UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/554,402	07/20/2012	Curtis Villars	0076412-000081	4184

21839   7590   05/09/2018
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
GURSKI, AMANDA KAREN

ART UNIT	PAPER NUMBER
3623	

NOTIFICATION DATE	DELIVERY MODE
05/09/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPDOC1@BIPC.com

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

Ex parte CURTIS VILLARS and TODD LOWENBERG

_____

Appeal 2017-000334
Application 13/554,402[1]
Technology Center 3600

_____

Before HUBERT C. LORIN, NINA L. MEDLOCK, and
BRADLEY B. BAYAT, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Curtis Villars and Todd Lowenberg ("Appellants") seek our review
under 35 U.S.C. § 134 from the rejection of claims 1, 3–14, and 16–26. We
have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

_____

[1] The Appellants identify MasterCard International Incorporated as the real
party in interest (App. Br. 2).

THE INVENTION

The invention relates to "protecting consumer privacy in the measuring of the effectiveness of advertisements, specifically." (Spec. para. 1).

Claim 1 is illustrative, and is reproduced below, with bracketed matter added:

> 1. A method for ensuring privacy in the execution of an electronic advertisement effectiveness measurement, comprising:
> [1] receiving, by a receiving device of the processing server from a demographic tracking agency server, a plurality of characteristic data sets, wherein each characteristic data set corresponds to a consumer and where none of the characteristic data sets include personally identifiable information of the consumer with which they correspond;
> [2] electronically storing, in an encrypted database of the processing server, a plurality of consumer data entries, each consumer data entry, representing each consumer and wherein each consumer data entry includes at least a plurality of characteristics from the plurality of characteristic sets and a plurality of activity data and where each consumer data entry does not include any personally identifiable information;
> [3] identifying, by a processing device of the processing server, a subset of the plurality of characteristics, wherein the plurality of characteristics is identified based on a measurement request from a merchant for measuring the effectiveness of an advertisement;
> [4] encrypting, by the processing device of the processing server, the subset of the plurality of characteristics for each consumer data entry using a one-way encryption;
> [5] transmitting, by a transmitting device of the processing server to a merchant server, the one-way encryption used to encrypt the subset of the plurality of characteristics for each consumer data entry;
> [6] receiving, by the receiving device of the processing server from the merchant server, advertising data entries encrypted by

the one-way encryption, each advertising data entry representing each consumer and wherein each advertising data entry corresponds to at least the encrypted subset of the plurality of characteristics and a segment indicator, wherein the segment indicator identifies consumers exposed to the advertisement;

[7] identifying, by the processing device in the encrypted database of the processing server, a subset of consumer data entries that correspond to the advertising data entries based on the encrypted subset of the plurality of characteristics;

[8] analyzing, by the processing device of the processing server, the activity data for each consumer data entry in the subset of consumer data entries to measure the effectiveness of the advertisement based on the corresponding segment indicators; and

[9] transmitting, by the transmitting device of the processing server to the merchant server, a report indicating the effectiveness of the advertisement for each consumer data entry in the subset of consumer data entries based on the corresponding segment indicators.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Grimes	US 2010/0106577 A1	Apr. 29, 2010
Klein et al. ("Klein")	US 2010/0114668 A1	May 6, 2010
Wiley et al. ("Wiley")	US 2012/0166272 A1	June 28, 2012

The following rejections are before us for review:

1. Claims 1, 3–14, and 16–26 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

2. Claims 1, 3–11, 14, and 16–24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiley and Klein.

3.   Claims 12, 13, 25, and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wiley, Klein, and Grimes.

ANALYSIS

The rejection of claims 1, 3–14, and 16–26 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

The Appellants argued these claims as a group. *See* Reply Br. 2–10. We select claim 1 as the representative claim for this group, and the remaining claims 3–14 and 16–26 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) (internal quotation marks and citation omitted).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Incorporated*, 566 U.S. 66, 82–84 (2012), "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. The first step in that analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* If the claims are not directed to a patent-ineligible concept, e.g., to an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the

second step where the elements of the claims are considered "individually and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. 66 at 79, 78).

