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UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Ex parte MINJI KIM, MURIEL MEDARD, and
ALI PARANDEHGHEIBI
_____

Appeal 2018-000862
Application 14/546,272[1]
Technology Center 2400
_____

Before JOHN A. JEFFERY, JUSTIN BUSCH, and CARL L. SILVERMAN, *Administrative Patent Judges*.

SILVERMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–30, which constitute all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We Affirm.

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[1] The real party in interest is identified as Massachusetts Institute of Technology. Appeal Br. 2.

STATEMENT OF THE CASE

The invention relates to using advertisements ("appended content") as keys for streaming protected content. Abstract; Spec. 5:1–6:19, 8:3–9:24, Figs. 1, 2. Claim 1, reproduced below, is exemplary of the subject matter on appeal (emphasis added):

> 1.   *A computer-implemented method in which a computer system performs operations comprising:*
> *providing protected content to a user computer system, wherein said protected content is encrypted; and*
> *previously or contemporaneously or subsequently providing appended content to the user computer system, wherein said appended content comprises an advertisement, and wherein said appended content functions as a decryption key for said protected content.*

Appeal Br. 19 (Claims Appendix).

THE REJECTIONS

Claims 1–30 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to patent-ineligible subject matter. Final Act. 5–6.

Claims 1–3, 5–8, 10–12, 14–17, 19–21, and 23–26 are rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Sidi et al. (US 2009/0083631 A1; pub. Mar. 26, 2009) ("Sidi"). Final Act. 6–13.

Claims 9, 18, 27–30 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Sidi and Radunovic et al. (US 2009/0003216 A1; pub. Jan. 1, 2009) ("Radunovic"). Final Act. 13–16.

Claims 4, 13, and 22 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Sidi and Roach et al. (US 8,850,498 B1; iss. Sept. 30, 2014) ("Roach"). Final Act. 16–18.

2

ANALYSIS

The § 101 Rejection

PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: "'[l]aws of nature, natural phenomena, and abstract ideas.'" *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quotation marks and citation omitted); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *See 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 id.* 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, 69 (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 Supreme 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 191–92 ("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 Supreme 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 (citation). "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.* (quoting *Mayo*, 566 U.S. at 77, (alteration in original)). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The United States Patent and Trademark Office ("USPTO") recently published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance"). Under that guidance, we first determine whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity 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)).

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.

 See Guidance, 84 Fed. Reg. at 54–56.

A claim that integrates a judicial exception into a practical application applies, relies on, or uses the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. *See* Guidance,

84 Fed. Reg. at 54. When the judicial exception is so integrated, then the claim is not directed to a judicial exception and is patent eligible under § 101. *Id.*

The § 101 Rejection of claims 1–30

In the Final Action, the Examiner determines the claims are ineligible because they are directed to "a series of steps (i.e. provide protected content, provide appended content) that may be performed by a single generic, general purpose computer" and "[t]he claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the claim is directed to an abstract idea with additional generic computer elements which do not add a meaningful limitation to the abstract idea because they would be routine in any single generic computer implementation (i.e. provide protected content, provide appended content)." Final Act. 5–6.

In the Answer, the Examiner additionally determines

> Claims 1, 10, and 19 recites a method, medium and system for providing protected content to a user, for which the user has to utilize an appended advertisement as a decryption key for the protected content. The claims 1, 10, and 19 reciting the steps of "*providing protected content to a user computer system*", "*wherein said protected content is encrypted*", "*previously or contemporaneously or subsequently providing appended content to the user computer system*", "*wherein said appended content comprises an advertisement*", and "*wherein said appended content functions as a decryption key for said protected content*" are directed to an abstract idea as the claims describe an abstract idea of providing protected content to a user, for which the user has to utilize an appended advertisement as a decryption key for the protected content. The concept described in claims 1, 10, and 19 is not meaningfully different than those "series of steps" concepts found by the courts to be abstract ideas, such as a method of distributing copyrighted material in exchange for viewing an advertisement as described in the following

6

court case: ("the ordered combination of steps recites an abstract idea and are not tied to any particular novel machine or apparatus", see *Ultramercial Inc. v. Hulu LLC* (Fed. Cir. 2014)).

The claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements when considered both individually and as an ordered combination do not amount to significantly more than the abstract idea. It's noted that the claims recites "computer system", "storage medium", "non-transitory memory", "processor", "communications interface" and "interconnection mechanism". Said computer system, storage medium, non-transitory memory, processor, communications interface and interconnection mechanism are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are well-understood, routine, and conventional activities amount to no more than implementing the abstract idea with a computerized system. The use of generic computer components to perform providing encrypted content and providing appended content that functions as a decryption key does not impose any meaningful limit on the computer implementation of the abstract idea. Thus, taken alone, the additional elements do not amount to significantly more than the above-identified judicial exception (the abstract idea). Therefore, the claim is directed to non-statutory subject matter.

