IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

IPA TECHNOLOGIES, INC., Plaintiff, v. AMAZON.COM, INC., and AMAZON DIGITAL SERVICES, LLC, Defendants.	Civil Action No. 16-1266-RGA
IPA TECHNOLOGIES, INC., Plaintiff, v. MICROSOFT CORPORATION, Defendant.	Civil Action No. 18-01-RGA
IPA TECHNOLOGIES, INC., Plaintiff, v. GOOGLE LLC, Defendant.	Civil Action No. 18-318-RGA

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

Presently before the Court is Defendants' Motion to Dismiss Pursuant to Federal Rule of Civil Procedure 12(b)(6). (D.I. 35). The issues are fully briefed. (D.I. 36, 37, 45). The Court held oral argument on November 16, 2018.[1] (D.I. 51). For the reasons that follow, the Court grants Defendants' motion to dismiss as to the '021 patent, '061 patent, and '718 patent and denies Defendants' motion to dismiss the claims of infringement of the '115 patent, the '128 patent, and the '560 patent.

I. BACKGROUND

Plaintiff IPA Technologies ("Plaintiff") filed suit on December 19, 2016 alleging Defendants Amazon.com and Amazon Digital Services ("Defendants") infringe U.S. Patent Nos. 6,742,021 ("the '021 patent"), 6,523,061 ("the '061 patent"), and 6,757,718 ("the '718 patent") owned by Plaintiff (collectively "the Halverson patents"). (D.I. 1). On March 31, 2018, the Court granted Defendants' first Motion to Dismiss without prejudice as to claim 1 of the '021 patent, claim 1 of the '061 patent, and claim 1 of the '718 patent, and otherwise denied the motion. (D.I. 30, 31). On April 11, 2018, Plaintiff filed an amended complaint, reasserting these claims and asserting new claims that Defendants infringe U.S Patent Nos. 6,851,115 ("the '115 patent"), 7,069,560 ("the '560 patent"), and 7,036,128 ("the '128 patent") (collectively, "the Cheyer patents"). (D.I. 33). Defendants filed a motion to dismiss the claims for infringement of the six asserted patents as invalid under 35 U.S.C. § 101. (D.I. 35). The asserted Halverson patents are generally directed to navigating an electronic data source by means of spoken

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[1] On January 1, 2018, Plaintiff filed suit asserting the same patents against Microsoft Corporation. (C.A. No. 18-01-RGA, D.I. 1). On February 26, 2018, Plaintiff filed suit asserting the same patents against Google LLC. (C.A. No. 18-318-RGA, D.I. 1). In these related cases, Defendants Microsoft Corporation and Google LLC have filed Motions to Dismiss and provided additional briefing. (C.A. No. 18-01, D.I. 17, 18, 19, 30; C.A. No. 18-318, D.I. 10, 11, 16, 22). Defendant Google solely moved to dismiss the claims of the '021, '061, and '718 patents. (C.A. No. 18-318, D.I. 18). Oral argument included presentations from the Amazon defendants, Microsoft, and Google. All docket item references in this opinion refer to C.A. No. 16-1266 unless otherwise specified.

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language. ('021 patent, Abstract). The Halverson patents share a common specification. (D.I. 37 at 7-8).

Claim 1 of the '021 patent reads:

1. A method for speech-based navigation of an electronic data source, the electronic data source being located at one or more network servers located remotely from a user, comprising the steps of:

  (a) receiving a spoken request for desired information from the user;

  (b) rendering an interpretation of the spoken request;

  (c) constructing at least part of a navigation query based upon the interpretation;

  (d) soliciting additional input from the user, including user interaction in a non-spoken modality different than the original request without requiring the user to request said non-spoken modality;

  (e) refining the navigation query, based upon the additional input;

  (f) using the refined navigation query to select a portion of the electronic data source; and

  (g) transmitting the selected portion of the electronic data source from the network server to a client device of the user.

('021 patent, claim 1). Claim 1 of the '061 patent reads:

1. A method for utilizing agents for speech-based navigation of an electronic data source, comprising the steps of:

  (a) receiving a spoken request for desired information from a user;

  (b) rendering an interpretation of the spoken request;

  (c) constructing a navigation query based upon the interpretation;

  (d) routing the navigation query to at least one agent, wherein the at least one agent utilizes the navigation query to select a portion of the electronic data source; and

  (e) invoking a user interface agent for outputting the selected portion of the electronic data source to the user, wherein a facilitator manages data flow among multiple agents and maintains a registration of each of said agents' capabilities.

('061 patent, claim 1). Claim 1 of the '718 patent reads:

1. A method for speech-based navigation of an electronic data source located at one or more network servers located remotely from a user, wherein a data link is established between a mobile information appliance of the user and the one or more network servers, comprising the steps of:

>   (a) receiving a spoken request for desired information from the user utilizing the mobile information appliance of the user, wherein said mobile information appliance comprises a portable remote control device or a set-top box for a television;
>
>   (b) rendering an interpretation of the spoken request;
>
>   (c) constructing a navigation query based upon the interpretation;
>
>   (d) utilizing the navigation query to select a portion of the electronic data source; and
>
>   (e) transmitting the selected portion of the electronic data source from the network server to the mobile information appliance of the user.

('718 patent, claim 1).

The asserted Cheyer patents are generally directed to a software "architecture support[ing] cooperative task completion by flexible and autonomous electronic agents." ('115 patent, Abstract). The Cheyer patents share a "nearly identical" specification. (D.I. 36 at 8).

Claim 61 of the '115 patent reads:

61. A facilitator agent arranged to coordinate cooperative task completion within a distributed computing environment having a plurality of autonomous service-providing electronic agents, the facilitator agent comprising:

an agent registry that declares capabilities of service-providing electronic agents currently active within the distributed computing environment; and

a facilitating engine operable to parse a service requesting order to interpret a compound goal set forth therein, the compound goal including both local and global constraints and control parameters, the service request formed according to an Interagent Communication Language (ICL), wherein the ICL includes

>   a layer of conversational protocol defined by event types and parameter lists associated with one or more of the events, wherein the parameter lists further refine the one or more events; and
>
>   a content layer comprising one or more of goals, triggers, and data elements associated with the events; and

the facilitating engine further operable to construct a goal satisfaction plan by using reasoning that includes one or more of domain-independent coordination strategies,

domain-specific reasoning, and application-specific reasoning comprising rules and learning algorithms.

('061 patent, claim 61). Claim 52 of the '560 patent reads:

> 52. A computer implemented process for providing coordinated task completion within a distributed computing environment, the distributed computing environment including a plurality of autonomous electronic agents, the computer implemented method comprising the steps of:
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>> providing at least one agent registry including the capabilities of service providing electronic agents;
>>
>> interpreting a service request in the form of a base goal, the service request being in a interagent communication language (ICL), the ICL including a layer of conversational protocol defined by event types and parameter lists associated with one or more of the events, wherein the Parameter lists further refine the one or more events;
>>
>> determining a plurality of sub goals necessary to accomplish the base goal;
>>
>> selecting from said registry at least one service providing agent capable of completing said sub goals;
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>> delegating at least one sub goal as a peer to peer service request directly from a service requesting agent to a service providing agent; and
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>> delegating any remaining sub goals as service request in the interagent communication language to the selected agents capable of completing the remaining sub-goals.

('560 patent, claim 52). Claim 1 of the '128 patent reads:

> 1. A collaborative computer-implemented community of distributed electronic agents, organized to provide a mobile computing environment, the computer-implemented community of distributed electronic agents comprising:
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>> An agent registry wherein one or more capabilities of each of the electronic agents are registered in the form of an interagent communication language (ICL), wherein the interagent language includes a layer of conversational protocol defined by event types and parameter lists associated with one or more events, and wherein the parameter lists further refine the one or more events;
>>
>> a facilitator agent arranged to coordinate cooperative task completion among the electronic agents by delegating one or more received ICL goals to a selected one or more of the electronic agents based upon the registered capabilities of the selected agents;

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one or more service-providing electronic agents, being in bi-directional communication with the facilitator agent, including at least one location agent operable to ascertain a current physical location of a user; and

one or more computer interface agents being in bi-directional communication with the facilitator agent, the mobile computer interface agents being operable to process at least one mobile user input type and to responsively generate and present to the facilitator agent one or more ICL goals corresponding to the user's desired request.

('128 Patent, claim 1).

On May 29, 2018, Plaintiff submitted proposed claim constructions for purposes of Defendants' motion to dismiss. (D.I. 44-8). They are:

Claim Term	Plaintiff's Proposed Construction
rendering an interpretation of the spoken request	processing the spoken request to understand it by performing speech recognition to process voice data into a text stream of recognized words, and performing natural language processing to parse the text to determine the meaning of the user's request
constructing at least part of a navigation query based upon the interpretation / constructing navigation query based upon the interpretation	identifying an electronic network data source where user-desired information can be found and automatically creating (at least part of) an operational data request based on the interpretation of the user's request that is structured appropriately to retrieve user-desired information from the electronic network data source(s)

(*Id.*). For the purposes of this motion, I adopt Plaintiff's proposed constructions.[2]

II. LEGAL STANDARD

A. Motion to Dismiss

Rule 8 requires a complainant to provide "a short and plain statement of the claim showing that the pleader is entitled to relief . . . ." Fed. R. Civ. P. 8(a)(2). Rule 12(b)(6) allows

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[2] Defendant Google asserts Plaintiff is collaterally estopped from asserting new constructions for terms in the Halverson patents after it proposed differing constructions in *IPA Tech., Inc. v. Amazon.com Inc.*, 307 F. Supp. 3d 356, 360 (D. Del. 2018). (C.A. 18-318, D.I. 22 at 7). Collateral estoppel does not apply here because my previous opinion was not a final disposition on the merits. Rather, I dismissed Plaintiff's claims without prejudice, and granted Plaintiff leave to amend its complaint.

the accused party to bring a motion to dismiss the claim for failing to meet this standard. A Rule 12(b)(6) motion may be granted only if, accepting the well-pleaded allegations in the complaint as true and viewing them in the light most favorable to the complainant, a court concludes that those allegations "could not raise a claim of entitlement to relief." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 558 (2007). The Federal Circuit follows regional circuit law for motions to dismiss. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1346 (Fed. Cir. 2014), *cert. denied*, 136 S. Ct. 119 (2015).

