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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/147,427	05/05/2016	Takehiko NAKANO	10855US06CON	1876
154930	7590	12/27/2019	EXAMINER	
XSENSUS LLP 200 Daingerfield Road Suite 201 Alexandria, VA 22314			SHOLEMAN, ABU S	
			ART UNIT	PAPER NUMBER
			2495	
			NOTIFICATION DATE	DELIVERY MODE
			12/27/2019	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 TAKEHIKO NAKANO and HISATO SHIMA

Appeal 2018-004737
Application 15/147,427
Technology Center 2400

Before BRADLEY W. BAUMEISTER, MICHAEL J. STRAUSS, and
RUSSELL E. CASS, *Administrative Patent Judges*.

CASS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–18 under 35 U.S.C. § 101 and 35 U.S.C. § 103, which constitute all the pending claims. Appeal Br. 2, 4.² We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant lists Sony Corporation as the real party in interest. Appeal Brief filed October 12, 2017 (“Appeal Br.”) 1.

² Rather than repeat the Examiner’s positions and Appellant’s contentions in their entirety, we refer to the above mentioned Appeal Brief, as well as the following documents for their respective details: the Final Action mailed March 1, 2017 (“Final Act.”); the Examiner’s Answer mailed January 31, 2018 (“Ans.”); and the Reply Brief filed April 2, 2018 (“Reply Br.”).

BACKGROUND

The present invention relates to an apparatus and method for determining whether communications are authorized by measuring the time taken to reach a communication partner. Spec. 1:18–22. Appellant’s Specification explains that when image and music content are transmitted over a network, authentication and key exchange are performed for a communication partner and the content is enciphered and transmitted. *Id.* 2:1–5. However, although the copying and transmission of copyrighted content within a home over a Local Area Network (LAN) may be permitted, transmission of that content to another home connected to a Wide Area Network (WAN) may be restricted. *Id.* 2:7–12. For example, although a recorded television broadcast can be used privately in a home, transmission of that broadcast via the Internet to a third party would violate copyright protections on the broadcast and must be restricted. *Id.* 2:9–12. Thus, to implement such a restriction on content to a third party, a transmitter must judge whether a receiver of the content is in the same LAN as the transmitter, or is connected via WAN (the Internet). *Id.* 2:13–16.

According to the Specification, Appellant’s invention addresses this concern by determining the communication distance between a transmitter and receiver by measuring the response time of a receiver to a predetermined command from the transmitter, which measurement can be used to determine whether the receiver is connected to the same LAN as the transmitter. *Id.* 2:26–29.

Claim 1 is illustrative and is reproduced below with numerals added at the beginning of each limitation, so that it may be referred to more clearly throughout this Opinion:

1. An electronic device comprising:

[i] circuitry configured to

[ii] transmit a random number to another electronic device to share secret information between the electronic device and the another electronic device, wherein the random number is transmitted using transmission control protocol (TCP);

[iii] receive the secret information based on the random number from the another electronic device;

[iv] count a time elapsed from transmitting the random number; and

[v] compare the secret information with expected authentication data generated at the electronic device, wherein

[vi] transmission of content data is authorized when a result of the comparing indicates that the secret information matches the expected authentication data and the secret information is received at the electronic device before a predetermined time elapsed from transmitting the random number expires.

Appeal Br. 17 (Claims Appendix).

PRINCIPLES OF LAW RELATING TO
PATENT ELIGIBILITY UNDER 35 U.S.C. § 101

I. SECTION 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.

However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and

abstract ideas,” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court’s two-step framework, described in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that “a claim drawn to subject matter otherwise statutory does not

become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson and Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must 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.” *Alice*, 573 U.S. at 221 (internal quotation marks omitted). “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.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

II. USPTO SECTION 101 GUIDANCE

In January of 2019, the United States Patent and Trademark Office (“USPTO”) published revised guidance on the application of § 101, which was updated in October 2019. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”); *see*

also October 2019 Update: Subject Matter Eligibility, 84 Fed. Reg. 55942 (available at the USPTO’s website) (“October 2019 PEG Update”). Under the 2019 Guidance, we first look to whether the claim recites the following:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).

2019 Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

2019 Guidance, 84 Fed. Reg. at 56.

ANALYSIS

I. *THE 101 REJECTION*

A. *The Examiner’s Rejection and Appellant’s Contentions*

In the Final Office Action, the Examiner rejects claims 1–18 under 35 U.S.C. § 101 as directed to non-statutory subject matter. Final Act. 6.

The Examiner determines that claims 1, 3 and 16 recite an abstract idea in the form of the steps of “transmit[ing] a random number,” “receiv[ing] the secret information,” “count[ing] a time elapsed,” “compar[ing] the secret information,” and “transmission of content data.” *Id.* at 7; Ans. 2.

The Examiner determines, *inter alia*, that these steps are “directed to collecting and analyzing data for content provision[,] which is similar to concepts identified as abstract by the courts (e.g. collecting and analyzing information to detect misuse and notifying a user when misuse is detected (*FairWarning*), collecting information, analyzing it, and displaying certain results of the collection and analysis (*Electric Power Group*), [c]ollecting and comparing known information (*Classen*), [o]btaining and comparing intangible data (*CyberSource*), [and] tailoring content based on information about the user (*Int. Ventures v. Cap One Bank* ‘382 patent)).” Ans. 2–3. The Examiner further determines that the additional elements in the claim are recited at a high level of generality and perform generic computer functions, and therefore do not provide significantly more than the abstract idea. Final Act. 8–9; Ans. 8–9.

Appellant argues that the Examiner fails to identify an abstract idea in the claims that is analogous to the abstract ideas identified in other cases. Appeal Br. 5. Appellant further argues that the claims improve computer technology because they “are directed to overcoming problems in the field of prohibiting the dissemination of copyright protected content beyond a home network by confirming a locality of two devices (i.e.,[.] that the two devices coexist in the same LAN) sharing the copyrighted content.” *Id.* at 6–7; Ans. 3. (Bold emphasis omitted). Appellant additionally argues that the

claimed combination is more than simply an instruction to apply the features on a generic computer. *Id.* at 11.

We address Appellant’s arguments according to the 2019 Guidance.

B. Analysis under Step 2A, Prong 1, of the 2019 Guidance

Under Step 2A, Prong 1, of the 2019 Guidance, we first must determine whether any judicial exception to patent eligibility is recited in the claim. The 2019 Guidance identifies three judicially excepted groupings: (1) mathematical concepts, (2) certain methods of organizing human activity such as fundamental economic practices and managing interactions between people, and (3) mental processes. 2019 Guidance, 84 Fed. Reg. at 52–53.

Based on existing Supreme Court and Federal Circuit precedent, the 2019 Guidance has identified “certain methods of organizing human activity” that may constitute an abstract idea including, *inter alia*, “managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions).” *See* 2019 Guidance, 84 Fed. Reg. at 52.

The 2019 Guidance also identifies “mental processes” as including “concepts performed in the human mind (including an observation, evaluation, judgment, opinion).” *Id.* at 53 (footnote omitted). The “mental processes” judicial exception also includes concepts that can be performed by a human with a pen and paper as well as those that can be performed entirely in the mind. *See* October 2019 PEG Update at 9 (“a claim that encompasses a human performing the step(s) mentally with the aid of a pen and paper recites a mental process”).

Claim 1, as drafted, recites steps for determining whether transmission of information is authorized that can be performed between

humans or in the human mind without the use of computers or other technological elements. These steps will be discussed in more detail below.

Claim 1, limitation [ii], recites the step of “transmit[ing] a random number to another . . . to share secret information.” This step can be performed by having a human send a random number to another human in a variety of traditional ways, including paper. The random number could be used to encode secret information, such as in, for example, the enigma machines used during World War II to encode secret messages. This step, therefore, reasonably can be characterized as reciting a certain method of organizing human activity in the form of managing interactions between people, such as teaching or following rules or instructions.

Claim 1, limitation [iii] recites the step of “receiv[ing] the secret information based on the random number from the” party receiving the communication in limitation [ii]. This step can be carried out by having a human receiving secret information sent by another human using a variety of traditional means. It, therefore, reasonably can be characterized as reciting a certain method of organizing human activities that entails interactions between humans. The step of receiving the information can also be carried out by having a human observe information, such as on a piece of paper, which is a mental step.

Claim 1, limitation [iv] recites the step of “count[ing] a time elapsed from transmitting the random number.” This step can be performed by a human who measures time by counting it mentally or observing a timer. It, therefore, reasonably can be characterized as reciting a mental process that can be carried out in the human mind.

Claim 1, limitation [v] recites the step of “compar[ing] the secret information with expected authentication data generated” by the sending party. This step merely recites comparing the information, and does not recite how the expected authentication data is generated. The comparing step can be carried out by a human observing the secret information sent by the receiving party and comparing that information to the expected authentication data, which could be information generated by applying a shared key to the random number. This comparing step, therefore, reasonably can be characterized as reciting at least a mental process that can be carried out in the human mind.

Claim 1, limitation [vi], recites the condition that “transmission of content data is authorized when a result of the comparing indicates that the secret information matches the expected authentication data and the secret information is received . . . before a predetermined time elapsed from transmitting the random number expires.” That is, limitation [vi] requires that upon (1) observing that the time elapsed matches a predetermined time and (2) observing that the secret information received from the receiving party matches the expected authentication data, then further making a mental judgment that the comparisons mean that the transmission of content data is authorized. These mental observations and judgment can be performed in the human mind. Limitation [vi], then, reasonably can be characterized as reciting a mental process.

Appellant argues that the claims do not recite a judicial exception that is analogous to those identified by the courts (Appeal Br. 5). As discussed above, however, the claim recites judicial exceptions in the form of mental steps and interactions between people, which the 2019 Guidance has

identified as categories of abstract ideas based on Supreme Court and Federal Circuit precedent. *See* 2019 Guidance, 84 Fed. Reg. 52 & n. 13–14 (citing cases involving mental steps and certain methods of organizing human activity including interactions between people).

For these reasons, we determine that claim 1 recites recognized judicial exceptions to patent eligibility. *See* 2019 Guidance, 84 Fed. Reg. at 52–53. Independent claims 13 and 16 include similar limitations, and therefore also recite judicial exceptions to patent eligibility.

C. Analysis under Step 2A, Prong 2, of the 2019 Guidance

Having determined that claim 1 recites a judicial exception, we next consider whether claim 1 recites “additional elements that integrate the [judicial] exception into a practical application.” *See* 2019 Guidance, 84 Fed. Reg. at 54; MPEP §§ 2106.05(a)–(c), (e)–(h). In making this determination, it is important to consider whether “the additional limitations reflect an improvement in the functioning of a computer, or an improvement to another technology or technical field.” October 2019 PEG Update at 11; *see* 2019 Guidance at 53. As the Guidance explains, “not all claims that recite computer components . . . integrate a judicial exception into a practical application,” and limitations that merely recite “generic computer components that amount[] to mere instructions to implement the abstract idea on a computer . . . [w]ould not be sufficient.” *Id.* at 11–12; *see Alice*, 573 U.S. at 223 (one “cannot transform a patent-ineligible abstract idea into a patent-eligible invention” by “the mere recitation of a generic computer” or by “limiting the use of [the] abstract idea to a particular technological environment”).

Returning our attention to claim 1, in addition to the steps discussed above that can be performed by a human in the mind or through interactions between people, the preamble and limitation [i] also recite that the claimed steps are carried out by an “electronic device” comprising “circuitry.” According to limitation [ii], limitation [i]’s circuitry uses a “transmission control protocol (TCP)” to transmit information to and receive information from “another electronic device.”

The “electronic device” and “circuitry” limitations describe generic computer components that amount to mere instructions to implement the abstract idea on a computer, and therefore are not sufficient to make the claim patent eligible under Step 2A, Prong 2. *See* October 2019 PEG Update at 11–12 (recitation of “generic computer components that amounted to mere instructions to implement the abstract idea on a computer . . . [w]ould not be sufficient to demonstrate integration of a judicial exception into a practical application”); *Alice*, 573 U.S. at 226 (determining that the claim limitations “data processing system,” “communications controller,” and “data storage unit” were generic computer components that amounted to mere instructions to implement the abstract idea on a computer).

The use of “transmission control protocol (TCP)” for the transmission is also insufficient under Step 2A, Prong 2. TCP is simply a generic network protocol used by the Internet as evidenced by, for example, the Balabine reference relied on by the Examiner as prior art. *See* Balabine (US 2004/0034773 A1; published February 19, 2004) (“The TCP/IP protocol is the most popular network protocol of the Internet.”). Appellant’s Specification does not describe any improvements to TCP, but merely utilizes TCP as a generic tool to communicate over the Internet. Spec.

28:25–29:6; 35:3–7; 35:19–21. The use of TCP, therefore, is not an improvement to the functioning of a computer, and is insufficient to transform the judicial exception into a practical application.

Appellant argues that claim 1 improves computer technology because it is “directed to overcoming problems in the field of prohibiting the dissemination of copyright protected content beyond a home network by confirming a locality of two devices (i.e. that the two devices coexist in the same LAN) sharing the copyrighted content.” *Id.* at 6–7; Ans. 3.

The Examiner responds that claim 1 does not reflect these features (Ans. 5), and we agree. Nothing in claim 1 recites determining that two devices coexist in the same LAN or prohibiting the sharing of copyrighted content when the devices do not coexist in the same LAN. Claim 1 merely recites the step of counting an elapsed time and comparing it to a predetermined time to determine if sending of information is authorized. Thus, claim 1 simply is too general to be directed to the technological improvement asserted by Appellant. Restated, Appellant’s arguments are not commensurate in scope with the disputed claim.

We also disagree with Appellant that claim 1 is similar to the claims found to be patent eligible in *Enfish*. In *Enfish*, the claims at issue were “specifically directed to a self-referential table for a computer database” including a “logical table” having “a plurality of logical rows,” each “corresponding to a record of information” and “including an object identification number (OID),” and “a plurality of logical columns intersecting said plurality of logical rows to define a plurality of logical cells,” each column including an OID” to identify each logical column. *Enfish*, 822 F.3d at 1336–1337. As the *Enfish* Court explained, this self-

referential table “is a specific type of data structure described to improve the way a computer stores and retrieves data in memory.” *Id.* at 1339. Unlike the claims in *Enfish*, claim 1 here merely recites mental steps or interactions between people along with conventional computer equipment, rather than specific data structures or specific computer technology that improves the way a computer functions.

For these reasons, Appellant does not persuade us that claim 1 is directed to an improvement in the functioning of a computer or to any other technology or technical field. MPEP § 2106.05(a). Nor is claim 1 directed to a particular machine or transformation. MPEP §§ 2106.05(b), (c). Nor has Appellant persuasively demonstrated that claim 1 adds any other meaningful limitations. MPEP § 2106.05(e). Consequently, the additional limitations in claim 1 beyond the judicial exception do not serve to integrate the judicial exception into a practical application within the meaning of Step 2A, Prong 2, of the 2019 Guidance.

D. Analysis under Step 2B

Under Step 2B, we determine whether claim 1 includes additional elements individually or in combination that provide an inventive concept and, therefore, amount to significantly more than the exception itself. *See* 2019 Guidance, 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 221. We agree with the Examiner that claim 1 does not include additional elements, considered either individually or as an ordered combination, that provide any such “inventive concept,” and that the additional elements in claim 1 are “well-understood, routine, [or] conventional” in the field. Final Act. 8–9; Ans. 8–9. *See* MPEP § 2106.05(d); *Alice*, 573 U.S. at 217 (“we consider the elements of each claim both individually and ‘as an ordered combination’”

to determine whether the claim includes “significantly more” than the ineligible concept).

As discussed above with respect to Step 2A, Prong 2, the additional elements in claim 1 beyond the judicial exception are an “electronic device” comprising “circuitry” that transmits information to and receives information from “another electronic device” using “transmission control protocol (TCP).” However, as also discussed above, these are simple generic computer elements. As such, we agree with the Examiner that they are well-understood, routine, and conventional and are therefore insufficient to provide an “inventive concept” that amounts to significantly more than the abstract idea itself. *See* Final Act. 8; Ans. 9.

Appellant contends that claim 1 passes Step 2B because “the ordered combination of the recited features is much more than simply an instruction to apply the features on a generic computer.” Appeal Br. 12. Specifically, Appellant argues that the “claim features provide a configuration [that] allows for a more reliable way to limit the distribution of copyrighted content for which dissemination is limited (i.e.,] within a LAN), which includes a number of authentication and processing steps that are not considered in combination by” the Examiner. Appeal Br. 12.

As discussed above with respect to Step 2A, Prong 2, however, claim 1 does not recite using the claimed authorization technique specifically *to limit the distribution of content outside a network (such as a LAN)*. Rather, claim 1 merely recites more broadly using the claimed steps in a manner that can be carried out using mental steps and interactions between people, along with generic computer elements including an “electronic device,” “circuitry,” and “transmission control protocol.” Considering these elements

“as an ordered combination” adds nothing of significance that is not already present when the elements are considered separately, because the combination simply involves carrying out the claimed mental process steps and human interactions using generic, conventional computer equipment. *See Alice*, 573 U.S. at 217 (determining that when “[c]onsidered as an ordered combination,” the “computer components” of the claim “add nothing that is not already present when the steps are considered separately”).

Finally, we disagree with Appellant’s contention that claim 1 is analogous to the claims at issue in *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016). *See* Appeal Br. 11–12. The combination claimed in *BASCOM* recited a filtering tool involving specific computer technology, namely,

a remote ISP server coupled to said client computer and said Internet computer network, said ISP server associating each network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated set of logical filtering elements.

Id. at 1345.

The court found that the claimed combination in *BASCOM* involved an “inventive concept” implemented using “a particular arrangement of elements” that was “a technical improvement of prior art ways of filtering” content. *Id.* at 1350. By contrast, the combination of elements in the claims presently at issue does not involve technical improvements to a computer (such as an ISP server) but, rather, recites mental process steps and interactions between people carried out using generic computer elements as a tool.

Consequently, we agree with the Examiner that claim 1 is directed to patent-ineligible subject matter. The same is true of independent claims 13 and 16, which includes similar limitations as claim 1. We, therefore, sustain the rejection of independent claims 1, 13, and 16, and we, likewise, sustain the rejection of dependent claims 2–12, 14, 15, 17, and 18, which are not argued separately.

II. *THE 103 REJECTION*

A. *References*

The Examiner relies upon the following prior art:

Name	Reference	Date
Balabine	US 2004/0034773 A1	Feb. 19, 2004
Weber	US 2004/0098583 A1	May 20, 2004

B. *Rejections*

In the Final Office Action, the Examiner rejects claims 1–18 under 35 U.S.C. § 103 as unpatentable over Balabine in view of Weber.

C. *Determinations and Contentions*

The Examiner finds that Balabine discloses, *inter alia*, transmitting a random number between an electronic device and another electronic device to share secret information, in which the random number is transmitted using TCP (Final Act. 9–10), counting a time elapsed from transmitting the random number (*id.* at 10–11), and transmitting a response when the result of the comparing indicates that the secret information matches the expected authentication data (*id.* at 11). The Examiner also finds that Balabine discloses authentication based on a time difference between the client computer's time and the server computer's time based on a packet received

from the client computer. Ans. 12. The Examiner further determines that Weber discloses transmission of content data based on comparing of secret information and predetermined time elapsed. Final Act. 12.

Finally, the Examiner determines that it would have been obvious “to implement the claimed invention by modifying a method of Balabine, based on the teaching of Weber, because doing so would control distribution of the digital content outside of a predetermined time.” *Id.* at 13.

Appellant contends that the cited portions of Balabine concerning transmitting the random number and counting a time elapsed from transmitting the random number “describe two separate and distinct authentication methods, and piecemeal combining [of] aspect[s] of these different processes is improper.” Appeal Br. 13. Appellant further contends that the Examiner “fails to reconcile how these separate and distinct authentication methods would be operable together, much less how these methods would be combined without rendering one of the methods inoperable.” *Id.* Appellant further states that Weber “fails to remedy the above noted deficiencies of Balabine.” *Id.* at 14.

D. Analysis

We determine that the Examiner has established sufficiently that claim 1 would have been obvious in view of Balabine and Weber. We agree with the Examiner that Balabine discloses both secret key-based authentication using a random number and authentication based on measuring an elapsed time for a transmission between transmitting and receiving devices.

As to secret key-based authentication using a random number, Balabine states that

When hosts use a *secret key-based authentication* method, *server computer 101 generates an 8 octet long random value, Salt, concatenates it with a shared secret key value, Secret, and with the sequence number 140 field, Seq#, from TCP header 113 in SYN packet 200 sent by client computer 100. Server computer 101 applies a secure hash cryptographic algorithm . . . to the resulting octet sequence, thus generating a challenge value . . .* Then server computer 101 concatenates the Salt value and the challenge value, Salt/Ch, and places the result in encrypted challenge data 224 field of SYN/ACK packet 201.

Upon receiving the challenge, client computer 100 verifies that the challenge value, Ch, was indeed sent by server computer by locally recalculating that value. In order to create a response, client computer 100 concatenates the received challenge value, CH with the shared secret value, Secret, and computes a secure cryptographic hash of the result. . . .

Client computer 100 places the computed response value in encrypted response data 231 field of the ACK packet 202. Upon receiving the ACK packet 202, server computer 101 verifies the response value computed by the client computer 100.

Balabine ¶¶ 92–97 (emphasis added).

As to authentication based on an elapsed time, Balabine discloses a method “to authenticate client computer to server computer” based on “a timestamp provided by a trusted third party such as a NTP (Network Time Protocol) server.” *Id.* ¶ 119. In Balabine, a client computer 100 obtains a timestamp T_C from an NTP server, and sends it to a server computer 101. *Id.* ¶¶ 119, 121. When the server computer 101 receives the timestamp T_C , the server computer “obtains an NTP timestamp, T_S .” *Id.* ¶ 122. Then,

“[s]erver computer 101 compares the trusted timestamp value, T_S , with the timestamp value received from client computer 100, T_C , and if the value of the timestamp value received from client computer 100, T_C , is within the window allowed by server computer 101 policy, Δ , $|T_C - T_S| \leq \Delta$, server 101 computer accepts the communications session.” *Id.*

We agree with the Examiner that this discloses the steps in claim 1 of counting a time elapsed from transmitting a number, and determining that transmission of data is authorized when the number is received before a predetermine time has elapsed. Ans. 12–13.

We also agree with the Examiner that Weber discloses using time elapsed from a transmission to determine whether transmission of content is authorized *in addition to* traditional methods of security such as secret key exchange. See Final Act. 12 (citing Weber ¶¶ 3, 19, Figs. 1, 5).

As to secret key exchange, Weber discloses that, when distributing digital content over an insecure communication channel, “traditional digital rights management systems use digital authentication, such as shared secrets and key exchange, to verify that the receiver is authorized to receive the digital content.” Weber ¶ 3.

As to authentication using time elapsed, Weber discloses that

Using the time recorded in step 104 for sending the request for an acknowledgement and the time recorded in step 110 corresponding to receiving the acknowledgement, the sending device calculates an actual round-trip response time in step 112. The calculated actual round-trip response time is compared to [a] predetermined response time limit for the geographic area in which receiving device 71 is located, geographical area 70 in this example. If the actual round-trip response time is within the predetermined response time limit in step 114, the request for digital content is granted in step 118.

However, if the actual round-trip response time exceeds the predetermined response time limit in step 114 for geographical area 70, the request for digital content is denied in step 116.

Weber ¶ 19 (emphasis added); *see also* Weber ¶ 15 (“The present method for using communication channel round-trip response time for digital asset management utilizes predetermined distance between the sending device and the receiving device to prevent unauthorized receipt of the digital content when the unauthorized receiving device is located beyond the predetermined distance from the sending device.”).

Weber further discloses that this elapsed time method of authentication may be used in conjunction with secret key authentication in order to provide an additional layer of security:

Use of the present method for using communications channel round-trip response time for digital asset management adds an additional layer of securing digital content distributed over insecure communication channels over and above the traditional Digital Rights Management (DRM) systems.

Weber ¶ 19 (emphasis added).

Weber discloses that these “traditional” DRM systems include “shared secrets and key exchange.” *Id.* ¶ 3. We agree with the Examiner that this disclosure, in combination with the other disclosures of Weber and the disclosures of Balabine, teach that authorizing transmission of content based elapsed time from a transmission can be combined with other methods of security, such as using secret information based on a random number as disclosed in Balabine. *See* Final Act. 9–13; Ans. 11–13.

Appellant provides no persuasive explanation for why these two authorization methods cannot be combined to provide an additional method of authentication. Appellant asserts that the disclosures of these

authentication methods in Balabine are “separate and distinct” and that the Examiner’s combination is “piecemeal” (Appeal Br. 13–14), but does not address the teaching of Weber that authentication based on elapsed time can be combined with traditional methods of authentication such as secret key exchange.

Indeed, Appellant merely states that “Weber fails to remedy the above noted deficiencies of Balabine,” without further explanation. *Id.* at 14. Moreover, although Appellant suggests that the methods could not be combined “without rendering one of the methods inoperable” (Reply Br. 5), Appellant never explains why the combination of these methods would result in inoperability. Consequently, Appellant has failed to overcome the Examiner’s showing of obviousness.

CONCLUSION

We affirm the Examiner’s rejections of claims 1–18 under 35 U.S.C. § 101 as directed to an exception to patent-eligible subject matter without reciting significantly more, and the Examiner’s rejection of claims 1–18 as unpatentable under 35 U.S.C. § 103.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–18	101	Eligibility	1–18	
1–18	103	Balabine, Weber	1–18	
Overall Outcome			1–18	

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TIME PERIOD FOR RESPONSE

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).

AFFIRMED