary of Wi-LAN Technologies Inc. . . . , which is a wholly owned subsidiary of Wi-LAN Inc. . . . , which is a wholly owned subsidiary of Quarterhill Inc." Paper 4, 2; Paper 12, 2.

et al., No. 1:16-cv-01266 (D. Del. Dec. 19, 2016); and Patent Trial and Appeal Board cases *Google LLC v. IPA Technologies Inc.*, IPR2019-00734, IPR2019-00735, and IPR2019-00736, and *Microsoft Corporation v. IPA Technologies Inc.*, IPR2019-00838, IPR2019-00839, and IPR2019-00840. Pet. 2; Paper 4, 2; Paper 12, 2.

C. The '128 Patent

The '128 patent is titled "Using a Community of Distributed Electronic Agents to Support a Highly Mobile, Ambient Computing Environment" and describes "software-based architectures for communication and cooperation among distributed electronic agents to incorporate elements such as GPS or positioning agents and speech recognition into a highly mobile computing environment." Ex. 1001, code (54), 1:23–27. Figure 4 of the '128 patent is reproduced below.

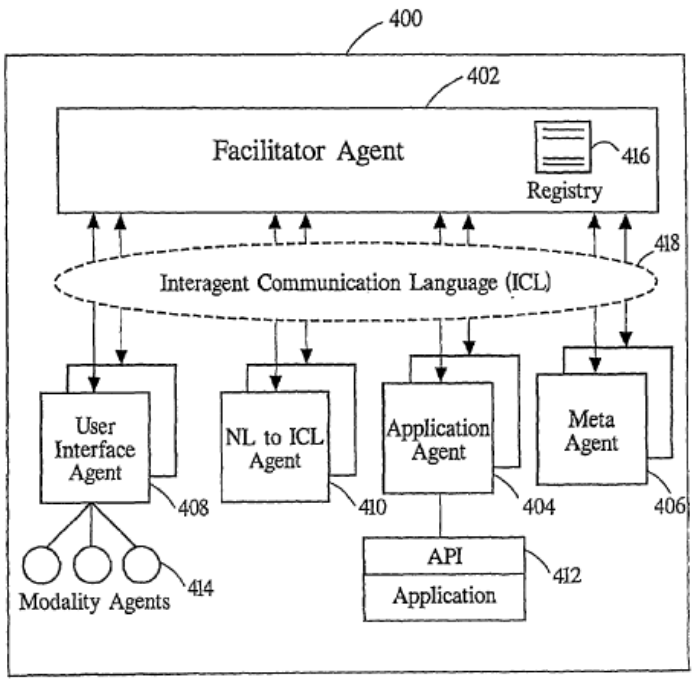

Fig. 4

Figure 4 depicts the structure of an exemplary distributed agent system of the '128 patent. *Id.* at 6:47–52. Figure 4 shows that system 400 includes

facilitator agent 402, user interface agents 408, application agents 404, and meta-agents 406. *Id.* The '128 patent explains that system 400 is organized "as a community of peers by their common relationship" to facilitator agent 402 (*id.* at 6:50–52), which is "a specialized server agent that is responsible for coordinating agent communications and cooperative problem-solving" (*id.* at 6:54–57).

The '128 patent discloses that cooperation among agents is structured around a three-part approach as follows: (1) providers of services register their capabilities specifications with a facilitator; (2) requesters of services construct goals and relay them to a facilitator; and (3) the facilitator coordinates the efforts of the appropriate service providers in satisfying these goals. *Id.* at 10:65–11:6. Such cooperation among agents is achieved via messages expressed in a common language, called the Interagent Communication Language ("ICL"). *Id.* at 10:66–11:1, 7–13.

Referencing Figures 3 and 4, the '128 patent describes a preferred embodiment for the operation of a distributed agent system. *Id.* at 7:34–60. The '128 patent describes that, when invoked, a client agent makes a connection to a facilitator and registers with the facilitator a specification of the capabilities and services it can provide. *Id.* For example, a natural language agent may register the characteristics of its available natural language vocabulary. *Id.* When facilitator agent 402 receives a service request and determines that registered services 416 of one of its client agents will help satisfy a goal of the request, the facilitator sends that client a request expressed in ICL 418. *Id.* at 7:46–55. The client agent parses this request, processes it, and returns answers or status reports to the facilitator. *Id.*

Referencing Figures 5 and 6, the '128 patent describes an exemplary embodiment where user interface agent 408 runs on a user's laptop, accepts user input, sends requests to facilitator agent 402 for delegation to appropriate agents, and displays the results of the distributed computation. *Id.* at 8:7–24. The '128 patent illustrates that, when the question "What is my schedule?" is entered on user interface (UI) 408, UI 408 sends the request to facilitator agent 402, which in turn asks natural language (NL) agent 426 to translate the query into ICL. *Id.* at 8:25–37. The translated ICL expression is then routed by facilitator agent 402 to appropriate agents, e.g., calendar agent 434, to execute the request. *Id.* Finally, results are sent back to UI agent 408 for display. *Id.*

The '128 patent also describes an embodiment directed to mobile users, such as those in a car. *Id.* at 30:23–54. According to the '128 patent, "the present invention enables intelligent collaboration among agents including user interface agents for providing an ambient interface well suited for the mobile environment . . . , as well as location-aware agents providing current positional information through technologies such as Global Positioning System ('GPS')." *Id.* at 30:37–43. The '128 patent explains that "[n]ew technology such as Global Positioning System (GPS), wireless phones, wireless internet, and electronic controls are currently available in cars to improve the way people drive and manage the time spent in automobiles." *Id.* at 30:47–50. The '128 patent states that the disclosed invention "manages this heavy flow of data and keeps the cognitive load as low as possible for the driver" by providing a speech-enabled touchscreen device. *Id.* at 30:50–54.

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