"Though 'detailed factual allegations' are not required, a complaint must do more than simply provide 'labels and conclusions' or 'a formulaic recitation of the elements of a cause of action.'" *Davis v. Abington Mem'l Hosp.*, 765 F.3d 236, 241 (3d Cir. 2014) (quoting *Twombly*, 550 U.S. at 555). I am "not required to credit bald assertions or legal conclusions improperly alleged in the complaint." *In re Rockefeller Ctr. Props., Inc. Sec. Litig.*, 311 F.3d 198, 216 (3d Cir. 2002). A complaint may not be dismissed, however, "for imperfect statement of the legal theory supporting the claim asserted." *See Johnson v. City of Shelby*, 135 S. Ct. 346, 346 (2014).

A complainant must plead facts sufficient to show that a claim has "substantive plausibility." *Id.* at 347. That plausibility must be found on the face of the complaint. *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). "A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Id.* Deciding whether a claim is plausible will "be a context-specific task that requires the reviewing court to draw on its judicial experience and common sense." *Id.* at 679.

B. Patentable Subject Matter under 35 U.S.C. § 101

Section 101 of the Patent Act defines patent-eligible subject matter. It provides: "Whoever 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 therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. The Supreme Court has recognized an implicit exception for three categories of subject matter not eligible for patentability—laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). The purpose of these carve outs is to protect the "basic tools of scientific and technological work." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012). "[A] process is not unpatentable simply because it contains a law of nature or a mathematical algorithm," as "an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." *Id.* at 71 (emphasis omitted). In order "to transform an unpatentable law of nature into a patent-eligible application of such a law, one must do more than simply state the law of nature while adding the words 'apply it.'" *Id.* at 72 (emphasis omitted).

The Supreme Court recently reaffirmed the framework laid out in *Mayo* "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. First, the court must determine whether the claims are drawn to a patent-ineligible concept. *Id.* If the answer is yes, the court must look to "the elements of the claim both individually and as an 'ordered combination'" to see if there is an "'inventive concept'—*i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* (alteration in original).

"A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* at 2357 (alterations in original) (quoting *Mayo*, 566 U.S. at 77). "[S]imply appending conventional steps, specified at a high level of generality, to . . . abstract ideas cannot make those . . . ideas patentable." *Mayo*, 566 U.S. at 82. Further, "the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment." *Alice*, 134 S. Ct. at 2358 (quoting *Bilski v. Kappos*, 561 U.S. 593, 610-11 (2010)). Thus, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Id.* For this second step, the machine-or-transformation test can be a "useful clue," although it is not determinative. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014), *cert. denied*, 135 S. Ct. 2907 (2015).

Patent eligibility under § 101 is a question of law suitable for resolution on a motion to dismiss. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015); *Content Extraction*, 776 F.3d at 1346. At *Alice* Step Two, however, "[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018); *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1126-27 (Fed. Cir. 2018). Therefore, plausible factual allegations in the complaint may create a dispute of fact as to whether an inventive concept exists under *Alice* Step Two.[3]

However, at the motion to dismiss stage, factual allegations in the complaint which contradict the specification or the claims need not be credited as true under the Rule 12(b)(6)

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[3] In denying rehearing en banc, Judge Moore states, "*Berkheimer* and *Aatrix* stand for the unremarkable proposition that whether a claim element or combination of claim elements would have been well-understood, routine and conventional to a skilled artisan in the relevant field at a particular point in time is a question of fact." *Berkheimer v. HP, Inc.*, 890 F.3d 1369, 1370 (Fed. Cir. 2018) (denial of rehearing en banc).

analysis. *See Aatrix*, 882 F.3d at 1125 ("plausible factual allegations may preclude dismissing a case under § 101 where, for example, nothing on the record refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6)") (quoting *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016)); *see also Berkheimer*, 881 F.3d at 1369 ("improvements in the specification, *to the extent . . . captured in the claims*, create a factual dispute") (emphasis added). "In a situation where the specification admits the additional claim elements are well-understood, routine, and conventional, it will be difficult, if not impossible, for a patentee to show a genuine dispute." *Berkheimer v. HP Inc.*, 890 F.3d 1369, 1371 (Fed. Cir. 2018) (Moore, J.) (denial of rehearing en banc). Therefore, factual allegations in the complaint that claim elements are not well-understood, routine or conventional are not taken as true where they contradict admissions in the specification or the claims themselves.