Ans. 3–6.

Appellants argue that the Examiner's conclusion in the Final Action does not present the required prima facie evidence. Appeal Br. 11–12. Regarding the Answer, Appellants argue the Examiner incorrectly interprets the claim to correspond to "the cited judicially established abstract idea of 'a method of distributing copyrighted material in exchange for viewing an advertisement.'" Reply Br. 15. Appellants argue

that the rephrased claim language of "providing protected content to a user, for which the user has to utilize an appended advertisement as a decryption key for the protected content," and the

actual claim language, are both distinct from the cited judicially established abstract idea of "a method of distributing copyrighted material in exchange for viewing an advertisement." A key aspect of distributing copyrighted material in exchange for viewing an advertisement is assuring that the advertisement is actually viewed, i.e., *verifying* the "exchange." Current state of the art techniques assure that the advertisement is viewed by requiring *sequential downloads,* i.e. downloading and playing the advertisement before the copyrighted material can be downloaded. Such sequential downloading creates annoying delays between presentation of the advertisement and presentation of the copyrighted material.

The presently recited invention differs from, and improves upon, prior art techniques by enabling the requested content, such as copyrighted material, to be *downloaded at any time* with respect to download of the advertisement.   This improvement is possible because the advertisement must be viewed in order to obtain the information required to decode the requested content. Hence, the presently recited invention helps to verify the "exchange" by assuring that the advertisement is actually viewed. Moreover, the recited invention advantageously accomplishes such verification of the exchange without reliance on sequential downloads. In claim 1, for example, the combination of providing encrypted protected content to a user computer system, and previously or contemporaneously or subsequently providing appended content to the user computer system, wherein said appended content comprises an advertisement that functions as a decryption key for said protected content, amounts to significantly more than the alleged abstract idea because the recited features eliminate the problematic requirement for sequential downloading while assuring that the advertisement is presented. Appellant therefore respectfully suggests that the pending claims recite additional elements in combination that amount to significantly more than the exception.

Appellant also respectfully suggests that the claims recite eligible subject matter because the recited invention improves the functioning of the user computer. A measure of the performance of a computer is the responsiveness of its interfaces. Frustrating delays between user input and computer response are indicators of poor performance. The presently recited invention improves functioning

(performance) of the user computer by enabling the computer to present requested and required content without annoying delays. Software claimed in a patent that improves computer functioning is not "directed to" an abstract idea under the first step of the Supreme Court's patent eligibility test, according to the Federal Circuit.

Id. at 15–17 (footnote citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) omitted).

Regarding the alleged abstract idea of "a method of distributing copyrighted material in exchange for viewing an advertisement as described," claim 1, whose body consists of only two clauses, recites in its entirety:

> 1.   *A computer-implemented method in which a computer system performs operations comprising:*
> *providing protected content to a user computer system, wherein said protected content is encrypted; and*
> *previously or contemporaneously or subsequently providing appended content to the user computer system, wherein said appended content comprises an advertisement, and wherein said appended content functions as a decryption key for said protected content.*

Even if claim 1 recites an abstract idea, the Federal Circuit explains the "directed to" inquiry is not simply asking whether the claims involve a patent-ineligible concept:

> The "directed to" inquiry . . . cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S.Ct. at 1293 ("For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas."). Rather, the "directed to" inquiry applies a stage-one filter to claims, considered in light of

the specification, based on whether "their character as a whole is
directed to excluded subject matter."

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016); *see
also Diehr*, 450 U.S. at 188 ("In determining the eligibility of respondents'
claimed process for patent protection under § 101, their claims must be
considered as a whole."); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837
F.3d 1299, 1314 (Fed. Cir. 2016) (the question is whether the claims as a
whole "focus on a specific means or method that improves the relevant
technology or are instead directed to a result or effect that itself is the
abstract idea and merely invoke generic processes and machinery").

Alice/Mayo Step One

Given its sheer scope, breadth, and high level of generality, we
conclude that claim 1 is ineligible under § 101 in light of the USPTO's
Revised Guidance and applicable legal precedent. In reaching this
conclusion, we first note that the claim recites a method and, therefore, falls
within the process category of § 101. But despite falling within this
statutory category, it must still be determined whether the claim is directed
to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217.
To this end, it must be determined whether the claim (1) recites a judicial
exception, and (2) fails to integrate the exception into a practical application.
See Guidance, 84 Fed. Reg. at 52–55. If both elements are satisfied, the
claim is directed to a judicial exception under the first step of the *Alice/Mayo*
test. *See id.*

Although the Specification is helpful in illuminating what a claim is
"directed to," when analyzing patent eligibility, reliance on the Specification
must always yield to the claim language when identifying the claimed
invention's focus. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759,

10

766 (Fed. Cir. 2019). Here, despite reciting that (1) the method is *computer-implemented* in which a *computer* performs operations, and (2) providing protected and appended content *to a user computer system*, all of claim 1's recited limitations, which collectively are directed to providing content to decrypt other associated content, fit squarely within at least one of the categories of abstract ideas in the USPTO's guidelines.

Specifically, (1) *providing protected content to a user . . . wherein said protected content is encrypted*; and (2) *previously or contemporaneously or subsequently providing appended content to the user . . . wherein said appended content comprises an advertisement, and wherein said appended content functions as a decryption key for said protected content* involves at least personal interactions, including following rules or instructions, at least to the extent that a person could obtain this information entirely mentally by merely reading pertinent records or other associated information or writing this information down. *Cf. CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (noting that limitation reciting obtaining information about transactions that have used an Internet address identified with a credit card transaction can be performed by a human who simply reads records of Internet credit card transactions from a pre-existing database). Alternatively, a person could obtain that information by communicating with another person with such knowledge, such as a merchant or colleague, or by writing this information down. *Cf. id.; TLI Commc'n, LLC v. AV Automotive, LLC*, 823 F.3d 607, 610–14 (Fed. Cir. 2016) (holding ineligible claims reciting recording and administering digital images including (1) recording images using a digital pick-up unit in a telephone unit; (2) storing the recorded images; (3) transmitting data

including the images and classification information to a server; (4)
extracting the received classification information; and (5) storing the images
in the server considering that information); *In re Salwan*, 681 F. App'x 938,
939–41 (Fed. Cir. 2017) (unpublished) (holding ineligible claims reciting,
among other things, receiving medical records information and transmitting
reports where the claimed invention's objective was to enable electronic
communication of tasks that were otherwise done manually using paper,
phone, and facsimile machine); *Interval Licensing LLC v. AOL, Inc.*, 896
F.3d 1335, 1344 (Fed. Cir. 2018) (noting that a nontechnical human activity
of passing a note to a person who is in a meeting or conversation as
illustrating the invention's focus, namely providing information to a person
without interfering with the person's primary activity); *LendingTree, LLC v.
Zillow, Inc.*, 656 F. App'x 991, 993–94, 996 (Fed. Cir. 2016) (unpublished)
(holding ineligible claims reciting, among other things, (1) receiving
selection criteria from lending institutions and credit data from a computer
user, and (2) forwarding the credit data to selected lending institutions as
directed to an abstract idea). Therefore, the recited providing limitations fall
squarely within the mental processes and methods of organizing human
activity categories of the agency's guidelines and, therefore, recite an
abstract idea. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary (1)
mental processes including observation and evaluation, and (2) methods of
organizing human activity, including personal interactions and following
rules or instructions).

We reach this conclusion notwithstanding the fact that the recited
protected content is encrypted, and the appended content functions as a
decryption key for the protected content. Notably, the claim lacks any

details as to the nature of the encryption scheme used to encrypt the protected content, or any details regarding the nature of the corresponding decryption scheme apart from the fact that appended content, which includes an advertisement, (1) is provided at *any* time (i.e., previously, contemporaneously, or subsequently with respect to providing the protected content), and (2) functions, in some unspecified way, as a decryption key. In other words, nothing in the claim precludes simple forms of encryption, such as merely mapping one or more textual characters to one or more other textual characters, and an associated decryption key—whenever such a key is provided.

This simple encryption could be along the lines of the encryption scheme noted in the definition of "encryption" in Barron's Dictionary of Computer and Internet Terms that, on page 168, gives a simple example of encrypting letters of the alphabet by merely replacing a letter with one that is 10 places later in the alphabet so that "A" is replaced with "K," "B" is replaced with "L," etc. *See* Douglas Downing et al., BARRONS' DICTIONARY OF COMPUTER & INTERNET TERMS 167–70 (10th ed. 2009).

For example, suppose an encryption scheme replaced certain letters of the alphabet with numbers along the lines of the Barron's dictionary definition noted above, such that "S" is replaced with the number 5, "O" with the number "0" (zero), etc. If a user is handed a piece of paper on which the characters "U5PT0" are written, some users may not know what this means, but when handed another piece of paper with the letter-to-number mapping consistent with this encryption scheme, they could then use this information as a key to decrypt the content "U5PT0" on the first piece of paper by mentally replacing the "5" with an "S" and the "0" (zero) with

13

the letter "O" to yield the term "USPTO." Some users may even be able to perform this decryption without this specific mapping articulated on a piece of paper, but rather just read an advertisement for the USPTO and mentally associate the terms "U5PT0" and "USPTO" and their associated characters to decrypt the first term by inspection and deduction. Similar examples could also occur for other entities, whose names or other associated criteria can be encrypted on a piece of paper by replacing one or more textual characters with other characters, and then using a paper advertisement for that entity to decrypt that encrypted information (e.g., the letter "I" can be mapped to the numeral "1" so that "1BM" is an encrypted form of "IBM", where the term "1BM" could then be decrypted mentally using a separate IBM paper advertisement). This simple example fully comports not only with the ordinary and customary meaning of the term "encrypt" noted above, but also the term "key" that is defined, quite broadly, as "the password or other secret information needed to decode an encrypted message." *Id.* at 273.

In another example, suppose a user was handed a piece of paper with the abbreviation "USPTO" written on it. Some recipient users may not know what "USPTO" stands for, but when provided another piece of paper with "United States Patent and Trademark Office (USPTO)" written on it, such as an advertisement for the USPTO, the user can then use this information as a key to decrypt the content "USPTO" on the first piece of paper.

These are just a few of numerous examples of simple content-based encryption and decryption schemes encompassed by the claimed invention given the sheer scope and breadth of the claim language. Ordinarily skilled

artisans could surely envision many more examples involving other such schemes, whose possibilities are virtually unlimited. That the Federal Circuit has held that encoding and decoding information are processes that can—and have been—performed in the human mind, *see Return Mail, Inc. v. U.S. Postal Service*, 868 F.3d 1350, 1368 (Fed. Cir. 2017), only underscores that encryption and decryption (which merely encodes and decodes information) are mental processes. *See also RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017) (determining the claimed "method reflects standard encoding and decoding, an abstract concept long utilized to transmit information."). That encryption and decryption processes are not even claimed here, but rather *providing content* associated with those processes, only further underscores the abstract idea recited in claim 1.

Although the claim recites an abstract idea based on these methods of organizing activity and mental processes, it must still be determined whether the abstract idea is integrated into a practical application, namely whether the claim applies, relies on, or uses the abstract idea in a manner that imposes a meaningful limit on the abstract idea, such that the claim is more than a drafting effort designed to monopolize the abstract idea. *See* Guidance, 84 Fed. Reg. at 54–55. To this end, it must be determined (1) whether there are any additional recited elements beyond the abstract idea, and, if so, (2) those elements must be evaluated individually and collectively to determine whether they integrate the exception into a practical application. *See id.*

Here, the fact that the recited method is (1) *computer-implemented* in which a *computer* performs operations, and (2) provides protected and

appended content *to a user computer system* are the only recited elements beyond the abstract idea, but those additional elements do not integrate the abstract idea into a practical application when reading claim 1 as a whole. First, we are not persuaded that the claimed invention improves a computer or its components' functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in *Enfish LLC v. Microsoft Corporation*, 822 F.3d 1327 (Fed. Cir. 2016). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellants contend that the claimed invention uses such a data structure to improve a computer's functionality or efficiency, or otherwise change the way that device functions, there is no persuasive evidence on this record to substantiate such a contention.

To the extent that Appellants contend that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution, we disagree. Even assuming, without deciding, that claimed invention can provide protected and appended content to a user faster or more efficiently than doing so manually, any speed or efficiency increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Services, LLC v. Sun Life Assurance Co.*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter."); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App'x 1012,

1017 (Fed. Cir. 2017) (unpublished) ("Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer do not materially alter the patent eligibility of the claimed subject matter."). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

Nor is this invention analogous to that which the court held eligible in *McRO, Inc. v. Bandai Namco Games America, Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). There, the claimed process used a combined order of specific rules that rendered information in a specific format that was applied to create a sequence of synchronized, animated characters. *McRO*, 837 F.3d at 1315. Notably, the recited process *automatically animated characters* using particular information and techniques—an improvement over manual three-dimensional animation techniques that was not directed to an abstract idea. *Id.* at 1316.

But unlike the claimed invention in *McRO* that improved how the physical display operated to produce better quality images, the claimed invention here merely uses generic computing components to provide content to decrypt other associated content. This generic computer implementation is not only directed to organizing human activity and mental processes, but also does not improve a display mechanism as was the case in *McRO*. *See SAP Am. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

Nor is this a case involving eligible subject matter as in *DDR Holdings, LLC v. Hotels.Com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). There, instead of a computer network operating in its normal, expected manner by sending a website visitor to a third-party website apparently connected with a clicked advertisement, the claimed invention in *DDR* generated and directed the visitor to a hybrid page that presented (1) product information from the third party, and (2) visual "look and feel" elements from the host website. *DDR*, 773 F.3d at 1258–59. Given this particular Internet-based solution, the court held that the claimed invention did not merely use the Internet to perform a business practice known from the pre-Internet world, but rather was necessarily rooted in computer technology to overcome a problem specifically arising in computer networks. *Id.* at 1257.

That is not the case here. As noted previously, Appellants' claimed invention, in essence, provides content to decrypt other associated content —albeit by using a computer to achieve that end. The claimed invention here is not necessarily rooted in computer technology in the sense contemplated by *DDR* where the claimed invention solved a challenge particular to the Internet. Although Appellants' invention uses a computer, the claimed invention does not solve a challenge particular to the computer that is used to implement this functionality.

In short, although the recited steps may be beneficial by providing content to decrypt other associated content, a claim for a useful or beneficial abstract idea is still an abstract idea. *See Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379–80 (Fed. Cir. 2015).

Therefore, we conclude that claim 1 is directed to an abstract idea.

Alice/Mayo Step Two

Turning to *Alice/Mayo* step two, claim 1's additional recited elements, namely that the recited method (1) is *computer-implemented* in which a *computer* performs operations, and (2) provides protected and appended content *to a user computer system*—considered individually and as an ordered combination—do not provide an inventive concept such that these additional elements amount to significantly more than the abstract idea. *See Alice*, 573 U.S. at 221; *see also* Guidance, 84 Fed. Reg. at 56. As noted above, the claimed invention merely provides content to decrypt other associated content using generic computing components whose generic computing functionality is well-understood, routine, and conventional. *Accord* Ans. 4–5 (noting this point); *see also* Spec. 3–4, 9–14 (describing generic computer components used to implement the disclosed invention).

Given the claimed invention's high level of generality, the additional recited elements do not add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two. To the extent Appellants contend otherwise, we disagree.

In conclusion, the additional recited elements—considered individually and as an ordered combination—do not add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two. *See Alice*, 573 U.S. at 221; *see also* Guidance, 84 Fed. Reg. at 56.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 1, and independent claims 10 and 19, which are commensurate in scope with claim 1, as ineligible under § 101. Appellants do not present arguments regarding dependent claims 2–9, 11–18, and 20–30, and based on the record before us, we are not persuaded of Examiner error.

Therefore, we sustain the rejection of claims 1–30 under 35 U.S.C. § 101.

The § 102 rejection of claims 1–3, 5–8, 10–12, 14–17, 19–21, and 23–26

Appellants argue that the Examiner errs because Sidi's gating and protected segments do not disclose the claim 1 limitations and does not provide a solution to the problem of delayed downloading. Appeal Br. 12–13; Reply Br. 17–19.

In the Final Action, the Examiner finds that Sidi discloses the claim 1 limitations, including "previously or contemporaneously or subsequently providing appended content to the user computer system, wherein said appended content comprises an advertisement, and wherein said appended content functions as a decryption key for said protected content" (also referred to as "disputed limitation"). Final Act. 6–7 (citing Sidi ¶ 41:1–3, 12–15, ¶ 85:1–10).

In the Appeal Brief, Appellants argue Sidi's gating segment must be viewed in order to view the protected segments and Sidi does not recognize the problem of delayed downloading, nor provide a solution to the problem. Appeal Br. 13. Appellants argue Sidi does not teach "providing both an encrypted protected segment and a gating segment advertisement that functions as a decryption key to a user computer system." *Id.* According to Appellants, "Sidi describes a technique for measuring user engagement during presentation of media content. A media content player application includes 'gating segments' and 'protected segments.' The gating segments must be viewed in order to view the protected segments." *Id.* at 12–13.

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In the Answer, the Examiner finds

> Sidi et al. clearly teaches providing protected content to a user computer system *(Sidi et al. Paragraph 40 Lines 1-3 teaches the providing of protected media content segments to a user at a computer system in a controlled fashion so that access to the content by the user can be controlled),* wherein said protected content is encrypted *(Sidi et al. Paragraph 85 Lines 1-2 teaches that these protected content segments are encrypted),* and previously or contemporaneously or subsequently providing appended content to the user computer system *(Sidi et al. Paragraph 41 Lines 1-3 teaches the providing of appended gating media content segments contemporaneously (defined by Merriam-Webster as existing, occurring, or originating during the same time) or at the same time),* wherein said appended content comprises an advertisement *(Sidi et al. Paragraph 41 Lines 10-15 teaches that these appended gating media content segments include an advertisement directed to the user which must be viewed by the user in order to have access to the associated protected segment),* and wherein said appended content functions as a decryption key for said protected content *(Sidi et al. Paragraph 85 Lines 1-10 teaches that these appended gating media content segments also include an embedded encryption key that is utilized in decrypting the protected content segments).* Thereby clearly anticipating the limitations of Claims 1, 10, 19 as argued by the appellant.

Ans. 6.

According to the Examiner, regarding Appellants' argument that "the references fail to show certain features of applicant's invention, . . . the features upon which applicant relies (i.e., 'that Sidi fails to provide a solution to, or even acknowledge the existence of, the problem of delaying download of requested content until an advertisement has been viewed') are not recited in the rejected claim(s)." *Id.* at 7. The Examiner states that "[a]lthough the claims are interpreted in light of the specification, limitations

from the specification are not read into the claims." *See In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)." *Id.*

In the Reply Brief, Appellants reiterate their arguments that Sidi teaches the prior art sequential download technique that leads to annoying delays between an advertisement and a corresponding video and "[i]n all embodiments Sidi relies on *sequential download of the gating segment before the associated protected segment*." Reply Br. 17–18 (emphasis added). Regarding the Examiner's finding that Sidi teaches downloading gating segments contemporaneously with protected segments, Appellants argue that the cited Sidi portions do not teach the order in which the segments are downloaded. *Id.* at 18. According to Appellants, Sidi teaches the order is a temporal progression in which "sequential protected segments 102 ... are preceded by associated gating segments 104." *Id.* at 18 (citing Sidi ¶¶ 58, 59). Appellants argue the Examiner errs in finding the solution to the delayed download problem is not recited in the claim because "[c]laim 1, for example, recites 'providing protected content' to a user computer system, previously *or contemporaneously or subsequently 'providing appended content'* to the user computer system, wherein said appended content comprises an advertisement, and wherein said appended content functions as a decryption key for said protected content" (emphasis added). *Id.* at 19.

We are not persuaded by Appellants' arguments because one of ordinary skill in the art would understand the plain language of the claim to apply to the disclosure of Sidi cited by the Examiner. In particular, the limitation "previously *or* contemporaneously *or* subsequently" (emphasis added) is understood to encompass *any one* of "previously,"

"contemporaneously," or "subsequently." Claim terms in a patent application are given the broadest reasonable interpretation consistent with the Specification, as understood by one of ordinary skill in the art. *In re Crish*, 393 F.3d 1253, 1256 (Fed. Cir. 2004). *See* Spec. 13:26–14:13

Therefore, we sustain the rejection of claim 1, independent claims 10 and 19 which recite the disputed limitation, and dependent claims 11, 12, 14, 17, 20, 21, 23, and 26 as these claims are not argued separately.

Dependent claims 2, 3, 5– 8, 15, 16, 24, and 25

Claim 2 recites "[t]he method of claim 1 comprising previously or contemporaneously or subsequently providing appended content that has been network coded by using coding coefficients." The Examiner identifies Sidi's employment of MPEG 4 to meet this limitation ("appended content described as a 'gating media content segment' is transmitted utilizing network coded communication protocols that further use network coded data coding schemes including MPEG 4 for encoding of data packets or segments which require the use of coding coefficients as part of the chosen network coded data encoding scheme"). Final Act. 7 (citing Sidi ¶¶ 41:1–3, 44:7–12, 17:7–11, 50:3–6). In the Answer, the Examiner notes that the term "network coded" is not clearly defined in the Specification and

> Sidi et al. Paragraph 49 has Internet Protocol which is a protocol for communication over a network. Packets must be coded in the protocol's format else they will not propagate through the network. MPEG4 is sent via the IP network and MPEG4 uses coding coefficients by the coding of quantized transform coefficients. MPEG4 is a compression algorithm that reduces bandwidth. The combination of IP and MPEG4 teach network coded by using coding coefficients. The way Claim 2 is presently written the words network coded have a very broad meaning, since they are common industry terms that can mean something as simple as the coding of a network message to contain private data embedded in an industry standard networking protocol. In

this case utilizing something as simple as MPEG 4, as described above, is an example. Appellant could amend network coded to more accurately reflect the specification and the meaning that appellant intends. Thereby Sidi et al. clearly anticipates the limitations of Claim 2 as argued by the appellant.

Ans. 8–9.

Appellants argue that compression formats such as MPEG 4 are not equivalent to network coding using coding coefficients, descriptions of network coding can be found in the specification, and MPEG 4 is not even a transmission protocol. Appeal Br. 14 (citing Spec. 6–8). In the Reply Brief, Appellants argue

that network coding is a term of art. Moreover, it is stated at page 7, lines 25-26 that "it is important to note that in order to decode the content, a node needs to perform Gaussian-elimination on the coding coefficients." Linear network coding uses that principle; MPEG 4 does not.

Reply Br. 20.

Based on the record before us, we are not persuaded by Appellants' arguments. The Examiner's findings are reasonable, and Appellants' rebuttal is conclusory and based on attorney arguments. Mere attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *Ex parte Belinne*, Appeal 2009-004693, 2009 WL 2477843, at *3–4 (BPAI Aug. 10, 2009) (informative).

Claim 3 recites "[t]he method of claim 1 comprising providing said protected content from at least one of a group consisting of a server and a peer and comprising previously or contemporaneously or subsequently

providing appended content from one of a server and a peer." The Examiner finds Sidi teaches receiving protected content from a server, as discussed *supra*, regarding claim 1. Final Act. (citing Sidi ¶¶ 53:5–6); Ans. (citing Sidi ¶ 53). Appellants argue Sidi provides no indication the media content is encrypted. Appeal Br. 14; Reply Br. 20.

We are not persuaded by Appellants' arguments because Sidi expressly describes that the protected content ("protected segments") and the appended content ("gating segment") are encrypted. Sidi ¶ 85.

Claim 5 recites "[t]he method of claim 1 comprising encrypting all of said network coded appended content." In the Final Action, the Examiner notes the lack of antecedent for "network coded appended content" and chose to construe the term in this claim to refer to "protected content network coded data." Final Act. 8. In the Answer, the Examiner states that "[r]egardless of what was construed by the Examiner . . . , Sidi '*teaches that all data of network coded appended content is encrypted, since the protected segments (which are network coded based on being part of a network coded Internet Protocol packet) are both appended to the Internet Protocol packet and are encrypted.*'" Ans. 10 (citing Sidi ¶ 85:1–10).

Appellants argue that the Examiner's Final Action misinterprets the network coded *appended* content to be network coded *protected* content and Sidi does not teach encryption of a gating segment that functions as a decryption key. Appeal Br. 15; Reply Br. 20–21.

We are not persuaded by Appellants' arguments because Sidi teaches that all of the data is encrypted and, as discussed *supra* regarding claim 1, the appended content functions as a decryption key for the protected content.

Claim 6 recites "[t]he method of claim 1 comprising selecting appended content from a plurality of instances of appended content based on user information." We are persuaded by Appellants' argument that the Examiner errs because, although Sidi describes an advertisement (appended content), the portion of Sidi relied upon by the Examiner does not describe the claimed "selecting appended content from a plurality of instances of appended content based on user information." Sidi ¶ 41; Appeal Br. 15; Reply Br. 21; Final Act. 8; Ans. 11. Therefore, on the record before us, we do not sustain the rejection. Although Appellants do not argue dependent claims 7, 15, 16, 24, and 25 separately, these claims recite commensurate limitations as claim 6 and, therefore, we also do not sustain the rejection of these claims.

Claim 8 recites "[t]he method of claim 1 comprising receiving protected content that has been network coded." The Examiner and Appellants' positions are similar to the discussion of similar claim 2, discussed *supra*. Appeal Br. 15; Reply Br. 21–22; Final Act 9; Ans. 12. For the same reasons, we are not persuaded by Appellants' arguments and, therefore, we sustain the rejection.

In view of the above, we sustain the rejection of dependent claims 2, 3, 5, and 8, and do not sustain the rejection of claims 6, 7, 15, 16, 24, and 25.

The § 103 rejections

Dependent claims 9, 18, and 27–30 over Sidi and Radunovic

Appellants rely on the asserted allowability of the independent claims 1, 10, 19, discussed *supra*. Appeal Br. 16; Reply Br. 22. Because we determined the independent claims are unpatentable over Sidi under § 102, and the Examiner's findings and conclusions regarding the rejection of these

dependent claims under § 103 over Sidi and Radunovic are reasonable and not rebutted, we sustain the rejection of dependent claims 9, 18, and 27–30.

Dependent c*laims 4, 13, and 22 over Sidi and Roach*

Claims 4, 13, and 22 recite "encrypting only said coding coefficients used to code said network coded appended content."

The Examiner finds that Roach teaches "a system and a method of network coding in which only the coding coefficients utilized in the network coding of appended or additional content are encrypted in order to implement a light encryption structure by only encrypting the coding coefficients versus encrypting the entire network coded packet stream." Final Act. 17 (citing Roach, 5:49–55, 60–65). The Examiner finds that one of ordinary skill in the art would have combined the teachings of Sidi (encrypting entire stream) and Roach (light encryption) "so as to provide a more efficient and less processor intensive way of utilizing encryption to secure a network coded packet stream." Final Act. at 18; *see also* Ans. 14–16 ("the motivation to combine is to provide a more efficient and secure way of recovering original data packets.")

Appellants argue the Examiner misinterprets appended content for protected content as in the rejection of claim 5, and there is no mention in Roach of network coding or encryption of coefficients. Appeal Br. 16–17. Appellants argue the Examiner's motivation to combine Sidi and Roach is inadequate. *Id.* In the Reply Brief, Appellants argue

> In the **Examiner's Answer** the Examiner argues that column 6, lines 49-55 and 60-65 of Roach clearly teach encrypting only the coding coefficients used to code said network coded appended content. Appellant disagrees. The cited passages teaches that the most significant coefficients of a video compression format are encrypted. Roach's coefficients

> are not decryption keys for network coded protected content. As
> already indicated above, the interpretation of the pending claims
> as reciting video and audio file formats such as MPEG 4 is
> inconsistent with the specification.

Reply Br. 23–24.

We are not persuaded by Appellants' arguments and agree, instead, with the findings and conclusions of the Examiner. Both Sidi and Roach teach encrypting appended content and protected content, as discussed *supra* regarding claim 1. Roach additionally teaches light encryption. As in our discussion of claim 2, *supra*, based on the record before us, the Examiner's findings and conclusions are reasonable and Appellants' arguments are insufficient.

Appellants also argue an unreasonably narrow teaching of the cited references and an overly demanding standard of obviousness.

> The test for obviousness is not whether the features of a
> secondary reference may be bodily incorporated into the
> structure of the primary reference; nor is it that the claimed
> invention must be expressly suggested in any one or all of the
> references. Rather, the test is what the combined teachings of
> the references would have suggested to those of ordinary skill in
> the art.

Keller, 642 F.2d 413, 425 (CCPA 1981).

Here, the Examiner provides sufficient evidence as required for obviousness. As stated by the Supreme Court, the Examiner's obviousness rejection must be based on:

> [S]ome articulated reasoning with some rational underpinning to
> support the legal conclusion of obviousness. . . . [H]owever, the
> analysis need not seek out precise teachings directed to the
> specific subject matter of the challenged claim, for a court can

take account of the inferences and creative steps that a person of
ordinary skill in the art would employ.

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 Examiner's findings are reasonable because the skilled artisan
would "be able to fit the teachings of multiple patents together like pieces of
a puzzle" because the skilled artisan is "a person of ordinary creativity, not
an automaton." *KSR*, 550 U.S. at 420–21.

Based upon the teachings of the references and the fact that each
claimed element was well known in the art, we agree with the Examiner
because the combination of familiar elements according to known methods
is likely to be obvious when it does no more than yield predictable results.
Id. at 415–16. We note Appellants present no persuasive arguments that the
results are unpredictable. Moreover, as discussed *supra*, the Examiner
additionally provided reasons why one of ordinary skill in the art would
have combined the references in the manner suggested.

On this record, Appellants do not present sufficient or persuasive
evidence that the combination of the cited references was "uniquely
challenging or difficult for one of ordinary skill in the art" or "represented an
unobvious step over the prior art." *Leapfrog Enters., Inc. v. Fisher-Price,
Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 419–21

Therefore, we sustain the rejection of claims 4, 13, and 22.

DECISION

We affirm the Examiner's decision rejecting claims 1–30 under 35
U.S.C. § 101.

We affirm the Examiner's decision rejecting claims 1–3, 5, 8, 10–12, 14, 17, 19–21, 23, and 26 under 35 U.S.C. § 102.

We reverse the Examiner's decision rejecting claims 6, 7, 15, 16, 24 and 25 under 35 U.S.C. § 102.

We affirm the Examiner's decision rejecting claims 4, 9, 13, 18, 22, and 27–30 under 35 U.S.C. § 103.

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