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EXAMINER
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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 DAVID M. T. TING and MICHAEL STEPHEN SAULNIER
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Appeal 2012-003647
Application 11/294,354
Technology Center 2400
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Before MARC S. HOFF, BRADLEY W. BAUMEISTER, and
DENISE M. POTHIER, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* POTHIER.

Opinion Concurring filed by *Administrative Patent Judge* Baumeister.

POTHIER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–15, 17, 18, 22–27, 29–33, 35–40, 42–47, and 50–57. Claims 16, 19–21, 28, 34, 41, 48, and 49 have been canceled. *See* January 20, 2011 Amendment and Response to Final Office Action 2–11; App. Br. 2. Appellants also state that claims 35, 37–40, 42, 50, and 57 were canceled in an amendment after the filing of the Notice of Appeal. App. Br. 2; Reply Br. 2. The amendment was filed contemporaneously with the Appeal Brief.

However, no Advisory Action has been mailed,[1] and the record fails to reflect whether the amendment has been entered. *See* Ans. 5 (stating "[t]he examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.") In the Examiner's Answer, the Examiner continues to reject claims 35, 37–40, 42, 50, and 57. *See* Ans. 7–8, 54. Thus, for purposes of this decision, we presume that claims 35, 37–40, 42, 50, and 57 are still pending and will treat the claims in kind.

We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Invention

Appellants' invention involves a user authentication technique for computer systems that selectively compares user-provided biometric authentication credentials to a subset of credentials. The method and system provide secure authentication without requiring substantial dedicated computing resources and subjecting users to delays. *See* Spec. ¶¶ 1, 7; Abstract.

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[1] *See* Manual Patent Examining Procedure (MPEP) § 1206.

Claim 1 is reproduced below with the key disputed limitations emphasized:

1. A computerized method for authenticating a user to a secure computer system, the method comprising the steps of:

receiving, at an authentication server within the secure computer system, a set of valid biometric authentication credentials having permissions to access the secure computer system;

receiving, at the authentication server from a client device from which the user is attempting to access the secure computer system, a biometric authentication credential attributed to the user;

comparing, using an authentication module, *the received user biometric authentication credential to a subset of the set of received valid biometric authentication credentials, wherein the subset is based at least in part on a usage history of the client device*; and

if the received user biometric authentication credential does not match any of the valid authentication credentials in the subset, (i) expanding the subset of valid biometric authentication credentials to include additional received valid biometric authentication credentials received at one or more other devices and (ii) comparing the received user biometric authentication credential to the expanded subset of valid biometric authentication credentials, and if a match is detected, authenticating the user to the secure computer system.

The Examiner relies on the following as evidence of unpatentability:

Witte	US 5,581,700	Dec. 3, 1996
Sakakibara	US 2002/0174336 A1	Nov. 21, 2002
Schutz	US 2005/0091213 A1	Apr. 28, 2005
Rich	US 2005/0210153 A1	Sept. 22, 2005
Roskind	US 7,174,454 B2	Feb. 6, 2007 (filed June 18, 2003)
Dvir	US 2007/0056022 A1	Mar. 8, 2007 (filed Aug. 3, 2006 and claiming priority to App. No. 60/704,908, filed Aug. 3, 2005)
Edwards, Jr.	US 7,496,952 B2	Feb. 24, 2009 (filed Mar. 28, 2002)

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Current Status of Claims

At the outset, we note numerous errors in the record concerning the claims. First, as noted above, Appellants assume that claims 35, 37–40, 42, 50, and 57 have been canceled and repeat this position in the Reply Brief. App. Br. 2; Reply Br. 2. Yet, as indicated above, the Examiner has not entered the amendments to the claims filed on the same day as the Appeal Brief and continues to reject these claims. For purposes of this decision we presume that claims 35, 37–40, 42, 50, and 57 remain pending.

