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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,964	05/02/2007	Michael Baldischweiler	19838.89	5100
22913	7590	07/03/2018	EXAMINER	
Workman Nydegger 60 East South Temple Suite 1000 Salt Lake City, UT 84111			ZELASKIEWICZ, CHRYSTINA E	
			ART UNIT	PAPER NUMBER
			3621	
			NOTIFICATION DATE	DELIVERY MODE
			07/03/2018	ELECTRONIC

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

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL BALDISCHWEILER and
KLAUS FINKENZELLER

Appeal 2017-000326¹
Application 10/575,964
Technology Center 3600

Before ST. JOHN COURTENAY III, JOHNNY A. KUMAR, and
LARRY J. HUME, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the Final Rejection of claims 1–7, 9–23, and 25–27. Appellants have canceled claims 8 and 24, and claim 16 is objected to by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is Giesecke & Devrient GmbH. App. Br. 2.

STATEMENT OF THE CASE²

The Invention

Appellants' disclosed embodiments and claimed "invention relates to a method for processing a cashless payment transaction. The invention relates further to a system for processing a cashless payment transaction." Spec.

¶ 1.

Exemplary Claim

Claim 1, reproduced below, is representative of the subject matter on appeal (*emphases* and formatting added to contested limitations):

1. A method of using an electronic intermediate carrier configured to perform cashless processing of a transaction for paying for a service between an owner of a personal electronic payment device and a payee, comprising the steps:

at a first time (t1), receiving a data record assigned to the service to be paid on an electronic intermediate carrier from an owner's personal electronic payment device,

wherein the electronic intermediate carrier is configured in a way such that *the electronic intermediate carrier is physically separate and independent from the owner's personal electronic payment device*, and wherein the data record comprises information assigned to the service to be paid and data to determine a method of payment;

at a second time (t2) which is later than the first time (t1), checking the data record on the electronic intermediate carrier using a receiving device of the payee;

² Our decision relies upon Appellants' Appeal Brief ("App. Br.," filed Mar. 21, 2016); Reply Brief ("Reply Br.," filed Sept. 29, 2016); Examiner's Answer ("Ans.," mailed July 29, 2016); Final Office Action ("Final Act.," mailed Feb. 26, 2015); and the original Specification ("Spec.," filed Apr. 14, 2006).

determining that the service was rendered correctly by comparing the data record assigned to the service to be paid to a reference data record; and

deleting or invalidating the data record completely on the electronic intermediate carrier upon correct rendition of the service, so as to prevent the data record from being used several times for payment transactions,

wherein the personal electronic payment device is formed as a chip card, or as a security module of a mobile telephone.

Prior Art

The Examiner relies upon the following prior art as evidence in rejecting the claims on appeal:

Tuttle	US 6,013,949	Jan. 11, 2000
Luzzatto	US 7,590,602 B1	Sept. 15, 2009
Hoffman et al. ("Hoffman")	US 8,805,746 B2	Aug. 12, 2014

Rejections on Appeal

R1. Claims 1–7, 9–23, and 25–27 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 3; *see also* Ans. 2.

R2. Claims 1–7, 9–23, and 25–27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Luzzatto, Tuttle, and Hoffman. Final Act. 4; *see also* Ans. 2.

CLAIM GROUPING

Based on Appellants' arguments (App. Br. 10 *et seq.*), we decide the appeal of patent-ineligible subject matter Rejection R1 of claims 1–7, 9–23, and 25–27 on the basis of representative claim 1; and we also decide the

appeal of obviousness Rejection R2 of claims 1–7, 9–23, and 25–27 on the basis of representative claim 1.³

ISSUES AND ANALYSIS

In reaching this decision, we consider all evidence presented and all arguments actually made by Appellants. We do not consider arguments Appellants could have made but chose not to make in the Briefs, and we deem any such arguments waived. 37 C.F.R. § 41.37(c)(1)(iv).

We disagree with Appellants' arguments with respect to claims 1–7, 9–23, and 25–27 and, unless otherwise noted, we incorporate by reference herein and adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken, and (2) the reasons and rebuttals set forth in the Examiner's Answer in response to Appellants' arguments. We highlight and address specific findings and arguments regarding claim 1 for emphasis as follows.

ANALYSIS

1. § 101 Rejection R1 of Claims 1–7, 9–23, and 25–27

Issue 1

Appellants argue (App. Br. 14–20; Reply Br. 2–5) the Examiner's rejection of claim 1 under 35 U.S.C. § 101 as being directed to patent-

³ "Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately." 37 C.F.R. § 41.37(c)(1)(iv). In addition, when Appellants do not separately argue the patentability of dependent claims, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

ineligible subject matter is in error. These contentions present us with the following issue:

Under our governing case law concerning 35 U.S.C. § 101, did the Examiner err in concluding claim 1 is directed to a judicial exception, i.e., an abstract idea, without significantly more?

Analysis

Alice Framework

Section 101 provides that anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" may obtain a patent. 35 U.S.C. § 101. The Supreme Court has repeatedly emphasized that patent protection should not extend to claims that monopolize "the basic tools of scientific and technological work." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012); *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). Accordingly, laws of nature, natural phenomena, and abstract ideas are not patent-eligible subject matter. *Id.*

The Supreme Court's two-part *Mayo/Alice* framework guides us in distinguishing between patent claims that impermissibly claim the "building blocks of human ingenuity" and those that "integrate the building blocks into something more." *Id.* (internal quotation marks, citation, and bracketing omitted). First, we "determine whether the claims at issue are directed to [a] patent-ineligible concept[]." *Id.* at 2355. If so, we "examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Id.* at

2357 (quoting *Mayo*, 566 U.S. at 72, 79). While the two steps of the *Alice* framework are related, the "Supreme Court's formulation makes clear that the first-stage filter is a meaningful one, sometimes ending the § 101 inquiry." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). We note the Supreme Court "has not established a definitive rule to determine what constitutes an 'abstract idea'" for the purposes of step one. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct at 2357).

However, our reviewing court has held claims ineligible as directed to an abstract idea when they merely collect electronic information, display information, or embody mental processes that could be performed by humans. *Elec. Power Grp.*, 830 F.3d at 1353–54 (collecting cases). At the same time, "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*, 566 U.S. at 71. Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships. *Alice* 134 S. Ct. at 2355–57. Under this guidance, we must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful. *Id.* at 2354 ("[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.").

Under the "abstract idea" step we must evaluate "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) (internal citation omitted). If the claims are not directed to a patent-ineligible concept, the

inquiry ends. *See Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017). If the concept is directed to a patent-ineligible concept, we proceed to the "inventive concept" step. For that second step we must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs*, 838 F.3d at 1258 (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

Alice Step 1 — Abstract Idea

Our reviewing court has held claims ineligible as being directed to an abstract idea when they merely collect electronic information, display information, or embody mental processes that could be performed by humans. *Elec. Power Grp.*, 830 F.3d at 1353–54 (collecting cases). At the same time, "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*, 566 U.S. at 71. Under this guidance, we must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful. *Alice*, 134 S. Ct. at 2354 ("[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.").

Appellants generally contend, "in the rejections of claims 1 and 17, the Final Office Action first has failed to establish that the claims are directed to a judicial exception." App. Br. 14. In response to the Examiner's conclusion (Final Act. 3) that "[t]he claims are directed to a series of steps instructing how to make a payment, which is a fundamental economic practice and thus an abstract idea", Appellants further argue:

[R]ejections cannot be based on mere conclusory statements without some articulated reasoning with some rational underpinning. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The Office Action fails to give any more explanation or analysis as to why the claimed method should be considered a fundamental economic practice or abstract idea. Because the Office Action only gives a conclusory statement for step one of the *Mayo* two-step analysis, the Office Action fails to establish that claims 1 and 17 or the claims that depend therefrom are directed to patent ineligible subject matter.

App. Br. 15.⁴

In addition, Appellants contend:

[T]he Office Action oversimplifies the claims to construe them an abstract idea. The use of an electronic intermediate carrier to perform a cashless processing of a transaction is not a mere fundamental economic practice. Unlike the mitigating of settlement risk of *Alice Corp.* or the hedging of *Bilski v. Kappos*, 561 U.S. 593 (2010), the use of an electronic intermediate carrier to perform a cashless processing of a transaction between an owner of a person electronic payment device and a payee is not a mere "fundamental economic practice," let alone a "fundamental economic practice" and is not "taught in any introductory finance class."

And the use of an electronic intermediate carrier to perform a cashless processing of a transaction between an owner of a person electronic payment device and a payee is not a method of organizing human activity, as in *Bilski*, but is a technological solution to a technological problem. That is, as described by Appellant's disclosure, due to the danger of abuse, in previous cashless payment systems, it was generally undesirable to let go of means of cashless payment except for data transmission with a terminal. Thus it was very difficult to process a cashless

⁴ We note Appellants cite *KSR*, typically invoked in rejections for obviousness under 35 U.S.C. § 103(a), as authority for arguing against the Examiner's legal conclusion and rejection under § 101.

payment in the absence of the owner of the means of the cashless payment. (See Appellant's Specification, paras. [0002]–[0005]).

In the background section of Appellant's specification, various cashless payment transactions are described. But, as explained in Appellant's disclosure, the various known payment methods are subject to a number of restrictions. "For example, due to the danger of abuse it is generally undesirable to let go of means of cashless payment except for data transmission with a terminal." It is this very difficult to process a cashless payment in the absence of the owner of the means of cashless payment. (See Appellant's specification, para. [0006]).

Thus, Appellant's claimed payment method provides "the advantage that the cashless payment can be prepared by the owner of a personal electronic means of payment without using the payee's infrastructure and without any need to make contact with the payee." (Appellant's specification, para. [0010]). "The owner," according to Appellant's claimed method, "is thus not subject to any restrictions with regard to the spatial availability of such an infrastructure, or exposed to any waiting periods for utilizing the infrastructure." (Appellant's specification, para. [0010]).

Because Appellant's method and system of independent claims 1 and 17 and the claims that depend therefrom provide a technological solution to a technological problem, Appellant respectfully submits that the assertion that the claims are directed to an abstract idea is not only an inadequate analysis, but is mistaken.

App. Br. 15–16.

In response, the Examiner concluded, "[t]he claims are directed to an abstract idea of making a payment with an electronic carrier, which is a fundamental economic practice, [a] certain method of organizing human activity, and an idea of itself." Ans. 3. The Examiner further identified various limitations as being particular types of abstract ideas, e.g., "[a]t a

first time, receiving a data record for a service to be paid on an electronic carrier from an owner's personal device (fundamental economic practice, certain method of organizing human activity), wherein the electronic carrier is physically separate and independent from the personal device, and wherein the data record comprises information assigned to the service to be paid and data to determine a payment method (an idea of itself)." Ans. 3; *see also id.*, lettered paragraphs c through g.

We find this to be consistent with the Final Action, in which the Examiner concluded:

The claims are directed to a series of steps instructing how to make a payment, which is a fundamental economic practice and thus an abstract idea. The "meat" of the independent claims is using an electronic carrier as the form of payment. At a first time (t1) the carrier is received, which contains payment data. At a second time (t2), the payment data is checked. The data is then deleted to prevent its use again. This is the electronic equivalent of using a check or paper IOU as a form of payment.

Final Act. 3.

Under the "abstract idea" step we must evaluate "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*, 838 F.3d at 1257 (citation omitted).

Turning to the claimed invention, claim 1 recites: "A method of using an electronic intermediate carrier configured to perform cashless processing of a transaction for paying for a service between an owner of a personal electronic payment device and a payee." Claim 1 (preamble).