Applying the framework in *Alice*, and as the first step of that analysis, the Examiner determined that the claims are directed to "receiving data sets, storing data entries, identifying subsets of characteristics, and transmitting reports," i.e., an abstract idea. Ans. 4; *see also* Final Act. 5. According to the Examiner, "the collection and manipulation of data is easily completed without the use of any technology" and "[a] person can perform these steps with mental calculation and pen to paper actions." *Id.* at 4. The Examiner also determined that:

> Measuring effectiveness of advertising while obscuring private user information is not rooted in technology. This can be effectively performed by redacting private data from a paper before showing that to another person. "Encryption" as it functions in these claims is merely an obscuring of information for one or more parties.

Id. at 4–5. Proceeding to the second step of *Alice*, the Examiner determined that "[t]he claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the processing device, database, transmitting device, servers, and receiving device claimed to implement the abstract idea are merely computer components implementing the steps of measuring the effects of advertisement." Final Act. 6. The Examiner also determined that "[t]he encryption seems to be routine and conventional encryption that is not improving upon standard encryption techniques." Ans. 4.

The Appellants contend that the Examiner erred and that claim 1 is not directed to an abstract idea. App. Br. 9–10. According to the Appellants, the claims are directed to "providing, in a very specific manner, an efficient technology-based solution that analyzes activity data for each consumer data entry in the subset of consumer data entries to measure the effectiveness of an advertisement based on corresponding segment indicators, wherein each consumer data entry does not include personally identifiable information." *Id.* at 9.

We are not persuaded of error in the Examiner's rejection.

The "directed to" inquiry in the claims applies a stage-one filter to the claims, considered in light of the Specification, based on whether "their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see also Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (Inquiring into "'the focus of the claimed advance over the prior art.'").

Claim 1 recites "[a] method for ensuring privacy in the execution of an electronic advertisement effectiveness measurement," the method comprising nine steps including: (1) receiving information, (2) storing information, (3) identifying information, (4) encrypting information, (5) transmitting information, (6) receiving information, (7) identifying information, (8) analyzing information, and (9) transmitting information. Claim 1 also includes two "where" clauses that further describe the information, namely "where none of the characteristic data sets include personally identifiable information of the consumer with which they

6

correspond" and "where each consumer data entry does not include any personally identifiable information."

The court in *Enfish* put the question as being "whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Enfish*, 822 F.3d at 1335–1336. The court found that the "plain focus of the claims" there was on "an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity." *Id.* at 1336.

"In determining the eligibility of respondents' claimed process for patent protection under § 101, their claims must be considered as a whole." *Diamond v. Diehr*, 450 U.S. 175, 188 (1981). The question is whether the claims as a whole "focus on a specific means or method that improves the relevant technology" or are "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). In this case, we find that claim 1, as a whole, is focused on correlating information using one-way encryption (i.e., a mathematical algorithm). We do not see that claim 1 is focused on an improvement to any technology such as a computer or an improved process for encrypting data in a computer. Here, as in *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011), all of claim 1's "method steps can be performed in the human mind, or by a human using a pen and paper." As in *CyberSource*, the method of claim 1 "can be performed by a human who simply reads records of Internet credit card transactions from a preexisting database." *Id.*

"The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish*, 822 F.3d at 1335, quoted in *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241 (Fed. Cir. 2016).

In that regard, the Background section of the Specification discusses the problem, which is that "increased consumer concerns for privacy and security of personal information may result in even less participation and/or more unreliable information, and often require some form of consideration" Spec. para. 3. According to the Specification, the inventors solved the problem by using "one way encrypted PANs [personal account numbers] of the individuals" (*id.* para. 6) in conjunction with sorting "geo-demo information . . . until a subset of individual records has relatively unique members in the group." *Id.* para. 7. "The subset of individual records is then individually one-way encrypted, and the unencrypted geo-demo data is no longer in the entity's possession or control." *Id.* "One-way means that once encrypted, it cannot be decrypted by the same party, e.g., a hash function." *Id.* para. 6. In light of the Specification's description of the problem and solution, the advance over the prior art by the claimed invention is in correlating information using one-way encryption (i.e., a mathematical algorithm) instead of using unencrypted personally identifiable information for said correlation.

Given the focus of claim 1 as a whole, in light of the Specification, is on data gathering activities[2] in support of correlating information using one-way encryption, the claims are properly characterized as being "directed to" correlating information using one-way encryption. Correlating information using one-way encryption is an abstract idea. *Cf. Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (holding ineligible claims that "recite the collection of financial data from third parties, the storing of that financial data, linking proffered credit cards to the financial data, and allowing access to a transit system based on the financial data"). Also, the process of encrypting data using one-way encryption encompasses a mathematical algorithm, such as a hash function. *See* Spec. ¶ 6. *Cf. Personalized Media Commc'ns, LLC v. Amazon.com, Inc.*, 161 F.Supp.3d 325, 337 (D. Del. 2015), aff'd, 2016 WL 7118532 (Mem) (Fed. Cir. 2016) ("decryption" is an abstract idea). "Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014).

In view of the above, we see no error in the Examiner's determination that claim 1 is directed to an abstract idea.

---

[2] *Cf. Elec. Power Grp., LLC*, 830 F.3d at 1353 (When "[t]he focus of the asserted claims" is "on collecting information, analyzing it, and displaying certain results of the collection and analysis," the claims are directed to an abstract idea.)

The Appellants argue that the Examiner did not properly analyze the claims (App. Br. 9). According to the Appellants, "[t]he Examiner has isolated a handful of words from the claims rather than addressing the claim limitations as a whole and as an ordered combination." *Id.*; *see also* Reply Br. 3–6.

The Appellants' argument does not apprise us of error in the Examiner's analysis at least because the Appellants have not explained how "analyzing activity data for each consumer data entry to measure the effectiveness of an advertisement based on corresponding segment indicators without personally identifiable information" is not an abstract idea. *Id.* at 11. That the claim includes more words than the Examiner relied upon to articulate the abstract idea is an insufficient reason to persuasively argue that claim 1 is not directed to an abstract idea. The additional words simply describe the idea at a lower level of abstraction. However it is described, we do not see that the Appellants have adequately shown that claim 1 is not directed to an abstract idea. For example, the Appellants have not persuasively argued that analyzing activity data for each consumer data entry to measure the effectiveness of an advertisement based on corresponding segment indicators without personally identifiable information improves any existing technological process.

We also are not persuaded of error by the Appellants' argument that "[t]he Examiner has provided no evidence that the claim elements are conventional, routine, or well-known at the time the claims were filed." App. Br. 9–10. Evidence may be helpful in certain situations where, for instance, facts are in dispute. But it is not always necessary. It is not necessary in this case. We note that the Appellants have put forward no rebuttal evidence

showing that claim 1 recites "significantly more" than an abstract idea. For example, the Appellants offer no evidence to dispute the Examiner's position that the claimed "one-way encryption" is "routine and conventional encryption that is not improving upon standard encryption techniques." Ans. 4. The evidence of record supports the Examiner's position. *See* Spec. para. 34 ("Suitable types and methods of one-way encryption will be apparent to persons having skill in the relevant art."). Moreover, the U.S. Supreme Court has held that a mathematical algorithm is to be treated as a familiar part of the prior art.

> Indeed, the novelty of the mathematical algorithm is not a determining factor at all. Whether the algorithm was in fact known or unknown at the time of the claimed invention, as one of the "basic tools of scientific and technological work," *see* *Gottschalk v. Benson*, 409 U.S., at 67, 93 S. Ct., at 255, it is treated as though it were a familiar part of the prior art.

Parker v. Flook, 437 U.S. 584, 591–92 (1978).

We also cannot agree with Appellants' contention that the claims before us are similar to the claims held eligible in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). App. Br. 10–12, 14–17. *See also* Reply Br. 10. According to the Appellants, the claims are similar because they "provide methods and systems for improving the manner in which consumer data is analyzed" (*id.* at 12) and "specify how interactions between computer components are manipulated to yield a desired result, which is non-routine and non-conventional." *Id.* at 16.

In *DDR Holdings*, the Federal Circuit determined that although the patent claims at issue involved conventional computers and the Internet, the claims nevertheless addressed the problem of retaining website visitors who,

11

if adhering to the routine, conventional functioning of the Internet hyperlink protocol, would be transported instantly away from a host's website after "clicking" on an advertisement and activating a hyperlink. *DDR Holdings,* 773 F.3d at 1257. The court determined that those claims were directed to statutory subject matter because they claim a solution "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.*

No such technological advance is evident in the claimed invention. Unlike the situation in *DDR Holdings,* Appellants do not identify any problem particular to computer networks and/or the Internet that claim 1 allegedly overcomes. Claim 1 does not recite the Internet or any other computer network. Here, the claimed computer components operate precisely in the expected manner of storing data in association with other data, and sending and receiving data via a conventional network. (*See* Spec, para. 27 ("network 118 may be any network suitable for performing the functions as disclosed herein.")) *Cf. buySAFE, Inc. v. Google, Inc.,* 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends the information over a network--with no further specification--is not even arguably inventive"). Nothing in the claim, understood in light of the Specification, requires anything more than conventional computer implementation. "The [S]pecification fails to provide any technical details for the tangible components, but instead predominately describes the system and methods in purely functional terms." *In re TLI Comm. LLC Patent Litig.,* 823 F.3d 607, 612 (Fed. Cir. 2016). For example, with respect to the claimed step of "encrypting . . . using a one-way encryption," the Appellants' Specification simply discloses that "[s]uitable types and

methods of one-way encryption will be apparent to persons having skill in the relevant art." Spec. para. 34. *See also id.* at para. 6 ("One-way means that once encrypted, it cannot be decrypted by the same party, e.g., a hash function"); *id.* at para. 35 ("hashed or otherwise encrypted"); *id.* at para. 43 ("Types and methods of one-way encryption suitable for performing the functions as disclosed herein will be apparent to persons having skill in the relevant art."). There is no detail as to how the encryption process is programmed or performed by the computer beyond the use of some unspecified, generic hash function. *Cf. Smart Systems*, 873 F.3d *9 ("A hash identifier is a generic and routine concept that does not transform the claims to a patent eligible application of the abstract idea."). There is no indication that the one-way encryption improves over prior art encryption techniques. The claimed "processing device" that performs the encrypting step may be a general purpose computer. *See* Spec. ¶ 59; Figure 7. "[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible." *DDR Holdings*, 773 F.3d at 1256 (citation omitted). Here, "the method claims, which merely require generic computer implementation, fail to transform that abstract idea into a patent-eligible invention." *Alice*, 134 S. Ct. at 2357.

The Appellants argue that "[t]he claims do not 'tie-up' or pre-empt others from using an abstract idea" (App. Br. 12). According to the Appellants, "both the *Alice* decision and the Interim Guidance emphasize that the idea of 'preemption' is the basis for denying patent-eligibility to 'abstract ideas.'" *Id.*.

It is true that the Supreme Court has characterized pre-emption as a driving concern for patent eligibility. *See Alice*, 134 S. Ct. at 2354. But

characterizing pre-emption as a driving concern for patent eligibility is not the same as characterizing pre-emption as the sole test for patent eligibility. "The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability" and "[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice Corp.*, 134 S. Ct. at 2354). However, "[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.* at 1379. *Cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015), *cert. denied*, 136 S.Ct. 701 (2015) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). "What matters is whether a claim threatens to subsume the full scope of a fundamental concept, and when those concerns arise, we must look for meaningful limitations that prevent the claim as a whole from covering the concept's every practical application." *CLS Bank Intern. v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1281 (Fed. Cir. 2013) (Lourie, J., concurring). Here, we find the claimed subject matter covers patent-ineligible subject matter. Accordingly, the pre-emption concern is necessarily addressed. "Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, [] preemption concerns are fully addressed and made moot." *Ariosa Diagnostics*, 788 F.3d at 1379.

The Appellants contend that the pending claims are similar to the claims held eligible in *Diamond v. Diehr*, 450 U.S. 175 (1981). *See* App. Br. 19–21. According to the Appellants, "[s]imilar to *Diehr*, and differing

significantly from the claims of Alice, the present claims solve a
technological problem and, thus, provide a real world, practical application
and an improvement on existing technologies." *Id.* at 20.

We disagree.

Diehr involved a process for curing synthetic rubber. *Diehr*, 450 U.S.
at 177. The claimed steps in *Diehr* included "installing rubber in a press,
closing the mold, constantly determining the temperature of the mold,
constantly recalculating the appropriate cure time through the use of the
formula and a digital computer, and automatically opening the press at the
proper time." *Id.* at 187. The invention in *Diehr* improved the rubber curing
process by significantly lessening the possibility of "overcuring" or
"undercuring" the rubber. *Id.* We do not see that situation here.

In contrast to the claims in *Diehr*, the subject matter as claimed does
not apply the abstract idea of correlating information using one-way
encryption to any specific article using any specific "structure or process
which, when considered as a whole, is performing a function which the
patent laws were designed to protect." *Diehr*, 450 U.S. at 192. Whether or
not the claims provide a "real world, practical application" is not the test for
determining whether claimed subject matter is judicially-excepted from
patent-eligibility. *Cf. CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d
1366, 1371 (Fed. Cir. 2011). "The Court [*Parker v. Flook*, 437 U.S. 584
(1978)] rejected the notion that the recitation of a practical application for
the calculation could alone make the invention patentable."

The Appellants argue that:

> [t]he present claims improve upon such technologies in that, for
> example, the independent claims, via each of their particularly
> programmed structural computer components (e.g., demographic

15

> tracking agency server, receiving device, encrypted database,
> processing device, transmitting device, merchant server) receive,
> electronically store, identify, encrypt, transmit, identify, and
> additionally analyze *very specific* and *sensitive information in a*
> *very specific manner in a hardware-based system* that has not
> been done before in the industry.

App. Br. 20–21.

Given the intrinsic evidence, we do not see, and the Appellants do not
explain, how any computer component is improved by practicing the recited
method of claim 1. The individual elements are conventional and they
perform as they are expected to. *See* Spec. paras. 55–63. Their ordered
combination as claimed does no more than what they are expected to do
individually. *Cf. Prism Technologies LLC v. T-Mobile USA, Inc.,*
696 F. App'x. 1014, 1017–18 (Fed. Cir. 2017):

> The asserted claims merely recite a host of elements that are
> indisputably generic computer components. … Viewed as an ordered
> combination, the asserted claims recite no more than the sort of
> "perfectly conventional" generic computer components employed in a
> customary manner that we have previously held insufficient to
> transform the abstract idea into a patent-eligible invention.
> *Intellectual Ventures I LLC v. Symantec Corp.,* 838 F.3d 1307, 1321
> (Fed. Cir. 2016).

We have fully considered the Appellants' arguments. For the
foregoing reasons, they are unpersuasive as to error in the rejection of
claim 1, and claims 3–14 and 16–26, which fall with claim 1.

The rejection is sustained.

The rejection of claims 1, 3–11, 14, and 16–24 under 35 U.S.C. § 103(a) as being unpatentable over Wiley and Klein.

       Independent Claims 1 and 14 and Dependent Claims 7, 9–11, 20, and 22–24

      The Examiner's position is that Wiley discloses all of the subject matter of claim 1 but for steps [6]–[9], for which Klein is relied upon. Final Act. 7–13. According to the Examiner:

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the advertising segmentation of groups by Klein with the tracking and storing of consumer activity data of Wiley. One of ordinary skill in the art would have been motivated to combine these teachings for the benefit of determining which groups of characteristics should receive advertising for it to be more efficient. The segmentation of characteristics for ad distribution is more cost effective than providing an advertisement to a wider audience rather than one that is targeted.

Id. at 13. The Examiner's position for independent claim 14 is the same as for claim 1. *Id.* at 18.

      The Appellants challenge the rejection of independent claims 1 and 14 together. App. Br. 21. The Appellants argue that "[u]nlike the 'first trusted third party' of Wiley which obtains information with PII and creates information that does not contain PII, **the processing server as recited in claim 1, never has any PII**" and "[t]he processing server only receives data which does not contain any PII." *Id.* at 25. According to the Appellants, "Wiley explicitly provides for the one-to-one mapping of PII with the generated tokens." *Id.* The Appellants also reproduce limitations [1], [4], [5], and [6] and argue that "[t]hese recitations require the processing server to not have any PII, which is **not** taught by Wiley." *Id.* at 26.

As an initial matter, the Appellants' arguments are unpersuasive at least because they are not commensurate with the scope of claim 1, which does not recite that the processing server "never has any PII." Rather, claim 1 recites "none of the characteristic data sets include personally identifiable information of the consumer with which they correspond" and "each consumer data entry does not include any personally identifiable information." App. Br. 35, Claims Appendix.

The Examiner finds the argued limitations [1] and [2] disclosed in paragraphs 3, 18, 20, and 23 of Wiley. Final Act. 7–9. Responding to the Appellants' arguments, the Examiner also finds that:

> Wiley discloses in paragraph 30 that first and second tokens are created by third parties with mappings between those two tokens. Then in paragraph 31, Wiley discloses that the data in these tokens are anonymized through encryption. Each of the tokens are generated by separate trusted third parties so that the later received data has the data with personally identifiable information (PII) removed.

Ans. 6.

A claim term is construed in light of the Specification. "[C]laims are to be read in the light [of the specification], not in a vacuum." *In re Dean*, 291 F.2d 947, 951 (CCPA 1961). The written description is "always highly relevant" in construing a claim, and "it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). In that regard, the Appellants' Specification consistently teaches that personally identifiable information, once encrypted (e.g., by a hash function), is no longer personally identifiable information. *See, e.g.*, Spec. para. 6 (One-way means that once encrypted, it cannot be decrypted by the same party, e.g., a hash function. The result is an arbitrary

reference that is not decipherable to determine the original data. This means
that the entity is not getting PII."); para. 7 ("because the geo-demo data is
one-way encrypted, it is not PII even after being associated with the actual,
unencrypted unique identifier or PAN"); para. 29 ("The PAN may be
encrypted (e.g., using a one-way encryption) by the demographic tracking
agency 114 prior to being transmitted to the financial transaction processing
server 106 such that the transmitted characteristic data is not personally
identifiable."); para. 35 ("PAN can be created or maintained to not be
considered personally identifiable information, but rather arbitrary and/or
encrypted."). Thus, it is clear in light of the Specification that encrypted
characteristic data sets and encrypted consumer data entries do not include
any personally identifiable information. In other words, the claim 1
limitations "none of the characteristic data sets include personally
identifiable information of the consumer with which they correspond" and
"each consumer data entry does not include any personally identifiable
information" encompass personally identifiable information that is one-way
encrypted.

 Wiley discloses, at paragraph 18, "personally identifiable information
(PII), or information that can be used to identify a user, is anonymized and
the anonymized data is used in the exposure and conversion data, in place of
the PII" and "an identifier that is associated with the PII for a user is
converted to a token that is used to match the user's exposure data to the
user's conversion data." Paragraph 32 of Wiley discloses that to generate a
token using encryption, "some or all of the PII is input to a first token
generator that uses encryption, such as a hash function or another encryption
function, to generate the first token." Thus, the tokens disclosed in Wiley do

not include "personally identifiable information" because the personally identifiable information is one-way encrypted (e.g., by a hash function).

For the foregoing reasons, the Appellants have not shown error in the Examiner's finding that the argued claim limitations are disclosed in Wiley.

The Appellants next argue that "Wiley does not teach, or otherwise suggest, the identification of a subset of a plurality of characteristics related to each consumer or the encryption thereof" (App. Br. 26), as called for by limitation [3] of claim 1. According to the Appellants, "Wiley appears to disclose only the direct substitution of a token identifier for a personally identifiable consumer identifier and the *aggregation* of consumers into groups based on various characteristics." *Id.* at 26–27.

Responding to the Appellants' argument in the Answer, the Examiner maintains that "[a] subset of any item is just a lower level grouping or aggregation of some type of item or data." Ans. 6.

The Appellants respond that "a common definition of the term subset is 'a set that is part of a larger set.'" Reply Br. 11–12.

Wiley discloses in paragraph 30 that "ad tracking data can be at any level of aggregation, e.g., token level, token grouping level, ad, or line, level, ad grouping level, ad campaign level" and "can include information that identifies the number of views of an ad, or group of ads, by a user, group of users, all or any combination of the users represented in the exposure data **116**."

The Appellants' argument that Wiley merely discloses aggregation does not take into account that Wiley discloses "*any level* of aggregation" including "by a user, group of users," etc. For example, even under the Appellants' interpretation, "a user" is a set of a larger set, namely a group of

users or the set of all users. Thus, the Appellants have not persuasively explained how the claimed "subset" distinguishes over ad tracking at, e.g., a level of a user or a group of users disclosed in Wiley.

The Appellants argue that "Klein fails to teach or suggest the *receipt* of information specifying the panel groups that allegedly correspond to the Appellant's claimed 'segment indicator.'" App. Br. 27. The Appellants do not dispute that the cited portions of Klein disclose groups of panelists defined according to various characteristics. Rather, the Appellants' challenge to the rejection is on the grounds that Klein does not disclose *receiving* said group definitions.

Responding to the Appellants' argument in the Answer, the Examiner maintains that "Wiley teaches the receipt of data that is encrypted" and "Klein is only relied upon to teach a categorization of characteristics including geographical and/or demographic." Ans. 7. According to the Examiner, "[t]he parts of the independent claims dealing with the reception of data have already been addressed, and Klein is utilized in this instance to just teach a type of characteristic." *Id.* In other words, the Examiner's position is that it would have been obvious to modify the ad exposure tracking data of Wiley to include grouping consumers according to characteristics as disclosed in Klein.

We do not find that the Appellants have made the case that the claimed subject matter is more than a combination of familiar elements each performing its known function as evidenced by the prior art disclosures. "[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' [(*Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976))] and yields no more than one would expect from

such an arrangement, the combination is obvious." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417. In that regard, the Appellants have not come forward with sufficient argument and/or evidence in support of finding that the combination yields a result one of ordinary skill in the art would not have expected. No secondary factors to support nonobviousness have been shown.

For the foregoing reasons, the Appellants' arguments as to error in the rejection are unpersuasive. Accordingly, the rejection of claims 1 and 14 under 35 U.S.C. § 103(a) is sustained. We reach the same conclusion as to claims 7, 9–11, 20, and 22–24 which depend from claims 1 and 14, and have not been separately argued.

Dependent claims 3, 4, 6, 8, 16, 17, 19, and 21

Albeit these claims are given several separate headings in the Appeal Brief, the Appellants repeat the same arguments under each heading. Specifically, the Appellants argue that Klein does not disclose the claim 1 limitation of "none of the characteristic data sets include personally identifiable information of the consumer with which they correspond." *See* App. Br. 18–30, 32–33. The Appellants' argument is not persuasive because the Examiner relies on Wiley, not Klein, as disclosing the argued limitation, as discussed above.

Dependent claims 5 and 18

Albeit these claims are given a separate heading in the Appeal Brief, the arguments challenging their rejection repeat the arguments challenging the rejection of claim 1. For the same reasons discussed in finding them

unpersuasive as to error in the rejection of claim 1, we find them

unpersuasive as to error in the rejection of claims 5 and 18.

*The rejection of claims 12, 13, 25, and 26 under 35 U.S.C. § 103(a) as being
unpatentable over Wiley, Klein, and Grimes.*

The Appellants argue against the rejection of dependent claims 12, 13,

25, and 26 for the same reasons used to argue against the rejection of

claim 1. App. Br. 33–34. Accordingly, because we found them

unpersuasive as to that rejection, we find them equally unpersuasive as to

error in the rejection of claims 12, 13, 25, and 26.

CONCLUSIONS

The Appellants have not shown that the Examiner erred in rejecting

claims 1, 3–14, and 16–26 under 35 U.S.C. § 101 as being directed to non-

statutory subject matter.

The Appellants have not shown that the Examiner erred in rejecting

claims 1, 3–14, and 16–26 under 35 U.S.C. § 103(a).

DECISION

The decision of the Examiner to reject claims 1, 3–14, and 16–26 is

affirmed.

No time period for taking any subsequent action in connection with

this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED