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EXAMINER
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CASEY, ALEXIS M

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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* ALEXANDER MCKELVEY

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Appeal 2018-000989  
Application 12/233,456<sup>1</sup>  
Technology Center 3600

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Before CARLA M. KRIVAK, HUNG H. BUI, and JON M. JURGOVAN,  
*Administrative Patent Judges.*

JURGOVAN, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant seeks review under 35 U.S.C. § 134(a) from a Final Rejection of claims 1, 3–5, 7–12, and 21–24.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.<sup>3</sup>

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<sup>1</sup> Appellant identifies Microsoft Technology Licensing, LLC, as the real party in interest. (App. Br. 3.)

<sup>2</sup> Claims 13–19 have been withdrawn from consideration, and claims 2, 6, and 20 have been cancelled. (Final Act. Office Action Summary.)

<sup>3</sup> Our Decision refers to the Specification (“Spec.”) filed September 18, 2008, the Final Office Action (“Final Act.”) mailed November 4, 2016, the Appeal Brief (“App. Br.”) filed May 8, 2017, the Examiner’s Answer (“Ans.”) mailed September 8, 2017, and the Reply Brief (“Reply Br.”) filed November 8, 2017.

### CLAIMED INVENTION

The claims are directed to methods for building digital licenses for digital rights management (DRM) of content executed or played on electronic devices. (Spec. ¶¶ 2, 7; Title.) Appellant's methods assign a policy and an identifying digital fingerprint to a digital license, wherein the digital fingerprint is obtained by applying a deterministic sequence/hash function only to a rights-affecting policy portion in the license. (Spec. ¶¶ 8, 14, 16.)

Claims 1, 21, and 23 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A computer-implemented method of building a digital license for digital rights management executed on an electronic device, the method comprising:

assigning a decryption content key to the digital license, the electronic device requiring the decryption content key to decrypt content data encrypted by a symmetric encryption cryptographic content key;

assigning a policy in the digital license, the policy including a first portion not affecting rights granted by the policy and a second portion defining circumstances in which the decryption content key is allowed to decrypt the content data, the second portion including indication of when the digital license expires;

applying a deterministic sequence of instructions to the second portion of the policy to return a digital fingerprint based on the second portion of the policy but ignoring the first portion of the policy; and

assigning the digital fingerprint to the digital license as an identifier for the digital license.

(App. Br. 27–32 (Claims App.).)

## REJECTIONS & REFERENCES

(1) Claims 1, 3–5, 7–12, and 21–24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. (Final Act. 2–3.)

(2) Claims 1, 3–5, 7–12, and 21–24 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. (Final Act. 4–6.)

(3) Claims 1, 3–5, 7, 8, 10, 12, and 21–24 stand rejected under 35 U.S.C. § 103(a) based on Yen et al. (US 7,464,058 B2, issued Dec. 9, 2008) (“Yen”), Flink et al. (US 7,024,562 B1, issued Apr. 4, 2006) (“Flink”), and Boccon-Gibod et al. (US 2007/0100701 A1, published May 3, 2007) (“Boccon-Gibod”). (Final Act. 6–10.)

(4) Claims 9 and 11 stand rejected under 35 U.S.C. § 103(a) based on Yen, Flink, Boccon-Gibod, and Alve et al. (US 2008/0313741 A1, published Dec. 18, 2008) (“Alve”). (Final Act. 10–12.)

## ANALYSIS

### *§ 112, Second Paragraph Rejection*

Independent claims 1, 21, and 23 recite methods of building a digital license by, *inter alia*, assigning a decryption content key *to* the digital license, assigning a policy *in* the digital license, and assigning a digital fingerprint/license identifier *to* the digital license. The Examiner asserts “it is unclear if there is a distinction for the license to assign *in* or assign *to* the license and it is unclear what this distinction requires.” (Final Act. 2; Ans. 9.)

Appellant argues claims 1, 21, and 23 are not indefinite because “‘assigning a policy in the digital license’ is clear, on its face, to one having

ordinary skill in the art” in view of Appellant’s Specification, which explains that a digital license for authenticating consumption rights is a data structure including a policy that specifies those rights. (App. Br. 22–23 (citing Spec. ¶¶ 8–13, Fig. 2 (showing policy 32a is in license 28a)).) Appellant asserts both grammatical formulations (assigning *in* and assigning *to* the digital license) are clear and consistent with the Specification, which explains that items assigned *to* and assigned *in* the digital license are part of the license. (App. Br. 23–24; *see* Spec. ¶¶ 8, 14, 17, 21, 23, 25–26, Fig. 2 (license 28a includes decryption content key 26a, policy 32a, and digital fingerprint/license identifier 34a).) We agree with Appellant. Particularly, we find the scope of the subject matter embraced by claims 1, 21, and 23 is clear, i.e., claims 1, 21, and 23 recite building a digital license that includes (i) a decryption content key, (ii) a policy, and (iii) a digital fingerprint/license identifier.

With respect to independent claim 23, the Examiner further asserts the claimed “randomizing the identifier . . . responsive to the second portion of the policy granting consumable, cumulative rights’ renders the claim vague and indefinite since it is unclear what this limitation requires.” (Final Act. 3; Ans. 9–10.) Appellant argues the claimed “randomizing” is “clear on its face and is supported by paragraph [0020] of the *Specification*.” (App. Br. 25.) Appellant asserts the claimed “randomizing” means that certain licenses’ identifiers are set so that licenses will not be recognized as redundant, thereby allowing multiple plays of a particular content (e.g., multiple game plays). (App. Br. 25.)

We agree with Appellant. Particularly, we find the term “randomizing” has a plain and ordinary meaning recognized by those skilled

in the art of DRM and data security. *See Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (definiteness of a claim’s terms depends on whether those terms can be given a reasonable meaning by a person of ordinary skill in the art); *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971) (definiteness of the claim language must be analyzed not in a vacuum, but in light of the Specification as it would be interpreted by one possessing the ordinary level of skill in the pertinent art). Here, “randomizing” indicates license identifiers are set to be random numbers, thereby preventing digital licenses from being identified as redundant copies of each other. (*See Spec.* ¶ 20.) In this way, licenses with differing (randomized) identifiers can grant cumulative plays of a particular content.

Accordingly, we decline to sustain the Examiner’s rejection of claims 1, 21, and 23, and their dependent claims 3–5, 7–9, 12, 22, and 24, under 35 U.S.C. § 112, second paragraph.

With respect to dependent claims 10 and 11, the Examiner asserts “the phrase ‘an electronic device’ in line 2 renders the claim[s] vague and indefinite” because “it is unclear if this is the same as the previously recited electronic device of claim 1 or a distinct electronic device.” (Final Act. 3; Ans. 9.) Appellant argues claims 10 and 11 are not indefinite because claim 10 (and similarly, claim 11) recites “the decryption content key is itself encrypted with a public key so that *only an electronic device with a corresponding symmetric private key* can decrypt the decryption content key and thereby decrypt the content data,” indicating that (i) only electronic devices *with* the corresponding symmetric private key can decrypt the

content data, while (ii) electronic devices *without* the private key cannot decrypt the content data. (App. Br. 24.)

We agree with Appellant. Particularly, we find the scope of the subject matter embraced by claims 10 and 11 is clear, as claims 10 and 11 identify the electronic device as one *with a corresponding symmetric private key*. That is, the claimed electronic device with a corresponding symmetric private key may be claim 1's electronic device, or it may be another electronic device (one having the private key). Accordingly, we decline to sustain the Examiner's rejection of claims 10 and 11 under 35 U.S.C. § 112, second paragraph.

#### *§ 101 Rejection*

Patent eligibility is a question of law that is reviewable *de novo*. *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012). Accordingly, we review the Examiner's § 101 determinations concerning patent eligibility under this standard.

Patentable subject matter is defined by 35 U.S.C. § 101, as follows:

[w]hoever 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.

In interpreting this statute, the Supreme Court emphasizes that patent protection should not preempt "the basic tools of scientific and technological work." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("*Benson*"); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012) ("*Mayo*"); *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) ("*Alice*"). The rationale is that patents directed to basic building blocks of

technology would not “promote the [p]rogress of [s]cience” under the U.S. Constitution, Article I, Section 8, Clause 8, but instead would impede it. Accordingly, laws of nature, natural phenomena, and abstract ideas, are not patent-eligible subject matter. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1346 (Fed. Cir. 2017) (citing *Alice*, 573 U.S. at 216).

The Supreme Court set forth a two-part test for subject matter eligibility in *Alice* (573 U.S. at 217–18). The first step is to determine whether the claim is directed to a patent-ineligible concept. *Id.* (citing *Mayo*, 566 U.S. at 76–77). If so, then the eligibility analysis proceeds to the second step of the *Alice/Mayo* test in which 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.” *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 72, 79). There is no need to proceed to the second step, however, if the first step of the *Alice/Mayo* test yields a determination that the claim is directed to patent-eligible subject matter.

The Patent Office has recently revised its guidance for how to apply the *Alice/Mayo* test in the *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50–57 (January 7, 2019) (“Revised Guidance”). Applying Step 1 of the Revised Guidance (which is unchanged from the prior guidance) to the present case, we determine claims 1, 21, and 23 recite a “computer-implemented method” which is a form of “process” falling within one of the categories enumerated under § 101, thus satisfying Step 1 of the Revised Guidance.

We proceed to apply Step 2A of the Revised Guidance to determine if the claims are “directed to” a judicial exception. Step 2A of the Revised

Guidance corresponds to the first step of the *Alice/Mayo* test but is in part changed from the *2014 Interim Guidance on Patent Subject Matter Eligibility*, 79 Fed. Reg. 74618–74633 (December 16, 2014).

The first prong of Step 2A under the Revised Guidance is to determine whether the claims recite a judicial exception including (a) mathematical concepts; (b) certain methods of organizing human activity; and (c) mental processes. Reviewing claims 1, 21, and 23, we note that the claims involve mathematical concepts, namely, mathematical algorithms for determining a digital fingerprint by applying a deterministic sequence (claim 1) or hash function (claims 21 and 23) to a data structure. Claims that pre-empt a mathematical algorithm are not patent eligible. *See Parker v. Flook*, 437 U.S. 584, 594 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972). However, such claims may nonetheless be patentable if they recite a particular, practical application of the abstract idea embodied therein. *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016).

Accordingly, we proceed to the second prong of Step 2A, where we inquire whether an additional element of the claims integrates the mathematical concept into a practical application. Revised Guidance at 54–55. Such an additional element may reflect an improvement in the functioning of a computer, or an improvement to another technology or technical field. *Id.* at 55; *see also McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016); *Finjan Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299 (Fed. Cir. 2018); and *Core Wireless Licensing, SARL v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018) (claims were directed to improvements instead of abstract ideas).

Here, claims 1, 21, and 23 partition a digital license policy into a non-rights-affecting *first portion* and a rights-affecting *second portion*, and apply the deterministic sequence/hash function *only to the rights-affecting second portion* to return a fingerprint identifier for the license. (App. Br. 27, 30–32 (Claims App.)) Because the deterministic sequence/hash function is applied *only to the rights-affecting portion* of the policy, digital licenses that grant identical content rights will have identical fingerprint identifiers. (See Spec. ¶¶ 16–19.) “Ensuring that licenses having the same policy [(granting the same rights)] also have the same license identifier makes it much easier to avoid issuing superfluous licenses to a particular user, device, domain, or other set of content consumers.” (Spec. ¶ 19.)

Thus, Appellant’s claims improve operational efficiency of an electronic device or DRM software by avoiding the storage and execution of extraneous DRM licenses that convey the same rights, while ensuring that licenses for differing rights are identified differently. (Reply Br. 6–7; App. Br. 12, 15.) The claimed methods improve computer functionality by eliminating superfluous licenses that consume memory and increase computational burden on DRM software. (App. Br. 15; Spec. ¶¶ 16–19.) Consequently, claims 1, 21, and 23 recite improvements to DRM technology and DRM-enforcing devices, thus integrating the mathematical concept into a practical application. Dependent claims 3–5, 7–12, 22, and 24 incorporate the additional element by virtue of their dependency from one of claims 1, 21, and 23.

Thus, we determine claims 1, 3–5, 7–12, and 21–24 are directed to patent-eligible subject matter. Accordingly, we do not address Step 2B of the Revised Guidance (corresponding to step two of the *Alice/Mayo* test).

*§ 103(a) Rejection*

With respect to independent claims 1, 21, and 23, the Examiner finds Yen teaches a license building method that applies a deterministic sequence or hash function to a second policy portion (a portion defining circumstances in which a decryption content key is allowed to decrypt content), while ignoring a first policy portion. (Final Act. 6–7 (citing Yen col. 7, ll. 20–30, col. 8, ll. 10–37, col. 12, ll. 10–14, col. 14, ll. 5–25).) The Examiner then finds the combination of Yen and Flink teaches the claimed “applying a deterministic sequence of instructions [or hash function in claims 21 and 23] to the second portion of the policy to return a digital fingerprint based on the second portion of the policy but ignoring the first portion of the policy” because Flink discloses a hash function which may be considered a fingerprint. (Final Act. 7 (citing Flink col. 2, ll. 25–30).) We do not agree.

We agree with Appellant that Yen and Flink, alone or in combination, fail to teach or suggest the claimed limitation of applying a deterministic sequence or hash function *only to a rights-affecting portion* (second portion) of a license policy, while *ignoring a non-rights-affecting portion* (first portion) of the policy as asserted by the Examiner. (App. Br. 18–19.) Particularly, claims 1, 21, and 23 recite building *a digital license that includes (i) first and second policy portions, and (ii) a fingerprint identifier obtained by applying a deterministic sequence/hash function only to the second policy portion*, which is also a rights-affecting policy portion. Yen’s license includes digital signatures or hash values to verify content and license authenticity. (See Yen col. 7, ll. 18–26, col. 8, ll. 24–26, col. 14, ll. 17–23.) However, Yen does not obtain these digital signatures or hash values by applying a hash function *only to a rights-affecting policy portion*

*in the license, while ignoring a non-rights-affecting policy portion in the license, as required by the independent claims. (Reply Br. 8; App. Br. 18.)* Rather, Yen merely discloses a “license server [that builds the license] . . . [is] capable of requesting an identity of the device requesting the license and [is] capable of creating, in response, a cryptographically signed data structure containing information specifying a device identity, a content identity and a set of content decryption keys.” (*See* Yen col. 7, ll. 25–32.)

In conclusion, we agree with Appellant that the Examiner’s findings are not supported by evidence. (*See* Ans. 7.) Particularly, we do not find Yen discloses “*any* information in the data structure (license) may be securely signed or hashed and used [sic] as an identifier to verify authenticity for the created license,” as the Examiner asserts. (*Id.*) We also do not find Yen discloses “assigning a hash value for a portion of the policy where the data structure includes a hash of expiration time.” (*Id.*)

Flink does not make up for the above-noted deficiencies of Yen. Flink merely discloses a “one-way hash function, also known as a message digest, fingerprint or compression function”; however, Flink does not teach partitioning a license policy into portions, and applying a hash function to only one of the portions to create a license identifier. (*See* Flink col. 2, ll. 25–30.) The Examiner also has not shown that the additional teachings of Boccon-Gibod and Alve make up for the above-noted deficiencies of Yen and Flink. (App. Br. 18, 22.)

With respect to independent claim 23, Appellant additionally argues the cited prior art does not teach or suggest “randomizing the identifier for the digital license responsive to the second portion of the policy granting consumable, cumulative rights,” as claimed. (App. Br. 21.) The Examiner

has not responded to Appellant's argument in the Answer. Additionally, the Examiner's Final Action fails to address "randomizing," merely rejecting claim 23 "for the same reasons" as claims 1 and 21. (*See* Final Act. 12.) Thus, Examiner has not identified sufficient evidence to support the rejection of claim 23.

Accordingly, we do not sustain the Examiner's § 103 rejections of independent claims 1, 21, and 23, and claims 3–5, 7–12, 22, and 24 dependent therefrom. Because the above-discussed issues are dispositive as to the obviousness rejections of all claims on appeal, we do not reach additional issues raised by Appellant's arguments as to the § 103 rejections of claims 10 and 11.

#### DECISION

The Examiner's decision rejecting claims 1, 3–5, 7–12, and 21–24 under 35 U.S.C. § 112, second paragraph, is reversed.

The Examiner's decision rejecting claims 1, 3–5, 7–12, and 21–24 under 35 U.S.C. § 101 is reversed.

The Examiner's decision rejecting claims 1, 3–5, 7–12, and 21–24 under 35 U.S.C. § 103(a) is reversed.

REVERSED