Second, independent claims 1, 23, 30, and 37 are rejected based on Schutz, Roskind, and Edwards. Ans. 8–29. The remaining claims depend directly or indirectly from one of these independent claims. Yet, the rejection heading of many of the dependent claims fail to include Roskind and/or Edwards in the rejections. For example, the Examiner rejected claim 15 based on only Schutz and Rich; the Examiner rejected claims 2, 4–14, 17, 18, 22, 24–27, 29, 31–33, 35, 36, 38–40, 42, 44, and 46 based on only Schutz and Dvir; the Examiner rejected claim 50 based on only Schutz and Edwards. *See* Ans. 29, 33, 59. Appellants also state the claims are rejected on the same grounds. App. Br. 6. Yet, for purposes of this decision, we presume that: (1) claim 15 is rejected based on Schutz, Roskind, Edwards, and Rich; (2) claims 2, 4–14, 17, 18, 22, 24–27, 29, 31–33, 35, 36, 38–40, 42, 44, and 46 are rejected based on Schutz, Roskind, Edwards, and Dvir; and (3) claim 50 is rejected based on Schutz, Roskind, and Edwards.

Third, claims 43 and 47 are listed as being rejected based on Schutz, Roskind, and Edwards. Ans. 8, 24–25, 27–28. Claims 43 and 47 depend on claims 44 and 46, respectively. Claims 44 and 46 are rejected based on Schutz, Roskind, Edwards, and Dvir. Ans. 33, 58. For purposes of this

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decision, we presume that claims 43 and 47 are rejected based on Schutz, Roskind, Edwards, and Dvir due to their dependencies.

Fourth, claims 55–57 are listed as being rejected based on Schutz, Roskind, and Edwards. Ans. 8. However, the body of the rejection does not discuss these claims. Ans. 8–29. On the other hand, the rejection based on Schutz, Roskind, Edwards, and Rich does not list claims 55–57 in the heading of the rejection but discusses these claims in the rejection's body. *Compare* Ans. 29 *with* Ans. 32. For purposes of this decision, we presume that claims 55–57 are rejected based on Schutz, Roskind, Edwards, and Rich.

Fifth, claim 3 is not included in the heading of the rejection based on Schutz, Roskind, Edwards, and Dvir, but the claim is discussed in the body of the rejection. Ans. 33. For purposes of this decision, we presume claim 3 is rejected based on Schutz, Roskind, Edwards, and Dvir.

Sixth, canceled claim 19 is mistakenly included in the rejection based on Schutz, Roskind, Edwards, and Dvir. Ans. 33. Also, claim 35 depends from canceled claim 48. Ans. 6. For purposes of this decision, we presume claim 35 depends from independent claim 30 and is rejected based on Schutz, Roskind, Edwards, and Dvir.

THE REJECTIONS

Based on the above discussion, we presume that the pending claims are rejected as follows:

1. The Examiner rejected claims 37–40, 42, 50, and 57 under 35 U.S.C. § 101 as directed to non-statutory subject matter. Ans. 7–8.

2. The Examiner rejected claims 1, 23, 30, 37, 45, and 50 under

35 U.S.C. § 103(a) as unpatentable over Schutz, Roskind, and Edwards. Ans. 8–29, 59–61.

3. The Examiner rejected claims 15 and 55–57 under 35 U.S.C. § 103(a) as unpatentable over Schutz, Roskind, Edwards, and Rich. Ans. 29–32.

4. The Examiner rejected claims 2–14, 17, 18, 22, 24–27, 29, 31–33, 35, 36, 38, 39, 40, 42–44, 46, and 47 under 35 U.S.C. § 103(a) as unpatentable over Schutz, Roskind, Edwards, and Dvir. Ans. 33–61, 24–25, 27–29.

5. The Examiner rejected claims 51 and 53 under 35 U.S.C. § 103(a) as unpatentable over Schutz, Roskind, Edwards, and Witte. Ans. 61–66.

6. The Examiner rejected claims 52 and 54 under 35 U.S.C. § 103(a) as unpatentable over Schutz, Roskind, Edwards, and Sakakibara. Ans. 66–72.

THE SECTION 101 REJECTION

Claims 37–40, 42, 50, and 57 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Appellants present no arguments concerning this rejection, but we note that they attempted to cancel these claims in a non-entered amendment. *See* App. Br. 2. Given that the claims remain pending, we summarily sustain the rejection. *See, e.g.*, Manual of Patent Examining Procedure (MPEP) § 1205.02, 9th ed., March 2014 ("If a ground of rejection stated by the examiner is not addressed in the appellant's brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it . . . .")

OBVIOUSNESS REJECTION OVER SCHUTZ, ROSKIND,
AND EDWARDS

Appellants argue the rejected claims as a group. *See* App. Br. 7-12.
We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii). The
Examiner finds that Schutz teaches comparing a received user biometric
authentication credential to a subset of the set of received valid biometric
authentication credentials. Ans. 9 (citing Schutz ¶¶ 36, 39). The Examiner
further finds that Schutz does not teach the subset is based at least partly on
a usage history of the client device and turns to Roskind, in combination
with Schutz, to teach this feature. Ans. 10, 12 (citing Roskind 5:62–67,
6:1–2, 6:27–30, 34–39). Additionally, the Examiner relies on Edwards, in
combination with Roskind and Schutz, to teach expanding the subset of
valid biometric authentication credentials as recited. Ans. 10–12 (citing
Edwards 3:17–19, 32–33, 2:63–67, 5:5–8, Abstract), 77 (Schutz ¶ 58).

Appellants argue that Schutz does not compare received biometric
authentication credentials to a subset of valid credentials. App. Br. 7–10;
Reply Br. 4–5. Appellants also assert that the prior art fails to teach
expanding the subset of valid biometric authentication credentials if the
received user biometric credential does not match any of the valid
authentication credential in the subset. App. Br. 7, 9; Reply Br. 5. Lastly,
Appellants contend that the cited art fails to teach or suggest the subset is
based at least in part on a usage history of the client device as recited. App.
Br. 10–11; Reply Br. 6.

ISSUES

Under § 103, has the Examiner erred in rejecting claim 1 by finding that Schutz, Roskind, and Edwards collectively would have taught or suggested:

(1) comparing, using an authentication module, the received user biometric authentication credential to a subset of the set of received valid biometric authentication credentials, wherein the subset is based at least in part on a usage history of the client device; and

(2) if the received user biometric authentication credential does not match any of the valid authentication credentials in the subset, expanding the subset of valid biometric authentication credentials?

ANALYSIS

Based on the record before us, we find no error in the Examiner's rejection of independent claim 1. Appellants argue that Schutz does not compare received biometric authentication credentials to a subset of valid credentials and expand this subset if no match is found. App. Br. 7–10; Reply Br. 4–5. In particular, Appellants assert that "[t]here is no notion of a subset of valid credentials" in Schutz. App. Br. 8 (citing Schutz ¶¶ 39, 52). Additionally, Appellants argue that one biometric authentication credential cannot reasonably read on the recited "subset of the set of valid biometric authentication credentials." Reply Br. 4. We are not persuaded of error.

We note that the ordinary understanding of "a subset" is merely some part of a larger group. One valid biometric authentication credential is part of a larger group of valid biometric authentication credentials. As such, we find the Examiner's position—that the claimed "subset" can be construed to

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include "one or more items"—to be reasonable. *See* Ans. 75 (bolding omitted). As such, nothing in claim 1 necessarily requires the recited "a subset of the set of received valid biometric authentication credentials" to be a subset of a single biometric modality or that expanding the subset necessarily requires expanding to additional types of valid biometric authentication credential. *See* Reply Br. 4.

Turning to Schutz, Figure 2a shows a subset of credentials that can be received, including fingerprint reader 103, smart card reader 105, username and password user interface 107, and token 208. Ans. 73 (citing Fig. 2a); *see also* Schutz ¶¶ 35–36. Schutz discusses that the fingerprint reader 103 can be used by credential provider modules 202 to read a fingerprint as the credential of the user's finger impressed on the reader. Schutz ¶ 36. Additionally and contrary to Appellants' position, Schutz does not teach a single biometric modality. Reply Br. 4. Schutz teaches other credential readers can be used with other modules, including retina scanners, face recognition cameras, and voice recognition. Schutz ¶ 36; Ans. 73 (discussing "retinal"). The instant disclosure also provides these as examples of "biometric authentication credentials." *See* Spec. ¶¶ 10, 13. Schutz thus teaches receiving "a biometric authentication credential . . . attributed to the user" (e.g., a user's fingerprint) as recited.

Schutz also states Local Security Authority (LSA) module 106 accesses credentials database 108b to identify and authenticate a user with credentials gathered by a reading device, including fingerprint reader 103. Schutz ¶ 39. This passage in Schutz does not discuss comparing all the information within database 108b or "the *entire* credentials database 108b" (App. Br. 8) when identifying and authenticating a user's credential. In fact,

a quoted portion of Schutz supports this understanding when stating that the fingerprint will be compared "to its *cache of stored fingerprints* in credentials database 108b" to find a match and not all the information in the database (e.g., information about valid fingerprints, smart cards, passwords, and token numbers). Reply Br. 4–5 (italics added); Schutz ¶ 55. Notably, this comparison to the fingerprints in the database would only proceed until there is a match, which one skilled in the art would have recognized may occur before all the fingerprints are compared.

Moreover, as stated above, there is no restriction in claim 1 that the "subset of a set of received valid biometric authentication credentials" must be a subset of the same type of biometric credential (e.g., a subset of all received valid fingerprints). Thus, Schutz teaches and suggests to an ordinarily skilled artisan that the received credential (e.g., a fingerprint) is compared with pertinent information in database 108b (e.g., at least a portion of the valid user fingerprints located in database 108b and not all valid stored biometrics) to detect a match. Accordingly, contrary to Appellants' argument, (App. Br. 8), Schutz teaches or suggests the database contains a subset of valid credentials (e.g., valid user fingerprints) for comparing the received fingerprint to or comparing a received biometric authentication credential to a subset of received valid biometric authentication credentials as recited.

Additionally, Appellants further assert that the cited art fails to teach or suggest the recited "subset is based at least in part on a usage history of the client device." App. Br. 10–11; Reply Br. 6–7. We are not persuaded of error.

Appellants find support for this claimed phrase at paragraphs 16 and 45. App. Br. 3 n. 5 (citing Spec. ¶¶ 16, 45). The Specification discusses using a computer's usage history to determine the subset, but fails to provide examples of what this might be. Spec. ¶¶ 11, 16. Paragraph 45 does not discuss usage history. On the other hand, other portions of the disclosure appear to explain what is meant by "usage history" in more detail. For example, the disclosure discusses when a user requests access to one workstation that is part of a group of workstations in close proximity or when a user uses a first workstation to receive instructions to perform an inspection at a particular location within a hospital, there is a higher likelihood that the user will request authentication from another in the group of computers or another workstation at the location in the near future. Spec. ¶¶ 29–30. The system thus creates a record associating the biometric credential with a second or set of workstations. Presumably, these records are examples of a subset of received valid biometric authentication credentials based in part on usage history. However, the disclosure does not limit the usage history to these examples.

Similarly, Roskind teaches that when the same client logs into a service repeatedly over an extended period of time, the usage history merits a tag and the machine can be considered trusted and less authentication is permissible (e.g., a record associated with workstation or machine), such that during login (e.g., an authentication process) the usage history is accessed. Roskind 6:14–30, 62–65; Ans. 10, 79 (citing Roskind 6:27–30). This teaching in Roskind suggests to an ordinarily skilled artisan using the usage history to create a record (e.g., a tag) and to require less authentication (e.g., use a subset of received valid authentication credentials) when the

history merits such. Thus, when combined with Schutz, the system includes using usage history along with the biometric credentials to cause fewer or a subset of authentication credentials to be required for specific client devices. *See* Ans. 12.

Appellants further argue that Roskind behaves opposite from the present invention, reducing the degree of authentication needed versus using a single degree of authentication by reducing the processing burden. App. Br. 11. We are not persuaded. First, claim 1 is not limited to a single degree of authentication. Second, as stated above, the recited "subset" is not limited to a subset of one type of biometric authentication credential. Third, Roskind alone is not being relied upon to teach the subset is based on a client device's usage history at least in part. When Roskind's teaching is combined with Schutz, as explained above and as proposed by the Examiner, an authentication step (e.g., comparing a user's fingerprint) is being used to compare with the subset of set of received valid biometric authentication credentials and the subset is based on the usage history of the client device. *See* Ans. 10–12. Also, to the extent Appellants argue that Roskind is not concerned with the same problem as Appellants (App. Br. 11), Roskind addresses keeping track of usage history with a tag or record, similar to Appellants. *Compare* Spec. ¶¶ 30–31 *with* Roskind 6:16–18.

Lastly, Appellants contend that Schutz uses the entire credentials database to authenticate the credentials and thus cannot expand to a larger subset if a match is not made. App. Br. 8–9; Reply Br. 5–6. As explained previously, we are not persuaded by this argument. Also, Appellants argue that Edwards does not teach expanding the subset if a match is not found, but rather requires redundant authentication. App. Br. 9; Reply Br. 7.

Although we find this argument by Appellants has some merit, the Examiner also discusses paragraph 58 of Schutz for the first time in the Response to Argument section.[2] Ans. 77 (citing Schutz ¶ 58.) Specifically, Schutz discusses that if an inputted credential by a user fails to establish a connection, the process will ask the user for additional credentials and reattempt to connect. Schutz ¶ 58. This teaches to an ordinarily skilled artisan expanding on the subset of valid authentication credentials used to authenticate a user. *See id.*

Appellants contend that Schutz teaches inviting the user to enter another password when it prompts the user for additional credentials. Reply Br. 5 (discussing Schutz ¶ 58.) However, this is speculation, because Schutz is silent regarding what "additional credentials" are requested. *See* Schutz ¶ 58. Also, as noted earlier, Schutz teaches "other credential" readers (e.g., retina scanner, face scanner, or voice recorder) can be used to provide credentials. Schutz ¶ 36. Accordingly, Schutz teaches or suggests yet other additional valid biometric authentication credentials for which the user can be prompted (e.g., retina or face scan, voice recording) when additional credentials are requested, such that the subset of valid biometric authentication credentials is expanded if a match does not occur. *See* Schutz ¶¶ 36, 58.

For the foregoing reasons, Appellants have not persuaded us of error in the rejection of independent claim 1, as well as claims 23, 30, 37, 45, and 50, not separately argued with particularity.

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[2] Appellants have not argued that the Examiner has presented a new ground of rejection in the Reply Brief. *See* Reply Br. 5–6.

THE REMAINING REJECTIONS

Appellants present no separate arguments for the remaining rejections. Each of the claims rejected depends directly or indirectly from claims 1, 23, 30, or 37 discussed previously. Accordingly, we sustain the claims rejected based on the remaining rejections for the above-stated reasons.

CONCLUSION

The Examiner did not err in rejecting claims 37–40, 42, 50, and 57 under § 101.

The Examiner did not err in rejecting claims 1–15, 17, 18, 22–27, 29–33, 35–40, 42–47, and 50–57 under § 103.

DECISION

The Examiner's decision rejecting claims 1–15, 17, 18, 22–27, 29–33, 35–40, 42–47, and 50–57 is affirmed.

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

AFFIRMED

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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 DAVID M. T. TING and MICHAEL STEPHEN SAULNIER
_____

Appeal 2012-003647
Application 11/294,354
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Before MARC S. HOFF, BRADLEY W. BAUMEISTER, and
DENISE M. POTHIER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*, concurring.

I do not disagree with the Majority's conclusions or rationales. I write
separately because I would not have chosen to spend the time that was
required to investigate which claims were pending on appeal versus
canceled, decipher what the intended grounds of rejection are for those
claims that are presumed to be appealed, or set forth in the Opinion the
rationales by which these conclusions were reached. I would have instead
remanded the appeal. From an economic-efficiency standpoint, any one of
the people who signed the Examiner's Answer—the Examiner, the
Supervisory Patent Examiner, and Appeal Conferee—is in a better position
than any member of the Board to verify and articulate the various claims'
statuses and bases of rejection.