The Federal Circuit has held that the district court is not required to individually address claims not asserted or identified by the non-moving party, so long as the court identifies a representative claim and "all the claims are substantially similar and linked to the same abstract idea." *Id.* at 1348.

III.   DISCUSSION

A. Procedural Posture

Defendants ask this Court to invalidate all claims in the Halverson and Cheyer patents as patent ineligible under 35 U.S.C. § 101.[4] Plaintiff argues that Defendant must establish ineligibility for every claim of the patents. (D.I. 37 at 16). As discussed above, however, the district court is not required to individually address claims not asserted or identified by the non-moving party, so long as the court identifies a representative claim and "all the claims are

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[4] Defendant Google has only filed a motion to dismiss those claims asserting the Halverson patents. (C.A. 18-318, D.I. 18).

substantially similar and linked to the same abstract idea." *Content Extraction*, 776 F.3d at 1348. Plaintiff only specifically asserts one claim from each patent. (D.I. 33 ¶¶ 181, 206, 229, 253, 266, 282). Moreover, Defendants argue that the asserted claims are representative of the remainder of the claims in the asserted patents and that all claims are directed to the same abstract idea. (D.I. 36 at 14-16, 21-23; C.A. 18-318, D.I. 11 at 11-12 (addressing those claim groupings specifically identified by Plaintiff at previous oral argument); C.A. 18-01, D.I. 18 at 17-18). Plaintiff's sole response to these assertions is to characterize these sections of the brief as "attorney argument." (D.I. 37 at 16; C.A. 18-01, D.I. 19 at 19; C.A. 18-318, D.I. 16 at 16). Plaintiff has failed to identify any claims that are not represented by the asserted claims of the patents. Defendants have made a sufficient showing that the claims of each patent are substantially similar and linked to the same abstract idea. Therefore, the Court will treat the asserted claims as representative of all the claims of their respective patents.

B. Patentable Subject Matter

1. Abstract Idea

"First, we determine whether the claims at issue are directed to [an abstract idea]." *Alice*, 134 S. Ct. at 2355. "The 'abstract ideas' category embodies 'the longstanding rule that an idea of itself is not patentable.'" *Id.* (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). "The Supreme Court has not established a definitive rule to determine what constitutes an 'abstract idea' sufficient to satisfy the first step of the *Mayo/Alice* inquiry." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016). The Supreme Court has recognized, however, that "fundamental economic practice[s]," *Bilski*, 561 U.S. at 611, "method[s] of organizing human activity," *Alice*, 134 S. Ct. at 2356, and mathematical algorithms, *Benson*, 409 U.S. at 64, are abstract ideas. In navigating the parameters of such categories, courts have generally sought to

"compare claims at issue to those claims already found to be directed to an abstract idea in previous cases." *Enfish*, 822 F.3d at 1334. "[S]ome improvements in computer-related technology when appropriately claimed are undoubtedly not abstract." *Id.* at 1335. "[I]n determining whether the claims are directed to an abstract idea, we must be careful to avoid oversimplifying the claims because '[a]t some level, all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.'" *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (alterations in original) (quoting *Alice*, 134 S. Ct. at 2354).

a. Halverson Patents

Defendants argue that the Halverson patents are directed to the abstract idea of "retrieving electronic data in response to a spoken request and transmitting the retrieved data to a user." (D.I. 36 at 6). Plaintiff counters that the asserted patents "claim specific technologic processes to improve computer-user interfaces and solve problems of prior systems to improve the functioning of systems and methods for navigating electronic databases based on spoken inputs."[5] (D.I. 37 at 13). For the reasons stated in my previous opinion and those stated below, I conclude that the Halverson patents are directed to the abstract idea of retrieving data in response to a spoken request and transmitting the retrieved data to a user.

First, Plaintiff has not cited to any case altering the previous analysis of the Halverson patents. Plaintiff argues that recent Federal Circuit cases recognizing "that specific technologic modifications to solve a problem or improve the functioning of a known system generally

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[5] Defendants argue that Plaintiff is collaterally estopped from arguing that the Halverson patents are not directed to an abstract idea. (D.I. 36 at 11-12). They are incorrect. Plaintiff is not estopped from asserting that the Halverson patents are patent eligible. My previous order was not a final judgment on the merits, as it was without prejudice and with leave to amend. Moreover, Plaintiff's previous voluntary dismissal in another case does not transform the Court's previous order into a final judgment. *See, e.g., Camesi v. Univ. of Pittsburgh Med. Ctr*, 729 F.3d 239, 244-45 (3d Cir. 2013).

produce patent-eligible subject matter" require a holding that the Halverson patents are not directed to an abstract idea. (D.I. 37 at 13-14 (quoting *Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001, 1004-05 (Fed. Cir. 2017)). In Plaintiff's view, the Halverson patents "require specific steps that taken as a whole are directed to improved computer-user interfaces and solve technological problems with technology solutions." (D.I. 37 at 14). Plaintiff points to several cases that it argues support a determination that the Halverson patents are not directed to an abstract idea. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (claims were "necessarily rooted in computer technology" and "[overcame] a problem specifically arising in the realm of computer networks"); *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348-49 (Fed. Cir. 2017) (claims specified a particular configuration of the sensors and a particular method of utilizing the raw data that eliminated complications inherent in conventional methods); *Visual Mem. LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017) (claims did not claim merely the abstract idea of data storage, but rather an invention that provided flexibility prior art processors did not possess, "obviat[ing] the need to design a separate memory system for each type of processor."); *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018) ("claims are directed to a particular manner of summarizing and presenting information in electronic devices").

However, the claims at issue are distinguishable from those in the cases cited by Plaintiff. Unlike *DDR Holdings*, where the patent claims specified how interactions with the internet are manipulated to yield a desired result, 773 F.3d at 1258, or *Thales*, where the claims were "directed to systems and methods that use inertial sensors in a non-conventional manner to reduce errors," 850 F.3d at 1349-50, the Halverson patents merely recite conventional steps required to navigate an electronic database and recite conventional technology to implement

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these steps. Moreover, unlike *Core Wireless*, where the patent claims were "directed to a particular manner of summarizing and presenting information in electronic devices," 880 F.3d at 1362, and *Data Engine Techs. LLC v. Google LLC*, where the claims "recite[d] a 'specific' and 'particular' manner of navigating a three-dimensional spreadsheet," 906 F.3d 999, 1009 (Fed. Cir. 2018), "the asserted claims are . . . drafted so broadly as to cover *any* method that can achieve navigating electronic databases by spoken natural input." *IPA Techs. Inc. v. Amazon.com, Inc.*, 307 F. Supp. 3d 356, 364 (D. Del. 2018) (emphasis added). The claims of the Halverson patents therefore do not recite a particular manner of achieving the functional goal.

Additionally, unlike *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017), where the patent claims contained specific limitations to avoid claiming "all types and all forms of categorical data storage," the claims of the Halverson patents do not recite any specific limitation that renders the claims patentable. *See IPA Techs.*, 307 F. Supp. 3d at 364-66 (discussing various claim limitations and finding no claim limitation sufficient "to tie the claims to a specific improvement in technology or a technological solution to an identified problem").

Therefore, none of these cases alter my previous conclusion that the claims of the Halverson patents "employ broad functional terms to claim systems and methods of delivering content to users, 'without providing any limiting detail that confines the claim[s] to a particular solution to an identified problem.'" *Id.* at 366 (quoting *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1269 (Fed. Cir. 2016)). Nor do these cases invalidate the conclusion that "[r]ather than claiming a technological solution to the problem, however, the asserted claims are directed to the objective of the invention itself." *IPA Techs.*, 307 F. Supp. 3d at 364. As I previously stated, the goal of the invention is identified in the specification: "Allowing spoken natural language requests as the input modality for rapidly searching and accessing desired

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content." *See id.* (quoting '021 patent at 1:37-41). The claims are "drafted so broadly as to cover any method that can achieve navigating electronic databases by spoken natural language input—they recite, at a very high level of generality, the basic steps that would be required." *Id.*

Second, Plaintiff's new factual pleadings in its amended complaint cannot contradict the specification and language of the claims themselves. Plaintiff now asserts that "the '021 Patent addresses improvements to handling errors and ambiguities that arise from a spoken request for electronically stored database information" by reciting a method that "upon the emergence of error or ambiguities in the interpretation of the spoken natural language input, the system solicits additional input from the user: (1) in a non-spoken modality, (2) that is different from the original request, (3) without requiring the user to request the non-spoken modality." (D.I. 37 at 15). However, this does nothing more than recite language in claim 1 of the '021 patent that I have already considered and determined is directed to the abstract idea.[6] *IPA Techs.*, 307 F. Supp. 3d at 364 n.2). Plaintiff has not pled any facts that would alter my previous opinion:

> the claims here are 'aspirational in nature and devoid of any implementation
> details or technical description that would permit [me] to conclude that the claim
> as a whole is directed to something other than the abstract idea' of retrieving
> electronic data in response to a spoken request, and transmitting the retrieved data
> to a user.

Id. at 369 (quoting *Move, Inc. v. Real Estate Alliance Ltd.*, 721 F. App'x 950, 954 (Fed. Cir. 2018).

b. Cheyer Patents

Defendants (other than Google) argue that the Cheyer patents are directed to an abstract idea. The Amazon defendants allege that the Cheyer patents are directed to the abstract idea of

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[6] Plaintiff also alleges that the '061 patent "teaches a particular type of electronic architecture that improves the functioning of the computer itself" and the '718 patent "utilize[s] distinct elements . . . that are not part of the '021 or '061 patents." (D.I. 37 at 15 n.4). However, these arguments were previously presented and rejected.

"breaking tasks down and delegating them to appropriate actors." (D.I. 36 at 17). Defendant Microsoft asserts that the abstract idea is "retrieving electronic data in response to a request." (C.A. 18-01, D.I. 18 at 7). Plaintiff counters that the Cheyer patents "are directed to specific technologic processes to overcome the shortcomings of prior art systems with improvements to software architecture in distributed computing environments that advance computer-user interfaces over the then-existing state of the art and improve the computer's ability to complete tasks for users." (D.I. 37 at 18). For the reasons stated below, I conclude that the Cheyer patents are not directed to an abstract idea.

Improvements to efficiency and scalability in task completion in distributed computing environments "can be a non-abstract computer-functionality improvement if done by a specific technique that departs from earlier approaches to solve a specific computer problem." *Ancora Techs., Inc. v. HTC America, Inc.*, 908 F.3d 1343, 1348 (Fed. Cir. 2018) (citing *Finjan*, 879 F.3d at 1304-05). The Cheyer patents describe a specific software architecture that employs facilitators for delegation and coordination, construction of arbitrarily complex goals, an expandable inter-agent communication language, service-providing agents and a distributed process where no single agent defines the set of possible inputs. ('115 patent col. 5:3-9, col. 8:40-55). Moreover, the Cheyer patents "expressly disclose and claim inventive improvements over then-existing OAA technology." (D.I. 37 at 21). For example, the specification of the '115 patent states, "The agent library preferably minimizes the effort required to construct a new system and maximizes the ease with which legacy systems can be 'wrapped' and made compatible with the agent-based architecture of the present invention." ('115 patent col. 7:48-52). The agent library also enables the incorporation of new agents "without any need to revise code for the facilitator, the natural language agents, or any other client agents." (*Id.* col. 8:45-

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49). "[A] single request can produce cooperation and flexible communication among many agents, written in different programming languages and spread across multiple machines." (*Id.* col. 8:52-55). These are problems the Cheyer patents identify with prior art technologies in distributed computing. (*See id.* col. 3:24-27 ("restriction of the [distributed object-oriented programming] approach is that the interactions among objects are fixed through explicitly coded instructions"); col. 3:53-58 (disadvantages of mobile agent are programmatic specificity of agent interactions, lack of coordination support, and execution environment irregularities); col 4:13-16 (blackboard architecture does not allow programmatic control to refer to a specific process during computation); col. 4:37-55 (previous agent based technologies and architectures are limited in the extent to which agents can specify complex goals, influence strategies used by the facilitator, integrate human agents, deal with compound goals, and in system scalability)).

Moreover, the Cheyer patents lay out specific structures by which these improvements in functionality are achieved. Claim 61 of the '115 patent discloses a "facilitator agent" which coordinates cooperative task completion by (1) using an agent registry, (2) parsing a service requesting order, (3) interpreting a compound goal according to an Interagent Communication language, and (4) constructing a goal satisfaction plan. Claim 52 of the '560 patent describes the method by which tasks are delegated and Claim 1 of the '128 patent describe the construction of the distributed computing layout as a whole. The specific structures and methods laid out in these claims provide concrete improvements in the underlying computer technology over the prior art. Interactions between objects are not fixed through explicitly coded instructions; coordination support is provided by the facilitating agent; a user may refer to a specific process when making its request; the system does not need to be rewritten when new agents are added; agents can influence strategies used by the facilitator; and the system provides more flexibility in

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dealing with compound goals. Therefore, these claims are directed to improvements of the underlying computer functionality in a distributed computing environment, not to the abstract idea of "retrieving electronic data in response to a request" or "breaking tasks down and delegating information to appropriate actors."[7]

Defendants argue that the Cheyer specifications do not explain or state how a facilitator engine performs certain tasks. However, as Plaintiff correctly states, "whether a patent specification teaches an ordinarily skilled artisan how to implement the claimed invention presents an enablement issue, not an eligibility issue. . ." *Visual Mem.*, 867 F.3d at 1260-61. Moreover, the patent claims specifically state that the facilitating engine "construct[s] a goal satisfaction plan by using reasoning that includes one or more of domain-independent coordination strategies, domain-specific reasoning, and application-specific reasoning." ('115 Patent col. 35:23-27). While Defendants argue this language is a black-box, the language does incorporate the improvements on prior art. Specifically, the facilitating engine's claimed use of these different strategies enables (1) the facilitating agent to provide coordination support (by using a domain-independent coordination strategy), (2) a user to refer to a specific process when making its request (by using domain-specific reasoning), and (3) the agents to influence the strategies used by the facilitator agent (by using application-specific reasoning). Thus, the Cheyer patents claim specific improvements over the prior art.

The Cheyer patents, therefore, are not directed to an abstract idea and the Court need not address *Alice* Step Two for the Cheyer patents.

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[7] While these ideas are certainly components of the claimed invention, the claims are not directed to these ideas. Rather, the invention improves computer functionality by creating a specific architecture which allows faster coordination of tasks and retrieval of information.

2. Inventive Concept

The determination that a patent is directed to an abstract idea "does not render the subject matter ineligible." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). Having decided that the Halverson patents' claims are directed to an abstract idea, the Court must next "determine whether the claims do significantly more than simply describe the abstract method." *Ultramercial*, 772 F.3d at 715. Since "a known idea, or one that is routine and conventional, is not inventive in patent terms," this analysis "favors inquiries analogous to those undertaken for determination of patentable invention." *Internet Patents*, 790 F.3d at 1346. Indeed, the Federal Circuit has noted that the two stages of the *Alice* two-step inquiry "are plainly related" and "involve overlapping scrutiny of the content of the claims . . . ." *Elec. Power Grp.*, 830 F.3d at 1353. Furthermore, neither "[a] simple instruction to apply an abstract idea on a computer," nor "claiming the improved speed or efficiency inherent with applying the abstract idea on a computer" satisfies the requirement of an "inventive concept." *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015).

Defendants argue that the Halverson patents lacks an inventive concept. (C.A. 18-318, D.I. 11 at 16-22). Plaintiff submits that the claims contain an inventive concept because "[t]he Halverson specification discloses and the [amended complaint] pleads that the claimed inventions improve the functioning of the computer itself and improves upon then-existing technology." (D.I. 37).

I agree with Defendants. As I stated in my previous opinion, "the specification's statement that the claims are directed to solving a technological problem cannot overcome the specification's recitation of conventional technology to implement the invention, combined with broad, functional claim language that merely describes an abstract idea." *IPA Techs.*, 307 F.

Supp. 3d at 370. Neither can the additional facts pled by Plaintiff in its amended complaint. "Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Berkheimer*, 881 F.3d at 1369. "In a situation where the specification admits the additional claim elements are well-understood, routine, and conventional, it will be difficult, if not impossible, for a patentee to show a genuine dispute" sufficient to deny a motion to dismiss. *Berkheimer*, 890 F.3d at 1371.

The majority of Plaintiff's new factual allegations do not alter the *Alice* Step Two analysis. Many of the new allegations are boilerplate, stating, "The claimed inventions are directed to new computer functionality and improvements to technological processes that address problems rooted in and arising from computer technology."[8] (D.I. 33 ¶¶ 96, 131, 152). I am not required to treat boilerplate allegations that the claims are directed to new computer functionality and improvements to technological processes as true where those allegations contradict the language of the claims and specification. *See, e.g.*, *Berkheimer*, 881 F.3d at 1369-70 (improvements must be "captured in the claims"); *Schuykill Energy Res., Inc. v. Pa. Power & Light Co.*, 113 F.3d 405, 417 (3d Cir. 1997) ("unsupported conclusions and unwarranted inferences" need not be accepted as true). Moreover, these boilerplate allegations do not change the fact that the "specification is replete with references to implementing the claims using conventional technology." *IPA Techs.*, 307 F. Supp. 3d at 370.

Many of the new allegations simply quote, cite or otherwise incorporate language from the claims and specification. (D.I. 30 ¶¶ 97-106, 111-12, 130, 132-34, 136, 153). These

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[8] Paragraphs 114 and 137 of the amended complaint are also boilerplate. Paragraph 114 is representative and states, "The above-disclosed and claimed speech-based navigation method additionally constitutes an unconventional technical solution (for example, multi-modal feedback to solicit additional user input, to refine and use an electronic data source query without requiring a user to request a non-spoken modality) to address a technical problem of electronic data source navigational methods to interpret, construct, query, and refine spoken requests." Paragraph 137 provides a different example in the parenthetical.

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allegations add no new factual information for the Court to consider in determining whether the claims contain an inventive concept. Additionally, a significant percentage of Plaintiff's new factual allegations simply recite the prosecution history of the Halverson patents. (D.I. 33 ¶¶ 115-25, 138-47, 155-65). These paragraphs of the Complaint allege facts such as the number of prior art references the Halverson patents were issued over, the number of times the Halverson patents have been cited as prior art since being issued, and the examiners' recitations of why they found the Halverson patents to be novel. However, these types of facts are not properly considered in determining a motion to dismiss for patent ineligibility under § 101. Every patent that is issued is generally (and often specifically) issued over prior art references and is found to be novel. Moreover, as Defendants correctly point out, citations are no measure of whether the patent is directed to an abstract idea or an inventive concept. (D.I. 36 at 113 n.3 ("one of the patents invalidated in *Alice* has been cited 325 times")).

The remaining factual allegations also do not change the results of the inventive concept determination. Paragraphs 107-10 of the amended complaint expand upon the specification language related to the construction of a navigation query after receipt of the spoken request and the use of a multi-modal feedback approach and the benefits of these claims. Paragraphs 107 and 108 together assert that the construction of a navigation query results in "improvements to computer functionality and technological processes including increased efficiency and speed— and they achieve these technological benefits by fundamentally changing the manner in which a user interfaces and interacts with computer technology itself." (D.I. 33 ¶ 108). However, no portion of the claims or specification cited shows how the construction of a navigation query results in increased efficiency or speed in computer functionality. ('021 patent col. 8:40-10:38). As I previously held, neither the claims nor the specification teach how to construct a navigation

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query. *IPA Techs.*, 307 F. Supp. 3d at 371. In fact, the specification clearly states that persons of ordinary skill in the art will be thoroughly familiar with how to do so. ('021 patent col 9:9-14). Therefore, the construction of the navigation query alone cannot support the allegations of increased efficiency or speed giving rise to an inventive concept. The language of these paragraphs seems to suggest that it is the use of spoken language and the interpretation of the spoken request to construct the navigation query that creates the increased convenience, efficiency, and speed. However, nowhere does the specification or claims explain how the invention renders an interpretation of the spoken request to increase convenience, efficiency, and speed of the computer functionality. Instead, the specification states that speech recognition (i.e., rendering an interpretation of the spoken request) can be achieved by "[a] variety of commercial quality speech recognition engines, [which] are readily available on the market, as practitioners will know." ('021 patent at 7:19-31). The allegations of improvements to computer functionality in paragraphs 107-08 are therefore contradicted by the claims and the specification and cannot be credited.

Plaintiff also includes new allegations that the multimodal feedback approach included in the claims improves computer functionality by creating faster searches. (D.I. 33 ¶¶ 109-10). However, as I previously held,

> At the level the claims are drafted, the multi-modal feedback essentially requires gathering additional data in a non-spoken modality and using the data to modify the initial navigation query, without further limitation as to how this is accomplished in the context of generating a navigation query from a spoken request. Refining search terms in a database query does not qualify as inventive, even if for the purpose of error correction.

IPA Techs., 307 F. Supp. 3d at 371. A mere increase in the speed of a process cannot be an inventive concept where the technology is conventional, and the ordered combination of steps

using that conventional technology is not shown to be inventive. *Intellectual Ventures I LLC*, 792

F.3d at 1367; *IPA Techs.*, 307 F. Supp. 3d at 372.

Similarly, paragraphs 113, 135, and 154 of the amended complaint assert that the claimed

"speech-based navigation method" in the Halverson patents "provide[s] significant benefits and

improvements to the capacity and underlying computer functionality over their prior art

navigation methods—namely, increased speed, convenience, and efficiency in creating a proper

query to search an electronic data source and providing information requested by a user, as well

as a greater degree of freedom for users to use and the navigation system to accept and process

an expanded set of intuitive inputs." (D.I. 33 ¶ 113, 135, 154). However, these allegations

cannot overcome the specifications' continued references to using conventional technology to

implement the claims, nor do the claim elements as an ordered combination impart an inventive

concept. The steps of the claimed method are the basic steps used to navigate an electronic

method. The ordered combination of the "speech-based navigation method" claimed is the only

logical sequence of steps that could be followed to achieve the result. As I found previously,

"any changes to their ordering would render the claims useless for accomplishing their goal."

IPA Techs., 307 F. Supp. 3d at 372. Thus, there is nothing unconventional or inventive about the

ordered combination of steps. Moreover, because the ordered combination of the claim elements

is not inventive, the alleged improvements of convenience, efficiency, and speed attributed to the

method cannot confer an inventive concept upon the combination either.

Finally, paragraphs 126, 148, and 166 of the amended complaint allege facts surrounding

the priority dates of the Halverson patents. Specifically, these paragraphs allege, "The

technology disclosed and claimed . . . was not then well-understood, routine, or conventional,"

because the first device marketed as a smartphone was not announced until 2000, the first mobile

camera phone came to the United States in 2002, and the first mobile phone with any text to speech capability was not released until late 2004. (D.I. 33 ¶¶ 126, 148, 166). However, as previously discussed, the Halverson "specification is replete with references to implementing the claims using conventional technology." *IPA Techs.*, 307 F. Supp. 3d at 370. These references directly contradict Plaintiff's allegations in the amended complaint. Moreover, the method claimed in the Halverson patents does not confer an inventive concept, even combined with the factual allegations in the amended complaint. A method reciting the high-level, basic steps of electronic database navigation in the only logical sequence to achieve the function and using well-understood, routine, and conventional technology to do so cannot be unconventional or inventive. Therefore, these paragraphs cannot infer an inventive concept when the Halverson patents themselves make clear that the technology is not inventive.

Because the claims of the Halverson patents are directed to the abstract idea of "retrieving electronic data in response to a spoken request and transmitting the retrieved data to a user" and do not contain an inventive concept, the Court finds that the claims are patent ineligible under § 101.

IV.   CONCLUSION

For the reasons set forth above, Defendants' motion to dismiss (D.I. 35) is **GRANTED** as to the '021, '061, and '718 patents and **DENIED** as to the '115, '560, and '128 patents.

An appropriate order will be entered.