Method claim 1's limitations also require the steps of:

- (a) "receiving a data record" at a first time t1;
- (b) "checking the data record" at a later time t2;
- (c) "determining [correct service rendering]. . . by comparing the data record . . . to a reference;" and
- (d) "deleting or invalidating the data record . . . upon correct rendition of the service, so as to prevent [data record reuse] for payment transactions;"

Under step one, we agree with the Examiner that the inventions claimed in each of independent claims 1 and 17 are directed to an abstract idea, i.e., making a (cashless) payment, which we also conclude is a fundamental economic practice or, alternatively, a method of organizing human activity. *See* Ans. 3.⁵

As the Specification discloses, "[t]his invention relates to a method for processing a cashless payment transaction . . . [and] relates further to a system for processing a cashless payment transaction." Spec. ¶ 1.⁶ We find

⁵ Merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract."); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

⁶ *See also* Spec. 18 ("Abstract"):

Proposed is a method for processing a cashless payment transaction between an owner of a personal electronic means of payment (1, 12) and a payee. The special feature of the inventive method is that at a first time (t1) a data record is transmitted from the owner's personal electronic means of payment (1, 12), directly or by means of a personal device (8) of the owner, to an electronic intermediate carrier (2) which is formed as a physically separate unit with regard to the owner's

this type of activity, i.e., making a cashless payment, includes longstanding conduct that existed well before the advent of computers and the Internet, and could be carried out by a human with pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").⁷

Our reviewing court has previously held other patent claims ineligible for reciting similar abstract concepts. For example, while the Supreme Court has enhanced the § 101 analysis since *CyberSource* in cases like *Mayo* and *Alice*, they continue to "treat[] analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146–47 (Fed. Cir. 2016) (alteration in original) (quoting *Elec. Power Grp.*, 830 F.3d at 1354).

In addition, our reviewing court has concluded that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Additionally, the collection of information and analysis of

personal electronic means of payment (1, 12), and at a second time (t2) which is later than the first time (t1) the data record or data derived therefrom are transmitted from the electronic intermediate carrier (2) to the payee.

⁷ *CyberSource* further guides that "a method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101." *CyberSource*, 654 F.3d at 1373.

information (e.g., recognizing certain data within the dataset) are also abstract ideas. *Elec. Power*, 830 F.3d at 1353–54 (collecting information and "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, [are] essentially mental processes within the abstract-idea category"). Similarly, "collecting, displaying, and manipulating data" is an abstract idea. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017). Further, a process that employs mathematical algorithms to manipulate existing information to generate additional information is abstract. *Digitech Image Techs., LLC v. Elec. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). Also, more recently, our reviewing court has also concluded that acts of parsing, comparing, storing, and editing data are abstract ideas. *Berkeimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018).

With respect to Appellants' arguments that "the use of an electronic intermediate carrier to perform a cashless processing of a transaction between an owner of a person electronic payment device and a payee is not a method of organizing human activity, as in *Bilski*, but is a technological solution to a technological problem", we disagree. We disagree because, while we find the technology implemented in the claimed invention may be useful to solve a *business* problem, we also find the additional elements are not a technological solution to a technological problem, or a solution to a problem introduced by the technology itself. See *Alice Step 2* analysis, *infra*.

Therefore, in agreement with the Examiner, we conclude claim 1 involves nothing more than making cashless payment with an electronic

carrier — an abstract idea. *See Elec. Power Grp.*, 830 F.3d at 1354.⁸ Accordingly, on this record, and under step one of *Alice*, we agree with the Examiner's conclusion the claims are directed to an abstract idea.

Alice Step 2 —Inventive Concept

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the "inventive concept" step. For that step we must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs*, 838 F.3d at 1258 (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

In applying step two of the *Alice* analysis, our reviewing court guides we must "determine whether the claims do significantly more than simply describe [the] abstract method" and thus transform the abstract idea into patentable subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any "additional features" in the claims that constitute an "inventive concept," thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 134 S. Ct. at 2357. Those "additional features" must be more than "well-understood, routine, conventional activity." *Mayo*, 566 U.S. at 79.

Appellants argue the Examiner failed to consider all the limitations of independent claims 1 and 17 individually or as a whole to determine whether the additional elements transform the abstract idea into a patent-eligible

⁸ Merely automating previously manual processing by using computers does not qualify as an eligibility-rejection-defeating improvement. *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044 (Fed. Cir. 2017).

application of the judicial exception. App. Br. 18. Appellants further contend:

Appellant's claimed method and process are not based on a routine implementation on a generic computer. In fact, Appellant's claimed method and system are not based on a generic computer at all. Instead, Appellant's claimed method and process are tied to-and implemented by-an electronic intermediate carrier, which is a chip card or a security module of a mobile telephone, that is configured to interact with an owner's personal electronic payment device and a receiving device of the payee. Thus, Appellant's claimed method and process are clearly intertwined and implemented with at least three non-generic, non-routine devices: (1) an electronic intermediate carrier (i.e. a chip card or a security module of a mobile telephone), (2) an owner's personal electronic payment device, (3) a receiving device of the payee.

So even if claims 1–7, 9–23, and 25–27, were considered to be directed to an abstract idea, the claims clearly satisfy the machine-or-transformation test, which although held to not be sole test for patent eligibility, "is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101." *Bilski v. Kappos*, 130 S. Ct. at 3227 (2010).

App. Br. 18–19.

Evaluating representative claim 1 under step 2 of the *Alice* analysis, we agree with the Examiner that it lacks an inventive concept that transforms the abstract idea of making a cashless payment into a patent-eligible application of that abstract idea. *See* Ans. 7–9.

We agree because, as the Examiner concludes, when considering the claims as a whole:

[The invention] simply requires receiving data (i.e. data record) from a personal device to an electronic carrier; checking the

data (i.e. comparing to a reference record); and deleting/invalidating the data (i.e. if service is correctly rendered). The claim limitations do not add a meaningful limitation because they can be performed by a human mind and/or with pen and paper (sending/checking/deleting data; collecting and comparing known information; obtaining and comparing intangible data; comparing new and stored information and using rules to identify options). Additionally, the claim limitations do not add a meaningful limitation because they relate to concepts such as business relations and contracts (creating a contractual relationship), managing a transaction, satisfying a legal obligation, and sales activities (for the service to be paid).

Ans. 8.⁹

The Examiner also concludes:

The instant claims are similar to the claims in TLI because they are "not directed to a specific improvement to computer functionality. Rather, they are directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combing the two." See TLI Communications LLC v. A.V. Automotive,

⁹ The Examiner further concludes:

The recitations to "an electronic intermediate carrier", "personal electronic payment device", and "receiving device" in claim 1 are generically recited computer structure. Using a general purpose computer to perform the limitations is not sufficient to transform a judicial exception into a patentable invention. The computer components are recited at a high level of generality and perform the basic functions of a computer (e.g. sending/receiving/comparing/deleting data). Generically recited computer elements do not add a meaningful limitation to the abstract idea since they would be routine in any computer implementation. Dependent claims 2-7, 9-16, 18-23, and 25-27 fail to cure this deficiency.

Ans. 4.

LLC, (Fed. Cir. 2016). The instant specification is not describing a new type of electronic carrier, new personal device, or new payee receiving device. Instead, the specification "fails to provide any technical details for the tangible components, but instead predominantly describes the system and methods in purely functional terms." Id.

Ans. 5.

As evidence of the conventional nature of the claimed network components and processes, we note Appellants' Specification discloses, for example:

[0015] The electronic intermediate carrier is preferably formed as a transponder. Transponders are economical to produce and do not require any mechanical contacting in the course of a data transmission. The personal electronic means of payment can be formed as a chip card, in particular as an electronic purse or as a security module of a mobile telephone.

[0018] Fig. 1 shows a schematic diagram for an inventive processing of a cashless payment transaction. The upper area of Fig. 1 shows a per se known cash card 1, i.e. a chip card with a purse function, and a transponder 2 at a first time t1. The transponder 2 is formed so as to be small, transportable and preferably reusable; it can be designed in the manner of a label for example. The transponder has a nonvolatile memory 23 for receiving data records and applications. It can further have a display device 22, as indicated in the lower part of Fig. 1, for optically visualizing information on a data record located on the transponder 2.

[0026] Data records transmitted to transponders 2 or received from transponders 2 can also be stored in the receiving device 3. For example, they can be stored in the receiving device 3 on a removable, portable data carrier, in particular in a chip card not shown in the drawing.

[0039] Fig. 3 shows a schematic diagram for a possible implementation of an indirect data transmission integrating a personal device 8 of the owner of a means of payment 12. The

personal device 8 is an intelligent device 8 in the form of a mobile telephone 8. The execution as a mobile telephone is only by way of example. The intelligent device 8 can likewise be present in any other embodiments that, under the owner's control, allow a data communication with a transponder 2 on which a desired application is set up, and thus an indirect data transmission from the means of payment 12 to the transponder 2. It is suitable to use for example so-called PDAs (personal digital assistants), electronic schedulers, laptop computers or also home computers. The mobile telephone 8—standing for an intelligent device—has an antenna 9, a display device 10, a keyboard 11, a security module 12 and a contactless reading device 13 for close-range communication with a transponder 2, preferably in the form of an RFID reading device or an NFC (near field communication) interface.

Spec. ¶¶ 15, 18, 26, and 39.

Notwithstanding Appellants' arguments above, we agree with the Examiner that the claim limitations may be broadly but reasonably construed as reciting conventional computer components and techniques, particularly in light of Appellants' Specification, as quoted above.¹⁰

Thus, with respect to the Step 2 analysis, we agree with the Examiner because, as in *Alice*, the recitation of either a "method of using an electronic intermediate carrier configured to perform cashless processing of a

¹⁰ During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

transaction for paying for a service between an owner of a personal electronic payment device and a payee" (claim 1), or a "system for cashless processing of a transaction for paying for a service" (claim 17) is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2357 ("[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.").

Our reviewing court has held, "the use of generic computer elements like a microprocessor or user interface do not alone transform an otherwise abstract idea into patent-eligible subject matter." *FairWarning IP v. Iatric Sys. Inc.*, 839 F.3d 1089, 1096 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014)).

Accordingly, based upon the findings above, on this record, we are not persuaded of error in the Examiner's conclusion that the appealed claims are directed to patent-ineligible subject matter. Therefore, we sustain the Examiner's § 101 rejection of independent claim 1, and grouped claims 2, 5–9, 11–14, 17–21, and 23–26, not argued separately, and which fall therewith. *See Claim Grouping, supra*.

2. § 103 Rejection R2 of Claims 1–7, 9–23, and 25–27

Issue 2

Appellants argue (App. Br. 11–14, 20–24) the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) as being obvious over the combination of Luzzatto, Tuttle, and Hoffman is in error. These contentions present us with the following issues:

(a) Did the Examiner err in finding the cited prior art combination teaches or suggests "[a] method of using an electronic intermediate carrier configured to perform cashless processing of a transaction for paying for a service between an owner of a personal electronic payment device and a payee" wherein, *inter alia*, "the personal electronic payment device is formed as a chip card, or as a security module of a mobile telephone", as recited in claim 1?

(b) Did the Examiner err in rejecting claim 1 under § 103 because the cited Hoffman prior art reference allegedly teaches away from the suggested combination with Luzzato and Tuttle?

Analysis

(a) All Limitations are Taught or Suggested

The test for obviousness is what the combined teachings of the prior art would have suggested to the hypothetical person of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Appellants generally contend, "the combination of Luzzato, Tuttle, and Hoffman fails to disclose or suggest each and every element of appealed claims 1 and 17." App. Br. 11. Specifically, Appellants state "the Office Action correctly admits that Luzzato fails to disclose or suggest 'the personal electronic payment device is formed as a chip card, or as a security module of a mobile telephone,' as required by claim 1", and further states "Tuttle is relied on in the Office Action for its disclosure of an RFID tag included in a postage stamp (Tuttle, Abstract). But Tuttle fails to remedy the above-noted deficiencies of Luzzato", and "Hoffman is relied on in the Office Action as describing a smart card." App. Br. 21 (citing Final Act. 5, ll. 12–20

(emphasis omitted)). Appellants further allege, "Hoffman thus fails to remedy the above-deficiencies of Luzzato and Tuttle, in that Hoffman's smart card is NOT 'physically separate and independent from the owner's personal electronic payment device.'"

Appellants' contention does not persuade us of error on the part of the Examiner because the Appellants are responding to the rejection by attacking the references separately, even though the rejection is based on the combined teachings of the references. Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). We particularly disagree with Appellants' argument because it does not completely or correctly state the Examiner's position, which finds "Hoffman teaches the personal electronic payment device is formed as a chip card, or as a security module of a mobile telephone." Ans. 7 (citing Hoffman (col. 4, ll. 22–41 "handset")); and "[n]ote that Tuttle also teaches a physically separate and independent electronic carrier (RFID chip)." Ans. 8 (citing Final Act. 5).

We note the Reply Brief is silent on the § 103 Rejection R2, and the Examiner's findings and legal conclusions related thereto.

(b) Hoffman does not "Teach Away"

Appellants contend:

By disclosing that the smart card 18 is maintained within the handset 102 during the transaction, not only does Hoffman not remedy the above-noted deficiencies of Luzzato and Tuttle, but Hoffman teaches away from Appellant's claimed features. Hoffmen [sic] expressly leads the person of ordinary skill away from the electronic intermediate carrier being "*physically*

separate and independent from the owner's personal electronic payment device," as required by claim 1.

App. Br. 22–23. Appellants further argue:

Appellant's claimed payment method provides "the advantage that the cashless payment can be prepared by the owner of a personal electronic means of payment without using the payee's infrastructure and without any need to make contact with the payee." (Appellant's specification, para. [0010]). "The owner," according to Appellant's claimed method, "is thus not subject to any restrictions with regard to the spatial availability of such an infrastructure, or exposed to any waiting periods for utilizing the infrastructure." (Appellant's specification, para. [0010]).

App. Br. 23. Appellants allege none of the cited prior art references, either alone or in combination, "would yield these advantages" because "both Luzzato and Hoffman require the use or contact with the payee's 'infrastructure' . . . in the transaction." *Id.* We disagree with Appellants' contention.

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *Ricoh Co., Ltd. v. Quanta Computer, Inc.*, 550 F.3d 1325, 1332 (Fed. Cir. 2008) (citations omitted). A reference does not teach away if it merely expresses a general preference for an alternative invention from amongst options available to the ordinarily skilled artisan, and the reference does not discredit or discourage investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). We find one of ordinary skill in the art would have understood Hoffman's use of a smart card maintained within the handset to be an alternative to "the electronic intermediate carrier [being] physically

separate and independent from the owner's personal electronic payment device," i.e., a physically separated smart card, the selection of either method amounting to an obvious matter of engineering design choice depending on the application. In the absence of persuasive evidence to the contrary, we fail to find that Hoffman teaches away from a physically separately located smart card.

Moreover, Appellants have not demonstrated that the Examiner's proffered combination of references would have been "uniquely challenging or difficult for one of ordinary skill in the art." *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)). Nor have Appellants provided objective evidence of secondary considerations which our reviewing court guides "operates as a beneficial check on hindsight." *Cheese Sys., Inc. v. Tetra Pak Cheese and Powder Sys.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013).

Therefore, based upon the findings above, on this record, we are not persuaded of error in the Examiner's reliance on the cited prior art combination to teach or suggest the disputed limitation of claim 1, nor do we find error in the Examiner's resulting legal conclusion of obviousness. Therefore, we sustain the Examiner's obviousness rejection of independent claim 1, and grouped claims 2–7, 9–23, and 25–27 which fall therewith. *See Claim Grouping, supra.*

REPLY BRIEF

To the extent Appellants may advance new arguments in the Reply Brief (Reply Br. 2–5) not in response to a shift in the Examiner's position in

the Answer, we note arguments raised in a Reply Brief that were not raised in the Appeal Brief or are not responsive to arguments raised in the Examiner's Answer will not be considered except for good cause (*see* 37 C.F.R. § 41.41(b)(2)), which Appellants have not shown.

CONCLUSIONS

(1) The Examiner did not err with respect to patent-ineligible subject matter Rejection R1 of claims 1–7, 9–23, and 25–27 under 35 U.S.C. § 101, and we sustain the rejection.

(2) The Examiner did not err with respect to obviousness Rejection R2 of claims 1–7, 9–23, and 25–27 under 35 U.S.C. § 103(a) over the cited prior art combination of record, and we sustain the rejection.

DECISION

We affirm the Examiner's decision rejecting claims 1–7, 9–23, and 25–27.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED