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Renaissance IP Law Group LLP (Portland - North)
7327 SW Barnes Road #521
Portland, OR 97225

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PhillipsPatentLawyer@gmail.com

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* LINDA IRENE HOFFBERG-BORGHESANI and  
STEVEN M. HOFFBERG

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Appeal 2014-000907  
Application 11/467,920<sup>1</sup>  
Technology Center 2100

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Before BRUCE T. WIEDER, BRADLEY B. BAYAT, and  
TARA L. HUTCHINGS, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1–22, 31, 36, 49, 56, 81–115, 117–119, and 133–146.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART and enter a NEW GROUND OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

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<sup>1</sup> According to Appellants, “[t]he real party in interest is Linda I. Hoffberg-Borghesani (inventor), and The Hoffberg Family Trust 1 (assignee of Steven M. Hoffberg). All substantial rights are licensed to Blanding Hovenweep LLC (Nevada).” (Appeal Br. 2.)

<sup>2</sup> We treat the Examiner's indication that claims 1–146 are rejected to be a typographical error. (*See* Final Action 1.)

### CLAIMED SUBJECT MATTER

Appellants' claimed "present invention relates to the field of programmable sequencing devices, or, more particularly, the field of remote controls for consumer electronic devices." (Spec. 1, ll. 16–17.)

Claims 1, 22, 36, 49, 56, 81, 91, 96, 97, 100, 101, 103, 104, 117–119, and 134 are the independent claims on appeal. Claim 1 is illustrative of the subject matter on appeal. It recites:

1. A method for providing a user interface for a media processing device comprising:
  - providing a media recommendation of an entertainment media object based at least in part on an automated media usage history analysis for a respective user to implicitly derive user preferences for the respective user, substantially without explicit user input;
  - conducting an interactive dialog with respective user to receive explicit user input; and
  - selecting at least one media object based on both the interactive dialog and the media recommendation.

### REJECTIONS

Claim 56 is rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 133 and 143 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Claims 1, 13, 22, 31, 117, 133, 143, and 146 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point

out and distinctly claim the subject matter which applicant regards as the invention.<sup>3</sup>

Claims 1, 19, 22, 31, 56, 96–100, and 117–119 are rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki (US 5,267,171, iss. Nov. 30, 1993) and Pamela Kane, Prodigy Made Easy 70–77, 88–137 (1991) (hereinafter “Kane”).

Claims 1, 11, 13, 15, 16, 31, 56, 81–83, 85, 88, 89, 91–95, and 100 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane and Suzuki.

Claims 2, 14, and 84 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Yasuda (US 5,231,691, iss. July 27, 1993).

Claim 4 is rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Mathew Turk & Alex Pentland, Eigenfaces for Recognition (1991).

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<sup>3</sup> In the Office Action mailed October 6, 2011, claims 8, 13, 82, 97, 101, 102, 107, 108, 119, and 133 were rejected under § 112, second paragraph. (Non-Final Office Action 4–8, mailed Oct. 6, 2011.) Although the Final Action does not indicate withdrawal of these rejections, in the Final Action, only claims 1, 22, 31, 117, 133, 143, and 146 are listed as rejected under § 112, second paragraph. (Final Action 5–8.) The Answer states that the § 112, second paragraph, rejection of claim 97 “has been removed.” (Answer 32.) However, the Answer responds to Appellants’ arguments regarding the § 112, second paragraph, rejection of claim 13. Therefore, we treat the failure to list claim 13 as rejected under § 112, second paragraph, in the Final Action as inadvertent. However, neither the Answer nor the Final Action address or refer to § 112, second paragraph, rejections of claims 8, 82, 101, 102, 107, 108, or 119. Therefore, we treat the rejections of claims 8, 82, 101, 102, 107, 108, and 119 under § 112, second paragraph, as cited in the Non-Final Office Action as having been withdrawn.

Claims 5–7 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, Turk, and Green (US 5,274,695, iss. Dec. 28, 1993).

Claims 10 and 12 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Levine (US 5,123,046, iss. June 16, 1992).

Claim 20 is rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kane, and Kemp (US 4,618,995, iss. Oct. 21, 1986).

Claims 21, 36, and 49 are rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kane, and Kenyon (US 4,843,562, iss. June 27, 1989).

Claims 17 and 90 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Kenyon.

Claim 3 is rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Lambert (US 5,012,522, iss. Apr. 30, 1991).

Claims 8, 9, 18, 86, and 87 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kane, Suzuki, and Griffin (US 4,764,120, iss. Aug. 16, 1988).

Claims 101–106, 109, 110, 112–115, 133, 134, 137, 138, and 140–145 are rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kenyon, and Chang (US 5,321,833, iss. June 14, 1994).<sup>4</sup>

Claims 108 and 136 are rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kenyon, Chang, and Schmerer (US 5,319,544, iss. June 7, 1994.)

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<sup>4</sup> We treat the Examiner's inclusion of claim 107 in this statement of the rejection as an inadvertent error. (See Final Action 34–40.)

Claims 107, 111, 135, and 139 are rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kenyon, Chang, and Kane.

Claim 146 is rejected under 35 U.S.C. § 103(a) as unpatentable over Suzuki, Kenyon, Chang, and Lambert.

## ANALYSIS

### The § 101 rejection

Claim 56 is rejected under § 101. The Examiner finds that “applicant claims a system with control, data interface, and a graphic. A system as recited by the applicant can be purely software. . . . Therefore, the claims are rejected as covering non statutory subject matter.” (Final Action 3–4.)

Appellants argue that even if a claim “can be interpreted to encompass ‘pure software’, it is [not] necessarily unpatentable. The standard enunciated by the Supreme Court is whether the claim is abstract, an issue that the Examiner has made no significant finding with respect to.” (Reply Br. 45, emphasis omitted.)

Subsequent to the filing of briefs in this appeal, the Supreme Court decided *Alice Corp. Pty Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014). *Alice* applies a two-part framework, earlier set out in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355.

Under the two-part framework, it must first be determined if “the claims at issue are directed to a patent-ineligible concept.” *Id.* If the claims are determined to be directed to a patent-ineligible concept, then the second

part of the framework is applied to determine if “the elements of the claim . . . contain[] an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Id.* at 2357 (citing *Mayo*, 132 S. Ct. at 1294, 1298).

With regard to the rejection of claim 56 under § 101, the proper analysis was not undertaken. Therefore, we reverse the rejection of claim 56 under § 101.

*The § 112, first and second paragraphs, rejections of claims 133 and 143*

Claims 133 and 143 recite, “wherein the sequenced list is communicated to the respective user as a markup language communication.”

With regard to the rejection under § 112, first paragraph, the Examiner determines that “[a] markup language or anything resembles [sic] markup language was never discussed in the specification, the claims lack enable that [sic] therefore are rejected.” (Final Action 4.)

Appellants offer a definition of markup language: “A markup language is a modern system for annotating a text in a way that is syntactically distinguishable from that text. . . . A well-known example of a markup language in widespread use today is HyperText Markup Language (HTML).” (Amendment Under 37 C.F.R. 1.111 filed Jan. 9, 2012, citing [http://en.wikipedia.org/wiki/Markup\\_language](http://en.wikipedia.org/wiki/Markup_language).)

Appellants argue that the phrase “‘markup language’ has not had a substantial change in meaning over the years, and even if it has, it is up the [sic] Examiner to propose a definition upon which to base an art rejection in accordance with his own understanding of the appropriate definition.” (Appeal Br. 159–160; *see also id.* at 176–177.) Appellants further argue that

“[t]he Examiner cannot shift the initial burden of interpreting the claims to the applicant based on an alleged change in meaning over time.” (*Id.* at 160; *see also id.* at 177.)

The Examiner answers that

[t]he applicant still has not provided any evidence to show that there is a clearly unambiguous usage of the term markup language in 1991, applicant still carries the burden of prove [sic]. It is unreasonable to ask the examiner to show how the term is used in or before 1991 when the examiner is stating that there is not a clearly and unambiguous usage of term with respect to the specification.

(Answer 46–47; *see also id.* at 54.)

The citation to Appellants’ proposed definition contains no indication of the date on which the definition was retrieved from or published by the cited website. Nonetheless, the proposed definition specifically includes reference to “a markup language in widespread use today is HyperText Markup Language (HTML).” (*See* Response to Office Action dated October 6, 2011 at 19.) It is unclear what time period “today” references in regard to Appellants’ proposed definition. More specifically, Appellants offer no evidence that HTML was a markup language “in widespread use” at the time the priority application was filed. Nor are we persuaded by Appellants’ unsupported allegation that by proffering this proposed undated definition, the burden to proffer another definition (relevant to the time the priority application was filed) falls on the Examiner.

Therefore, Appellants have not persuaded us that the Examiner erred in rejecting claims 133 and 143 under § 112, first paragraph, i.e., Appellants have not persuasively shown how the Specification sufficiently supports the claimed subject matter.

Claims 133 and 143 are also rejected under § 112, second paragraph. The Examiner finds that “[t]he term markup language cannot be found in the [S]pecification.” (Final Action 7.) And the Examiner determines that “[i]t is unclear what the applicant meant since the term has [sic] different meanings throughout the years.” *Id.*

Even though the meaning of the term may have changed throughout the years since the priority application was filed, that fact does not, in this case, result in a determination that one of ordinary skill in the art would not understand the claim.

Therefore, we reverse the rejection of claims 133 and 143 under § 112, second paragraph.

*The other § 112, second paragraph, rejections*

*Claim 1*

Claim 1 recites, in relevant part, “providing a media recommendation of an entertainment media object based at least in part on an automated media usage history analysis for a respective user to implicitly derive user preferences for the respective user, substantially without explicit user input.”

The Examiner determines that “[i]t is unclear what constitute [sic] ‘substantially without explicit user input’, how much the user has to put effort into the input to be substantial or explicit? The phrase is not clearly defined in the specification and is highly ambiguous.” (Final Action 5.)

Appellants argue:

“Substantially without explicit user input” means that the user provides the information implicitly, that is, without **intent** to provide that information *per se*, but rather through user volitional action directly intended for another purpose. The

phrase “substantially without” refers the [sic] fact that the user may be aware that he or she is being monitored, but that this is not the primary or direct reason for the input.

(Appeal Br. 44.)

[W]hen the USPTO has initially issued a well-grounded rejection that identifies ways in which language in a claim is ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention, and thereafter the applicant fails to provide a satisfactory response, the USPTO can properly reject the claim as failing to meet the statutory requirements of § 112(b).<sup>5</sup>

*In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014). In this case, it is unclear from the phrase “substantially without explicit user input” that the *intent* of the user is a factor in determining whether the user engaged in providing “explicit user input.” (*See id.*) The Examiner presents a well-grounded rejection identifying why this claim language is unclear in this context and Appellants have not provided a satisfactory response.

Therefore, Appellants have not persuaded us that the Examiner erred in rejecting claim 1 under § 112, second paragraph.

### Claim 13

Claim 13 recites: “The method according to claim 1, wherein the media processing device comprises a packet data network interface.” The Examiner finds that the term “packet data network interface” is not used in the Specification, and the Examiner determines, “[i]t is unclear what the term means where there is no context.” (Non-Final Office Action 4, mailed Oct. 6, 2011.)

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<sup>5</sup> Formerly, § 112, second paragraph.

Appellants persuasively argue that the term would have been clear to a person having ordinary skill in the art at the time the application was filed. (*See* Reply Br. 23–24.)

Therefore, we are persuaded that the Examiner erred in rejecting claim 13 under § 112, second paragraph.

Claim 22

Claim 22 recites, in relevant part, “receiving content-identifying parameters from a user insufficient to unambiguously identify content.”

The Examiner determines that “[i]t is unclear what constitute [sic] ‘insufficiently [sic] unambiguously identify content’, whether it means receiving from user input that cannot be clearly identified, or whether it is content that user can not clearly identify.” (Final Action 5.)

We agree with Appellants that

[t]he phrase “receiving content-identifying parameters from a user insufficient to unambiguously identify content” in claim 22 means that the received “content-identifying parameters” are “insufficient to unambiguously identify content”, and thus only ambiguously (that is, not uniquely) identify content.

(*See* Appeal Br. 80, emphasis omitted.)

Claim 22 also recites, in relevant part, “automatically defining a logically defined sequence of content identifiers corresponding to the content-identifying parameters and a stored user preference profile, to provide a personalized result set for the user, the user preference profile comprising at least inferentially defined information.”

The Examiner determines that it is “unclear what is ‘automatically defining a logically defined sequence.’” (Final Action 5–6.)

We agree with Appellants that the claim term “means that the ‘logically defined sequence of content identifiers’ is automatically defined, and not manually . . . defined.” (Appeal Br. 80.)

Therefore, we are persuaded that the Examiner erred in rejecting claim 22 under § 112, second paragraph.

Claim 31

Claim 31 recites, in relevant part, “an input configured to receive dynamically changing context information defining an environment of operation of the adaptive graphic user interface.”

The Examiner determines that “[i]t is unclear what constitutes ‘an input configured to receive dynamically changing context information defining an environment of operation of the adaptive graphic user interface.’ . . . [D]oes it mean that the content of the media are constantly changing, or does it mean that the interface would change?” (Final Action 6.)

Appellants argue that “that the plain meaning of this language is unambiguous” (Reply Br. 40, emphasis omitted) and that “according to claim 31, the context of use need not be controlled by the system, but that the system is responsive to such changes” (Appeal Br. 82).

We do not agree with the Examiner’s determination that the claim term is unclear. When read in the context of the claim, the phrase “dynamically changing context information” refers to changing context of the media and not that the interface would change.

Therefore, we are persuaded that the Examiner erred in rejecting claim 31 under § 112, second paragraph.

Claim 117

Claim 117 recites, in relevant part, “receiving a user programming input.”

The Examiner determines that the meaning of this term is unclear and, in particular, that “[i]t is unclear whether it means that a user input that chooses a tv program to watch, or whether the user is doing computer programming to control the behavior of the output. Both of the choices are possible based on the reading of the specification.” (Final Action 6–7.)

Appellants argue that “[t]he specification does not use the word ‘programming’ with respect to user input to refer to broadcast programs.” (Appeal Br. 153.)

The Specification uses the word “programming” to refer to both program content (*see, e.g.*, Spec. 54, ll. 21–25) and to “a sequence of operations” (*see, e.g., id.* at 2, ll. 6–11). It is unclear in the context of this claim to which meaning this term refers, i.e., does it refer to input of a sequence of operations or of information about content of a program. In short, the Examiner presents a well-grounded rejection identifying why this claim language is unclear in this context and Appellants have not provided a satisfactory response.

Claim 117 also recites, in relevant part, “receiving data” and “wherein the predetermined adaptive algorithm is adaptive to both the received data and the user programming input.”

The Examiner determines that it is “unclear what received [sic, receiving] data means, whether it is received from the user, from the media player or something else.” (Final Action 7.)

Appellants argue that the term “at issue appears to be ‘receiving a user programming input’ and this is to be interpreted according to its plain language meaning as an input from the user including programming for the system (i.e., determining an operation or sequence).” (Appeal Br. 153.)

We disagree with Appellants. The term at issue is “receiving data” and it is unclear in the context of the claim whether the term refers to receiving data from the user or from something else. (*See* Final Action 7.) Thus, the Examiner presents a well-grounded rejection identifying why this claim language is unclear in this context and Appellants have not provided a satisfactory response.

Therefore, Appellants have not persuaded us that the Examiner erred in rejecting claim 117 under § 112, second paragraph.

*Claim 146*

Claim 146 recites, in relevant part, “determining the defined content identifiers selectively in dependence on a correspondence of a classification of an object with information derived from the request from the respective user.”

The Examiner determines that “it is unclear how the parameter is set to determine the defined content identifiers.” (Final Action 7.) More generally, the Examiner determines that it is “unclear what is being determined.” (Answer 55.)

Appellants argue that claim 146 depends from claim 134 and, therefore, “the content identifiers according to claim 146 must be defined based on the enumerated considerations of claim 134.” (Appeal Br. 182.)

We agree with the Examiner that it is unclear what is being determined. Claim 134 recites “automatically defining content identifiers corresponding to a request from a respective user for content.” Claim 146 requires determining something about the content identifiers “selectively in dependence on” recited factors. However, it is unclear what is being determined. (*See Answer 55.*) Thus, the Examiner presents a well-grounded rejection identifying why this claim language is unclear in this context and Appellants have not provided a satisfactory response.

Therefore, Appellants have not persuaded us that the Examiner erred in rejecting claim 146 under § 112, second paragraph.

*The § 103 rejections*

*Claims 1, 10, 12, 13, and 15*

Appellants argue that “Suzuki is not analogous art to the present invention, because Suzuki relates to matching of classified function of functional programs and not user preferences for entertainment media.” (Appeal Br. 46.) Appellants also argue that “[e]ntertainment media is for non-functional purposes.” (Reply Br. 4, emphasis omitted.)

Suzuki discloses a computer software vending machine. (Suzuki, Abstract.) Suzuki discloses that the software can include “software used for recreation, such kinds include action, characters, role playing, and simulation.” (*Id.* at col. 7, ll. 5–7.) We find that software used for non-functional purposes includes software used for recreation. Thus, Appellants have not persuaded us that the Examiner erred in finding that Suzuki discloses software related to the field of media entertainment. (*See Answer 3.*)

Appellants also argue that “Suzuki does not implicitly derive user preferences.” (Appeal Br. 48.) But the Examiner finds, and we agree, that “Suzuki clearly teaches the aspect of implicitly derived user preferences. Suzuki teaches the aspect where software that was viewed by the user in the past and software that is not compatible with user’s computer is not automatically displayed to the user.” (Answer 4.) Specifically, Suzuki discloses a system that “can select from the memory section **13** software which best suits the user’s liking based on his previous purchases,” i.e., the system implicitly derives user preferences without explicit input of user preferences. (*See Suzuki*, col. 6, ll. 56–58.)

Appellants also argue that Suzuki does not disclose “‘implicitly deriv[ing] user preferences for the respective user, substantially without explicit user input’.” (Reply Br. 7, citing claim 1, emphasis omitted.) However, Appellants do not include the rest of the clause from claim 1, i.e., “substantially without explicit user input *of user preferences*.” (*See Claim 1*.) Suzuki discloses deriving user preferences based on previous purchases rather than on explicit user input of user preferences. (*See Suzuki*, col. 6, ll. 56–58.)

Therefore, Appellants have not persuaded us that the Examiner erred in rejecting claim 1 under § 103.

Claims 10, 12, 13, and 15 depend from claim 1 and are not separately argued except as to their dependence from claim 1. (*See Appeal Br. 60, 62, 64, 66*.) Therefore, for the reasons discussed above with regard to claim 1, we are not persuaded that the Examiner erred in rejecting claims 10, 12, 13, and 15 under § 103.

Claims 2 and 14

Claim 2 recites: “The method according to claim 1, further comprising receiving speech information from the respective user during the interactive dialog.”

Claim 14 recites: “The method according to claim 1, wherein the interactive dialog is conducted through a speech interface.”

The Examiner finds that Kane discloses “receiving information from the respective user during the interactive dialog (page 130 paragraph 1 and 2, page 133 Figure 6-4).” (Final Action 22.) The Examiner also finds that “Yasuda discloses an information processing component that can command computational device through speech.” (*Id.*; *see* Yasuda, col. 1, ll. 29–33.) Specifically, Yasuda discloses that “[t]he speech recognition system supplies the recognition results to the computer system in reply to the command transferred each time a speech input request is made so that the computer system performs a desired job.” (Yasuda, col. 1, ll. 29–33.)

Appellants argue that Yasuda does not teach “any such interactive dialog based on speech” because “speech input typically includes ambiguity, and therefore interactive dialogs using speech must resolve ambiguity.” (Appeal Br. 49; *see also id.* at 65.) Appellants’ argument implies that the shortcoming in Yasuda is that it does not teach resolving ambiguity. (*See id.*) But Appellants do not point to the Specification to support this “very specific and peculiar” proposed definition, and as such, we decline to adopt it. (*See Answer 5.*)

Additionally, Appellants do not dispute the Examiner’s finding that the Specification does not specifically define the term interactive dialog. (*See Answer 5, Reply 9.*) Instead, Appellants argue that the Specification

recites: “interactive input, i.e. Voice activation/instructions.” (Reply Br. 9 (emphasis omitted); *see also* Spec. 49.)

Yasuda teaches using voice instructions to command a computer system to perform a job, i.e., Yasuda teaches interactive input as that term is used in the Specification. (*See* Yasuda, col. 1, ll. 29–33; *see also* Spec. 49.)

In view of the above, Appellants have not persuaded us that the Examiner erred in rejecting claims 2 and 14 under § 103.

### Claim 3

Claim 3 recites: “The method according to claim 1, further comprising processing image information of the at least one media object to characterize image information.”

The Examiner finds that Lambert discloses this limitation. (Final Action 30, citing Lambert, claim 1.) Specifically, Lambert discloses “[a] face recognition video system which locates and recognizes a human face in a video scene.” (Lambert, col. 23, ll. 28–29.) The Examiner determines that “[i]t would have being [sic] obvious to one of ordinary skill in the art, at the time the invention was made to apply Lambert to Kane so the medias can be automatically analyzed and characterized to give user information about the media.” (Final Action 30–31.)

Appellants argue that Lambert is non-analogous art “because Lambert relates to image processing per se, and has nothing to do with entertainment media recommendation.” (Appeal Br. 50.) But the Examiner finds that Lambert is analogous art and that “[t]he combination of Kane and Lambert would allow the Lambert to capture the actors or actress of a movie so when the user search [sic] for a specific movie the name of the actors or actress

would be provided to the user without manual input by the editor for every movie.” (Answer 6.)

With regard to Appellants non-analogous art argument:

The analogous-art test requires that the Board show that a reference is either in the field of the applicant’s endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed.Cir.1992). References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. *Id.* (“[I]t is necessary to consider ‘the reality of the circumstances,’—in other words, common sense—in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.” (quoting *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979))).

*In re Kahn*, 441 F.3d 977, 986–87 (Fed. Cir. 2006). The Examiner has shown that Lambert is reasonably pertinent to solving the problem of processing image information, i.e., the problem with which the inventors were concerned. Appellants have not persuaded us that Lambert is not related to the problem of processing image information. Additionally, Appellants have not persuaded us that processing image information was not a problem with which the inventors were concerned.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 3 under § 103.

*Claims 4, 6, and 7*

Claim 4 recites: “The method according to claim 1, further comprising determining a user identification of the respective user based on a biometric analysis.”

Appellants argue that “Suzuki teaches that a physical card, storing data of critical importance to the entire invention of Suzuki, is used to identify the user. Replacing the card with ‘Eigenfaces’ recognition defeats the express teachings of Suzuki, and therefore the proposed combination must fail.” (Appeal Br. 51.) Appellants further argue that “[b]ecause Eigenfaces operates based on an image, it is insecure as a login with respect to any person whose image is available. Therefore, the password login according to Kane . . . would still be required.” (*Id.*) Appellants also argue that “there would have been no motivation to combine” (*id.*) and “persons of ordinary skill in the art would dismiss the proposed combination as inefficient” (Reply Br. 11, emphasis omitted).

The Examiner, however, finds that “Turk discloses the art of determining the identity of the user based on biometric analysis (Turk Introduction).” (Final Action 23.) Additionally, the Examiner determines that

[i]t would have being obvious to one of ordinary skill in the art, at the time the invention was made to apply Turk and Suzuki to Kane to allow the system to recognize the user through biometric analysis so the system can provide the recommendation to the user directly without having the user making additional input.

(*Id.*) Thus, the Examiner provides “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

With regard to Appellants’ argument that images would not provide for secure login, we are not persuaded of reversible error because, as the Examiner discusses, neither the claim nor the proposed combination requires using the biometric data for login. (*See Answer 7; see also Final Action 23.*)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 4 under § 103.

With regard to claims 6 and 7, claim 6 recites: “The method according to claim 4, wherein the biometric analysis comprises image analysis.” Claim 7 recites: “The method according to claim 6, wherein the biometric analysis comprises facial analysis.”

Appellants’ arguments with regard to claims 6 and 7 are similar to those presented with regard to claim 4. (*See* Appeal Br. 53–54.) Therefore, for similar reasons to those discussed with regard to claim 4, we are not persuaded that the Examiner erred in rejecting claims 6 and 7 under § 103.

Claim 5

Claim 5 recites: “The method according to claim 4, wherein the biometric analysis comprises speech analysis.”

The Examiner finds that “Green discloses the art wherein the user is identified through speech recognition.” (Final Action 24, citing Green, claim 1, col. 6, ll. 23–32.)

Appellants argue that “[b]ecause Green operates based on spoken utterances, it is insecure as a login with respect to any person whose voice is recorded.” (Appeal Br. 52.)

As discussed above with regard to claim 4, the proposed combination does not require using the biometric data for login. (*See* Answer 7; *see also* Final Action 23–24.) Additionally, Green discloses that

those skilled in the art will appreciate that the invention hereof virtually eliminates all possibility of computer hackers gaining the ability to place unauthorized toll calls. . . . Even if a valid passcode such as the preferred identification number is known,

an impostor's spoken utterance of the passcode would not match the stored voice template of the authorized customer. (Green, col. 6, ll. 23–32.) Thus, even if used as a login, we are not persuaded that Green would be insecure.

In view of the above, we are not persuaded that the Examiner erred in rejecting claim 5 under § 103.

Claims 8, 18, and 86

Claim 8 recites: “The method according to claim 1, wherein the media recommendation is based on implicitly derived user preferences for a plurality of respective users.” Claim 86 contains similar language. Claim 18 recites: “The method according to claim 1, further comprising automatically determining a composite recommendation based on implicitly derived preferences for a plurality of respective users.”

Appellants argue that Suzuki does not disclose “a system that addresses more than a single user in providing a ‘recommendation.’” (*See* Appeal Br. 56.) However, Suzuki discloses that its software/media object recommendation for a user is based on computer software that “has not yet been reviewed by each user . . . on the basis of the information of the latest utilization date of the user.” (Suzuki, col. 5, ll. 17–20.) Suzuki also discloses that the recommendation may be a composite recommendation, i.e., that a recommendation may be based on “the latest utilization data of the user,” “programs which have been supplied from the host computer 1 after the user last utilized the [machine of Suzuki],” and “category code” of the software. (*See id.* at col. 5, ll. 17–20, ll. 54–56, ll. 61–65.) In other

words, recommendations in Suzuki are provided based on implicitly derived preferences for each of the plurality of users.

Therefore, we are not persuaded that the Examiner erred in rejecting claims 8, 18, and 86 under § 103.

Claims 9 and 87

Claim 9 recites: “The method according to claim 1, wherein there are a plurality of users, each of said plurality of users having a respective user preference, wherein the media recommendation is based on at least the respective user preferences from the plurality of users.”

Appellants argue that “neither Suzuki nor Kane provides a system that addresses more than a single user in providing a ‘recommendation.’” (Appeal Br. 58.) The Examiner finds that Suzuki discloses that where “there are a plurality of users, each of said plurality of user [sic] having a respective user preference.” (Final Action 32.) But the Examiner does not indicate where in Suzuki, Kane, or Griffin, there is a disclosure of a recommendation based on “respective user preferences *from* the plurality of users.” (Claim 9, emphasis added.)

Therefore, we are persuaded that the Examiner erred in rejecting claim 9 under § 103. Claim 87 contains similar language and for similar reasons we are persuaded that the Examiner erred in rejecting claim 87 under § 103.

Claim 11

Claim 11 recites: “The method according to claim 1, further comprising presenting a list of recommended programs based on the at least one media object.”

The Examiner finds that Suzuki discloses this limitation. (Final Action 17, citing Suzuki, claim 1, col. 4, ll. 9–28, col. 5, ll. 17–38, col. 5, l. 49–col. 6, l. 4.) Appellants argue that “Suzuki does not encompass entertainment media programs.” (Appeal Br. 61.)

For the reasons discussed above with regard to claim 1, we are not persuaded that Suzuki does not encompass entertainment media programs. Therefore, we are not persuaded that the Examiner erred in rejecting claim 11 under § 103.

Claims 16 and 89

Claim 16 recites: “The method according to claim 1, wherein the recommendation is based on at least an automatic semantic analysis of the at least one media object.”

The Examiner finds that Suzuki discloses this step. (Final Action 18, citing Suzuki, col. 3, ll. 11–31, claim 1.) In particular, the Examiner finds that “[t]he step of determining software category information . . . clearly require[s] ‘semantic analysis.’” (Answer 15.) The Examiner also finds, and we agree, that the term “semantic analysis” is not defined in the Specification. (Answer 14.)

Appellants argue that Suzuki does not disclose this step and that “[t]he word semantic itself means ‘of or relating to meaning.’” (Reply Br. 26; *see*

also Appeal Br. 67–68, citing *The American Heritage Dictionary of the English Language*, Fourth Edition (2000), updated 2009.)

As an initial matter, we construe the term “semantic.” Semantic means both “[o]f or relating to meaning, esp. meaning in language” and “[o]f, relating to, or according to the science of semantics.” Webster’s II New College Dictionary (1995). One of the meanings of “semantics” is “[t]he study of relationships between signs and symbols and what they represent to their interpreters.” (*Id.*) Therefore, we determine that, under a broadest reasonable interpretation, the term “semantic analysis” includes the analysis of relationships between signs and symbols and what they represent.

Suzuki discloses “comparing means for comparing the utilization information with the supply information stored.” (Suzuki, col. 7, ll. 61–62.) In particular, Suzuki discloses comparing “category information IJ indicating the category of the software programs last purchased by the user . . . with the category code J” of software stored in the vending machine and selecting software based on the comparison. (Suzuki, col. 5, ll. 61–67.) In other words, Suzuki discloses studying/analyzing the relationships between the symbols representing the categories of software in making recommendations.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 16 under § 103. Claim 89 is similarly argued and contains similar language as claim 16. (Appeal Br. 109.) Therefore, for similar reasons, we are not persuaded that the Examiner erred in rejecting claim 89 under § 103.

Claims 17 and 90

Claim 17 recites: “The method according to claim 1, wherein the the [sic] recommendation is further based on at least an automatically classified genre of a media object.”

The Examiner finds that

Kenyon discloses the art wherein the media objects are automatically classified (Claim 1); and Suzuki discloses the aspect wherein the recommendation is based on an [sic] classified genre of a media object (claim 7). It would have being obvious to one of ordinary skill in the art, at the time the invention was made to apply Kenyon and Suzuki to Kane so the medias can be automatically categorized.

(Final Action 30.)

Kenyon discloses a system “by which broadcast information can be recognized and classified.” (Kenyon, col. 1, ll. 6–8.) The automated system of Kenyon is disclosed as a replacement for the manual system in which listeners “would physically monitor the broadcast program and manually tabulate which information was broadcast and when” for purposes, for example, of calculating royalty payments to artists or determining when and how often commercials are played. (*See id.* at col. 1, ll. 12–19, 29–33, col. 4, ll. 45–47.)

Appellants argue that “it is not seen how the applied portion of Kenyon, or other portions, could reasonably be considered to disclose an “automatically classified genre of a media object.” (Appeal Br. 70.)

Appellants’ argument is not persuasive. The Examiner relies on Kenyon for its disclosure of automatically classifying media objects and on Suzuki for its disclosure of the recommendation being based on a classified genre of a media object. In other words, the Examiner relies on the

*combination* of Kenyon and Suzuki as applied to Kane. The Examiner does not rely on Kenyon alone for a disclosure of an “automatically classified genre of a media object,” as Appellants argue. (*See id.*)

“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.” *In re Keller*, 642 F.2d at 426. Thus, we are not persuaded that the Examiner erred in rejecting claim 17 under § 103. Claim 90 contains similar language as claim 17 and Appellants make similar arguments. (Appeal Br. 110–11.) Therefore, for similar reasons we are not persuaded that the Examiner erred in rejecting claim 90 under § 103.

*Claims 19 and 96*

Claim 19 recites, in relevant part, “selectively presenting to the user one or more of the set of actions available for selection based on an automated analysis of at least the stored history of usage and associated respective context of use of the respective user.”

The Examiner finds that

[t]he term “context of use” is not specifically defined in the specification. Suzuki clearly discloses the aspect of “context of use” wherein the context is based on user’s usage history and user’s computer specification, so the context of using the software is that of user’s computer specification that will be running the software and user’s preference of software based user’s usage history.

(Answer 17.)

Appellants argue that

[a]ssuming that the machine type M could be deemed to be the context, this is constant and invariant. Suzuki fails to teach or suggest at least “selectively presenting to the user one or more of

the set of actions available for selection based on an automated analysis of at least the stored history of usage and associated respective context of use of the respective user”, since the type of users [sic] machine M is a singular value which is not associated with a stored history of usage, separate from its application at the time of recommendation.

(Reply Br. 32–33, emphasis omitted.)

Suzuki discloses “the CPU 10 determines which software has not yet been reviewed by the user and retrieves the software from the memory.” (Suzuki, col. 4, ll. 25–27.) Suzuki also discloses that “[t]he user selects software suiting his or her liking from among the software displayed.” (*Id.*, col. 4, ll. 45–46.) Suzuki further discloses that “the type of a computer which the user possesses may be stored in his or her ID card, and software not employable in that type of computer may be inhibited from display.” (*Id.*, col. 6, l. 67–col. 7, l. 2; *see also* Final Action 9.) In other words, what Suzuki presents to the user is based on the stored history of usage, i.e., software that, based on the stored history, is known to have not yet been reviewed by the user, and is based on the associated respective context of use, i.e., the user’s computer.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 19 under § 103. Claim 96 contains similar language and Appellants make similar arguments. (Appeal Br. 122–23.) Therefore, for similar reasons we are not persuaded that the Examiner erred in rejecting claim 96 under § 103.

Claims 20 and 21 - New Ground of Rejection

Claim 20 recites: “the method according to claim 19, wherein the action is suggested based on at least an automatically determined chronological pattern of a history of user actions.”

Claim 21 recites: “The method according to claim 19, wherein the action is suggested based on an automatically determined semantic content of a media program.”

Claim 19 recites “determining a set of actions available for selection” and “selectively presenting . . . one or more of the set of actions available for selection.” Claims 20 and 21 both recite “wherein the action is suggested.” It is unclear to what the term “the action” refers. Does it refer, e.g., to one of the set of actions available for selection or, perhaps, to more than one of the set of actions available for selection, or perhaps to the set of actions itself.

Claims 20 and 21 also both recite “wherein the action is suggested based on” certain factors. It is unclear how and to whom the action is suggested.

We additionally note that Appellants cite to the Specification at page 94, lines 18–25 for “the action” of claim 20 followed by citation to page 84, line 26 to page 85, line 21 to further describe the action. (*See* Appeal Br. 7.) However, this does not resolve the problem because it is unclear whether the references are to the “one or more of the set of actions” or to the choices presented and a menu selection to reject those choices.

Therefore, pursuant to our authority under 37 C.F.R. § 41.50(b), we enter a NEW GROUND OF REJECTION against claims 20 and 21 under

§ 112, second paragraph,<sup>6</sup> as being indefinite for failure to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

“As the statutory language of ‘particular[ity]’ and ‘distinct[ness]’ indicates, claims are required to be cast in clear – as opposed to ambiguous, vague, indefinite – terms.” *In re Packard*, 751 F.3d at 1313. “It is the applicants’ burden to precisely define the invention, not the PTO’s.” *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997).

We do not sustain the rejections of claims 20 and 21 under 35 U.S.C. § 103 because these rejections are necessarily based on speculative assumptions as to the meaning of the claims. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962).

Because our decision regarding the rejections of claims 20 and 21 under § 103 is solely based on the ambiguity and indefiniteness of the claims, our decision does not reflect in any manner on the adequacy of the prior art evidence relied on in the Examiner’s rejections.

### Claim 22

Independent claim 22 recites, in relevant part, “receiving content-identifying parameters from a user insufficient to unambiguously identify content.”

The Examiner finds that Suzuki discloses “receiving content-identifying parameters from a user (column 5 line 49 to column 6 line 4, column 6 line 67 to column 7 line 2).” (Final Action 10.) Appellants argue

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<sup>6</sup> Now 35 U.S.C. § 112(b).

that “[i]t is not believed that Suzuki reasonable [sic] teaches receiving such ‘content-identifying parameters from a user’, which are ‘insufficient to unambiguously identify content’.” (Appeal Br. 81.)

In rejecting claim 22 under § 112, second paragraph, the Examiner examined claim 22 without reference to the claim term “insufficient to unambiguously identify content.” (Final Action 5–6.) Thus, the Examiner does not indicate where Suzuki or any of the other art cited in rejecting claim 22 teaches receiving such parameters from a user where the received parameters are “insufficient to unambiguously identify content.”

Therefore, we are persuaded that the Examiner erred in rejecting claim 22 under § 103.

*Claim 31*

Claim 31 depends from claim 56 and recites, in relevant part, “a processor configured to selectively predict a desired user action based on at least the received user input, the stored portion of the past history of user input, the dynamically changing context information, and a set of adaptive rules.”

Appellants argue that Suzuki does not disclose this limitation. (Appeal Br. 84.) The Examiner, however, finds that this limitation is disclosed in Suzuki. (Final Action 11.)

We agree with the Examiner. Suzuki discloses a software vending machine capable of tailoring the display of software to the user based, in part, on the software previously reviewed by the user, e.g., input received from the user and stored from past purchases. (*See* Suzuki, col. 5, ll. 17–38.) The displayed software is further based on software supplied to the vending

machine since the user last utilized the machine, i.e., the proposed choices (prediction) are based on dynamically changing information (the changing list of new programs) as determined by the rules applied by the vending machine in determining what to display, e.g., software not yet reviewed by the user that falls into the same category as “software programs last purchased by the user.” (*See id.* at col. 5, ll. 17–38, l. 49–col. 6, l. 4.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 31 under § 103.

Claim 36

Claim 36<sup>7</sup> recites:

36. A method for controlling a media system, comprising:  
    adaptively and implicitly determining a viewer preference based on a series of user inputs, through a plurality of usage sessions at different times;  
    automatically characterizing the program material based on its intrinsic content, independent of editorial input;  
    automatically determining a relationship of the characterized content of the program material with the determined viewer preference; and  
    selectively processing the program material based on the automatically determined relationship, and the user input.

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<sup>7</sup> In the Claims Appendix of the Appeal Brief, the preamble to claim 36 is recited as “The system according to claim 56, further comprising.” (Appeal Br. 188.) We treat this as a typographical error as claim 36, as entered by the Examiner, recites the preamble as “A method for controlling a media system, comprising.” (*See* Response to Restriction Requirement and Amendment Under 37 C.F.R. 1.111, received April 16, 2012.) (The Response bears the erroneous date of “April 163, 2012.”)

Appellants argue that Suzuki is non-analogous art. (Appeal Br. 87.) For the reasons discussed above with regard to claim 1, we are not persuaded that Suzuki is non-analogous art.

Appellants also argue that Kane does not teach “adaptively and implicitly determining a viewer preference based on a series of user inputs, through a plurality of usage sessions at different times.” (*Id.*) However, the Examiner relies on Suzuki, rather than Kane, as disclosing this limitation. (*See* Final Action 27.) Therefore, Appellants’ argument regarding Kane fails to address the Examiner’s actual finding, and is not persuasive of error.

Appellants also argue that Kenyon is non-analogous art and that “none of the references, alone or in combination, teach ‘automatically characterizing’ the ‘program material’.” (Appeal Br. 87.) However, as discussed above, Kenyon discloses an automated system “by which broadcast information can be recognized and classified.” (*See* Kenyon, col. 1, ll. 6–8, col. 4, ll. 45–47.) Claim 36 is directed to “characterizing . . . program material based on its intrinsic content.” In other words, Kenyon relates to an automated system for characterizing program material content and, thus, is reasonably pertinent to the problem with which the inventors were concerned. *See In re Oetiker*, 977 F.2d at 1447.

Appellants argue that none of Kane, Suzuki and Kenyon teach or suggest “adaptively and implicitly determining a viewer preference based on a series of user inputs, through a plurality of usage sessions at different times,” as recited in claim 36. (Appeal Br. 87.)

The Examiner, however, finds that Suzuki teaches this limitation. (Final Action 27, citing Suzuki, col. 3, ll. 19–31, col. 5, l. 61–col. 6, l. 43.) We agree with the Examiner. Suzuki discloses a vending machine that

implicitly determines a user preference based on, e.g., category information of programs purchased by the user from the vending machine as well as on information regarding the model of the user's computer. (Suzuki, col. 3, ll. 19–31.) Suzuki further discloses “tailoring newly-received computer software for each user.” (*Id.* at col. 6, ll. 41–43.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 36 under § 103.

Claim 49

Claim 49 recites, in relevant part, “a controller configured to automatically process the received cognitive data and to produce an output according to an algorithm which performs a content-based analysis of the received data and selectively produces different results in dependence on processing parameters.”

The Examiner finds that Kenyon discloses this limitation. (Final Action 28–29.) Appellants disagree and argue that “the data processed by Kenyon is not cognitive data, but spectral data.” (Appeal Br. 88.) However, as discussed above, Kenyon discloses an automated system “by which broadcast information can be recognized and classified.” (*See* Kenyon, col. 1, ll. 6–8, col. 4, ll. 45–47.) In other words, Kenyon discloses processing data so as to recognize and classify the data.

Appellants also argue that Suzuki and Kenyon are not analogous art, but for the reasons already discussed, we do not find this argument persuasive of error.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 49 under § 103.

Claim 56

Claim 56 recites:

56. A system comprising:  
a control configured to produce control signals for controlling a system and to operate in accordance with a predetermined program and a set of user-defined instructions;  
a data interface configured to communicate the user-defined instructions to the control; and  
an adaptive graphic user interface configured:  
to provide feedback on a state of the control to the user,  
to present a subset of available options for human interaction with the control, and  
to define an instruction of the control,  
wherein the subset is dependent on at least one adaptation parameter which varies in dependence on a past history of user input.

Appellants argue that in rejecting claim 56, the Examiner does not address “an adaption parameter” and that Suzuki does not teach an adaptive graphic user interface. (Appeal Br. 93.) However, the Examiner finds that Suzuki discloses an adaptive graphic user interface and that “the output to the user is determined by [the] user’s system, user’s purchase history, user’s preferred of [sic] software category, and user input.” (Answer 22.)

In particular, Suzuki discloses “a display **14** for displaying various software demonstrations, instructions for using the software vending machine **3**, and procedures for operating the software vending machine **3**.” (Suzuki, col. 2, ll. 58–62.) Suzuki also discloses that the user can make selections based on the display using the keyboard. (*Id.*, col. 4, ll. 45–47.) In view of this, we are not persuaded that the Examiner erred in finding that Suzuki discloses a graphic user interface.

Additionally, Suzuki discloses that the software choices displayed are determined by the CPU based on “which software has not yet been reviewed by the user.” (*Id.*, col. 4, ll. 25–26.) In other words, the options displayed on the graphic user interface are adapted to the user based at least on the parameter of software available that has not yet been reviewed by the user.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 56 under § 103.

Claim 81

Claim 81 recites, in relevant part, “automatically generating a signal suggesting media content to the user based at least in part on the formed explicit user profile from the implicitly represented user characteristics.”

Appellants argue “that the characteristics acquired by Suzuki are of the user’s computer, and not of the user himself. . . . Therefore, it cannot be concluded that Suzuki teaches or suggests [the above limitation].” (Appeal Br. 94.) The Examiner disagrees and finds that the user’s choice in a computer is part of the user’s characteristics and that the user’s choice in selecting software also represents the user’s characteristics. (Answer 23; *see also* Suzuki, col. 3, ll. 19–31, col. 4, ll. 45–47, col. 6, ll. 56–58.)

Appellants have not persuaded us that the Examiner’s finding is in error.

Appellants further argue that “Suzuki provides no disclosure of any processing that might derive implicit information from user inputs.”

(Appeal Br. 95.) However, Suzuki discloses that “the CPU **10** can select from the memory section **13** software which best suits the user’s liking based on his previous purchases.” (Suzuki, col. 6, ll. 56–58.) In other

words, Suzuki discloses deriving implicit information, i.e., what software the user might like to purchase, from user inputs such as previous purchases.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 81 under § 103.

Claim 82

Claim 82 recites: “The method according to claim 81, wherein the suggested media content comprises a media recommendation, the implicit indications of user characteristics being based at least in part on a media usage history analysis.”

Appellants argue that “a user could buy software from the vending system and fail to use it, without any acknowledgement or change in result for the vending system in later sessions. Thus, Suzuki fails to distinguish usage from availability.” (Appeal Br. 96.)

But Suzuki discloses more than just making software available. Suzuki also discloses that software can be reviewed by a user. “CPU 10 can select from memory section 13 software which has not yet been reviewed by the user.” (Suzuki, col. 5, ll. 36–38.) Appellants do not persuasively argue why a review of software by a user is not a type of use of that software, i.e., why media usage history would not include software reviewed by the user.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 82 under § 103.

Claims 83 and 85

Claim 83 recites: “The method according to claim 81, further comprising engaging the user in an automated interactive dialog relating to

media content, to elicit the series of communications containing the at least implicit indications of user characteristics.”

Appellants argue “that Suzuki does not seek ‘user characteristics’, but rather characteristics of user’s system.” (Appeal Br. 97.) Thus, Appellants argue, if a user of the Suzuki system has two cards, “the two ‘profiles’ representing a past history of user activity will likely be completely divergent.” (*Id.*) The Examiner answers, and we agree, that each such card would “represent part of user’s characteristics.” (Answer 24.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 83 under § 103.

Appellants group claim 85 with claim 83 and do not present separate arguments for claim 85. (*See* Appeal Br. 99.) Therefore, claim 85 falls with claim 83.

#### Claim 84

Claim 84 recites: “The method according to claim 83, wherein the interactive dialog comprises speech.”

Appellants argue that Yasuda does not “teach or suggest any such interactive dialog based on speech.” (*Id.* at 98.) However, for the reasons discussed above with regard to claims 2 and 14, we disagree.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 84 under § 103.

Claim 88

Claim 88 recites: “The method according to claim 81, wherein said signal suggesting media content to the user comprises an ordered list of suggested media.”

Dependent claim 88, like independent claim 81, is rejected in view of Kane and Suzuki. (Final Action 16, 19.) The Examiner finds that Kane discloses the step of claim 88. (*Id.* at 19.) Moreover, the Examiner relies on the *combination* of Kane and Suzuki in rejecting claim 81 and, therefore, in rejecting claim 88. (*See id.* at 16.)

Appellants acknowledge that Kane outputs a list ordered alphabetically. (Appeal Br. 108.) Appellants present individual arguments first that Kane and second that Suzuki do not disclose the invention claimed in claim 88. (*See id.*) However, the Examiner relies on the *combination* of Kane and Suzuki in rejecting the claim under § 103.

“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.” *In re Keller*, 642 F.2d at 426. Therefore, we are not persuaded that the Examiner erred in rejecting claim 88.

Claims 91, 92, 94, and 95

Claim 91 recites, in relevant part, “automatically analyzing at least one media work to determine an abstract content thereof.”

The Examiner finds that “[t]he term ‘abstract content’ is not specifically defined in the specification. Therefore, it is subject to the broadest [reasonable] interpretation.” (Answer 29.) The Examiner also finds that Suzuki discloses the “automatically analyzing” step and the

Examiner determines that, applying the broadest reasonable interpretation, “abstract content” includes “the date of the software.” (*See* Final Action 19.)

Appellants argue that the term “‘abstract content’ as applied to a media work *as best understood*, relates to its intrinsic semantic or object information.” (Appeal Br. 116, emphasis added.) Appellants do not define or provide a meaning for the term “abstract content.” Thus, Appellants do not persuasively argue why the date of the software, whether it is, e.g., the copyright or creation date of a movie, a game, or other software, is not information about the content, albeit abstract. (*See* Suzuki, col. 7, ll. 2–7.) Moreover, Suzuki also discloses software classifications. (*Id.*) Applying a broadest reasonable interpretation, we determine that abstract content includes software classifications as disclosed in Suzuki.

Appellants further argue that Suzuki is not analogous art and that “it is incorrect to treat the software sold by Suzuki as a ‘media work.’” (Appeal Br. 113–14.) However, for the reasons already discussed, e.g., with regard to claim 1, we do not find this argument persuasive.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 91 under § 103.

With regard to claim 92, Appellants make similar arguments regarding the term “abstract content” and that “Suzuki does not relate to media works.” (*Id.* at 117.) For the reasons set forth above, we are not persuaded that the Examiner erred in rejecting claim 92 under § 103.

Claims 94 and 95 depend from claim 91 and are not separately argued except as to their dependence from claim 91. (*Id.* at 120–21.) Therefore, for

the reasons discussed above with regard to claim 91, we are not persuaded that the Examiner erred in rejecting claims 94 and 95 under § 103.

Claim 93

Claim 93 recites: “The media recommendation method according to claim 91, wherein the user profile comprises at least implicitly derived user preferences.”

The Examiner finds that “Suzuki discloses the user profile comprises at least implicitly derived user preferences.” (Final Action 21.) Appellants disagree and argue that “Suzuki does not disclose how a user selects software.” (Appeal Br. 118.) However, as discussed above with regard to claim 1, Suzuki discloses deriving user preferences based on previous purchases rather than on explicit user input of user preferences, i.e., Suzuki discloses implicitly deriving user preferences. (*See Suzuki*, col. 6, ll. 56–58.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 93 under § 103.

Claim 97

Claim 97 recites, in relevant part, “persistently storing a user profile comprising at least information derived from automated monitoring of past user actions and an information content associated with past user actions, over a plurality of usage sessions” and “receiving at least one of explicit and implicit user feedback dependent on the information content associated with the past user actions.”

Appellants argue that “[t]he former relates to the user’s actions, while the later [sic] relates to the information content.” (Appeal Br. 127, emphasis omitted.) The Examiner finds that this is disclosed in Suzuki. (Final Action 11.)

Suzuki discloses a CPU for selecting software programs supplied from the host computer after the user last utilized the vending machine, i.e., Suzuki utilizes stored information regarding a past action of the user - the user’s last utilization of the vending machine. (*See* Suzuki, col. 5, ll. 54–57.) Suzuki also discloses comparing information about the category of software last purchased by the user with category information for other software, i.e., Suzuki utilizes stored information regarding the content of software associated with a user’s past purchases. (*See id.* at col. 5, ll. 61–65.)

Appellants further argue that “[c]laim 97 requires at least ‘receiving at least one of explicit and implicit user **feedback** pertaining to the information content associated with the past user actions’” and that “[t]he Examiner appears to conflate feedback . . . with a user profile which is created **without feedback**.” (Appeal Br. 127.)

The Examiner disagrees and finds that

Suzuki clearly discloses the aspect of user feedback, which is the new selection made by the user. After content is displayed to the user based on user usage history, user can make a selection from the contents displayed to the user which would constitute a user feedback. This selection/feedback would then be store[d] as part of usage history and used to determine user preference in the future. Also user can select to show content that were shown before (column 6 line 61 to 65). So the user can give implicit feedback such as select to buy or not buy a software listed by the system.

(Answer 32–33.) We agree with the Examiner’s finding that Suzuki discloses user feedback.

In view of the above, we are not persuaded that the Examiner erred in rejecting claim 97 under § 103.

Claim 98

Claim 98 recites: “The method according to claim, 97, wherein the user profile comprises information expressing at least one of a user preference, a user desire, a user demand, a user goal, and a user deficiency.”

Appellants argue that “the information stored by Suzuki represents a user’s computer and its software status, which falls into none of these classes.” (Appeal Br. 128.)

We disagree. Suzuki discloses storing information about the category of software last purchased by the user, i.e., information indicating a user preference. (*See* Final Action 12; Answer 33; *see also* Suzuki, col. 6, ll. 6–9.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 98 under § 103.

Claim 99

Claim 99 recites: “The method according to claim 97, wherein the user profile contains sufficient information to determine whether an information content desire of the user is satisfied.”

The Examiner finds that this step is disclosed in Suzuki. (Final Action 33.) Specifically, the Examiner finds that Suzuki discloses that “when the user makes a purchase of software, this shows that [the] user is

satisfie[d] with the software, and this decision is stored by the system in user's purchase history.” (*Id.* at 33–34.)

Appellants argue that “[i]t is not believed that the category information and purchasing/usage history of Suzuki (or any other aspect of Suzuki) comprises ‘sufficient information to determine whether an information content desire of the user is satisfied’.” (Appeal Br. 129.) Appellants further argue that “Suzuki does not determine whether a user is actually satisfied with the software sold to him.” (Reply Br. 65, emphasis omitted.)

Appellants do not point to any part of the Specification in support of their argument that the claim requires determining “whether a user is actually satisfied with the software sold to him.” (*See id.*, emphasis omitted.) Nor do Appellants persuasively argue why Suzuki's disclosure of storing information regarding the category of software previously purchased by the user (*see* Suzuki, col. 5, ll. 61–65) does not teach or suggest that the user's desire for content related to that category has been satisfied, at least to a degree.

Therefore we are not persuaded that the Examiner erred in rejecting claim 99 under § 103.

#### Claim 100

Appellants argue that “Suzuki provides no feedback from the user,” as required by independent claim 100. (Appeal Br. 130, emphasis omitted.) We disagree for the reasons discussed above with regard to claim 97.

Additionally, we agree with the Examiner that Appellants' argument depends on a narrow interpretation of the term "feedback." (Answer 34.)

We also agree with the Examiner that

[t]he term user feedback is not clearly defined in the specification, therefore it is subject to the broadest reasonable interpretation. Suzuki clearly discloses the aspect of user feedback, which is the new selection made by the user. After content is displayed to the user based on user usage history, user can make a selection from the contents displayed to the user which would constitute a user feedback.

(*Id.*)

Appellants also argue that neither Suzuki nor Kane teach or suggest identifying media in "any sequence dependency on a user profile," as required by claim 100. (Appeal Br. 131.)

The Examiner finds, and we agree, that Suzuki "discloses the aspect when the software list displayed to the user is based on the user purchase history." (Answer 35.) In particular, Suzuki discloses that "software which has not yet been reviewed by each user is displayed on the basis of the information of the latest utilization date of the user," the latest utilization date being part of the user's profile. (*See* Suzuki, col. 5, ll. 18–20; *see also* Final Action 13.)

With regard to Appellants' argument regarding the recitation in claim 100 of "data representing an abstract information content of media" (*see* Appeal Br. 131), we are not persuaded of reversible error for the reasons discussed above with regard to claim 91. (*See* Answer 35.)

Therefore we are not persuaded that the Examiner erred in rejecting claim 100 under § 103.

Claims 101 and 102

Claim 101 recites:

101. A method for proposing media to a user, comprising:  
receiving a user input;  
processing a content index representing abstract information content of each of a plurality of media objects, in association with a user record which is selectively dependent on at least past interactions of the user with identified media objects, and the user input, using an automated processor, to selectively produce a sequenced list, in order of user acceptance probability and dependent on a correspondence of the user record with the content index, of media objects in response to the user input; and  
presenting the list at an output port.

Appellants argue that “Chang does not teach or suggest that the method produces a sequenced list in order of user acceptance probability, nor is this believed inherent in the technique.” (Appeal Br. 134.)

The Examiner disagrees and finds that the term “user acceptance probability” is neither defined nor used in the Specification. The Examiner also finds that “Chang discloses a method wherein the search result is optimized wherein the list of results are [sic] ranked based on most likely result using the search terms (claim 1).” (Answer 36.) We agree with the Examiner. Chang discloses “[a] method for . . . ranking by a computer system having a monitor for output display of record responses to a query . . . whereby retrieved records are quantitatively ranked with respect to their relevance to the terms of a query,” i.e., ranked with respect to the probability that the record is an acceptable response to the user. (Chang, Claim 1.)

Appellants do not persuasively argue why Chang’s disclosure does not teach or suggest producing a sequenced list ranked in order of the probability the user will find the record an acceptably relevant response.

Appellants also argue “that claim 101 requires ‘processing a content index representing **abstract information content** of each of a plurality of media objects’, while the speactagrams [sic, of Kenyon] are not believed to relate to ‘abstract information content’.” (Appeal Br. 133–34.) The Examiner finds that the term “abstract information” is not defined in the Specification and the Examiner determines that, therefore, the term is “subject to broadest interpretation reasonable.” (Answer 36.) The Examiner then finds that the “[s]pectrogram information [of Kenyon] is clearly abstract information since it is abstract information in waveform that need specific device [sic] to receive and interpret.” (*Id.*)

As discussed above with regard to claim 91, we agree that Suzuki discloses analyzing abstract content. (*See* Suzuki, col. 7, ll. 2–7.) In particular, we agree with the Examiner that, applying the broadest reasonable interpretation, “abstract content” includes “the date of the software.” (*See* Final Action 19.) However, the Examiner does not indicate the relation between this abstract content and the spectrogram of Kenyon. Specifically, the Examiner does not indicate why one would combine the abstract information of Suzuki with the spectrogram of Kenyon.

Nor does the Examiner explain why information that needs a “specific device to receive and interpret” necessarily makes that information abstract. (*See* Answer 36; *cf. Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (noting that claims directed to pure software are not inherently abstract)).

Therefore, we are persuaded that the Examiner erred in rejecting claim 101 under § 103. Claim 102 depends from claim 101 and, therefore,

for the same reasons, we are persuaded that the Examiner erred in rejecting claim 102 under § 103.

Claim 103

Claim 103 recites:

103. A method of selecting available media content, comprising:

automatically defining content identifiers corresponding to a request from a respective user for content, based on at least an index of content of a set of available content;

automatically sequencing the defined content identifiers into a list of content identifiers selectively dependent on at least past content interactions of the respective user contained in a user profile, the list being selectively sequenced to optimize a user probable search time to make an acceptable choice; and

communicating the sequenced list to the respective user.

The Examiner finds that Suzuki discloses

automatically producing a sequenced list of the automatically defined content identifiers from the on-line database, selectively dependent on at least past content interactions of the respective user represented in a user profile (Suzuki Claim 1, column 4 line 9 to line 28, column 5 line 17 to line 38, column 5 line 49 to column 6 line 4).

(Final Action 34.)

Appellants argue that “Suzuki is not believed to teach or suggest a particular sequence of content identifiers.” (Appeal Br. 137.) However, Appellants do not persuasively argue why the Examiner’s finding is in error.

The Examiner also finds that “Kenyon discloses the aspect wherein the content are automatically defined through content identifier (claim 1).”

(Final Action 35.) The Examiner further finds that “Chang discloses the sequenced list being optimized for a probable user search time to make an

acceptable choice and a probable user frustration level with a selecting a desired choice from the available choices (claim 1 . . . ).” (*Id.*) The Examiner determines that the *combination* of Suzuki, Chang, and Kenyon “would teach all aspect[s] of claim 103.” (Answer 37.)

Appellants argue that

Chang teaches sequencing of search results according to “relevance” in a full text information retrieval system, but not “dependent on at least past content interactions of the respective user contained in a user profile, the list being selectively sequenced to optimize a user probable search time to make an acceptable choice”.

(Appeal Br. 137, emphasis omitted.) In other words, Appellants argue against Suzuki, Kenyon, and Chang individually. We note that Appellants state that “[i]t is not believed that Suzuki, Kenyon and Chang, alone or in combination fail [sic] to teach or suggest [the claimed] optimization.”

(Appeal Br. 137.) However, Appellants do not persuasively argue why the Examiner’s contrary determination is in error.

Therefore, we affirm the rejection of claim 103 under § 103.

*Claims 104, 105, 106, 113, and 115*

Claim 104 recites:

104. A method, comprising:

    automatically defining a subset of information corresponding to a user input from a set of information;

    automatically sequencing the subset of information into a list selectively in dependence on a user preference distinct from the user input, derived from a previously stored user profile, being sequenced to minimize a user probable search time to select a member of the set of information; and

    communicating the sequenced list of information to a respective user.

Appellants' present arguments similar to those made with regard to claim 103. (Appeal Br. 138–39.) And for reasons similar to those discussed with regard to claim 103, we are not persuaded of reversible error.

Appellants additionally argue that “Suzuki does not address search time or sequencing of information.” However, as Appellants' acknowledge, “Chang teaches sequencing of search results according to ‘relevance’.” (See Appeal Br. 137.) Appellants do not persuasively argue why the Examiner erred in determining that the combination of Suzuki and Kenyon with Chang's sequencing/ranking of search results teaches sequencing a list of information so as to minimize a user's probable search time. (See Final Action 34–35.) Therefore, we are not persuaded that the Examiner erred in rejecting claim 104 under § 103.

Claim 105 depends directly from claim 104 and claim 106 depends directly from claim 105. Claims 105 and 106 are not separately argued except as to their dependencies. (See Appeal Br. 140–41.) Claims 113 and 115 depend directly from claim 106 and are not separately argued except as to their dependencies. (See *id.* at 150, 152.) Therefore, for the reasons discussed above with regard to claim 104, we are not persuaded that the Examiner erred in rejecting claims 105, 106, 113, and 115 under § 103.

#### Claim 107

Claim 107 recites: “The method according to claim 106, wherein the on-line database comprises a plurality of information records, at least a portion of which comprising an editorially derived description of media.”

Appellants argue that the claim requires “an editorially derived description of media” and that “Kane shows an alphabetical sorted output.”

(*Id.* at 142.) However, the Examiner finds that Kane discloses “an editorially derived description of a listed item. (page 90, Figure 4-16, page 117 under ‘encyclopedia Articles’, Fig. 5-13 and 5-14).” (Final Action 42.) The Examiner also finds that “Kane discloses an editorially derived description of a media wherein [a] user’s search for [a] movie will result [in] a description of the movie on the display.” (Answer 38.)

Appellants do not persuasively argue why, e.g., “an editorially derived description of media” does not include “a description of the movie.” Therefore, we are not persuaded that the Examiner erred in rejecting claim 107 under § 103.

*Claim 108*

Claim 108 recites: “The method according to claim 106, wherein the on-line database comprises a plurality of information records, at least a portion of which comprising an automatically derived analysis of media.”

The Examiner finds that Schmerer discloses the limitation of claim 108 at “column 11 line 56 to column 12 line 3: wherein the details are not edited but generated based on invoice number, unit ID, product type.” (Final Action 41.) Appellants disagree and argue “that the ‘invoice number, unit 10 [sic], product type’ of Schmerer are not analogous to information records ‘comprising an automatically derived analysis of media’, based on a proper understanding of the word ‘media’.” (Appeal Br. 143.)

However, the Examiner finds that “[t]he aspect of analyzing multimedia content is already disclosed in Suzuki” and the Examiner relies on Schmerer only “to teach the aspect of automatically deriv[ing] analysis of

the content of a product based on information such as its serial number.”  
(Answer 39.)

The disclosure of Schmerer “relates to computer systems and data processing methods, and more particularly to such systems for remote inventory verification and monitoring.” (Schmerer, col. 1, ll. 6–8.) To the extent that Appellants are arguing that Schmerer is non-analogous art (*see* Reply Br. 71), we disagree. The Examiner has shown that Schmerer is reasonably pertinent to solving the problem of analyzing information in a database, i.e., a problem with which the inventors were concerned. Appellants have not persuasively argued that Schmerer is not related to the problem of analyzing information in a database. Rather, Appellants’ argument is simply that the *type* of information in the Schmerer database is different from the *type* of information in the database of the claimed invention.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 108 under § 103.

*Claim 109*

Claim 109 recites: “The method according to claim 104, wherein the sequenced subset of information comprises predicted user-preferred media sequenced in accordance with a correspondence of a predicted user preference for members of the subset of information, the subset of information being biased against media previously presented to the user.”

The Examiner finds that Suzuki teaches this limitation. (Final Action 36.) Appellants, however, argue that Suzuki does not disclose “a bias against media previously presented to the user” as Suzuki “seeks to

provide user with updates of previously purchased software.” (Appeal Br. 145.) We disagree.

As discussed above with regard to claim 19, Suzuki discloses “the CPU **10** determines which software has not yet been reviewed by the user and retrieves the software from the memory.” (Suzuki, col. 4, ll. 25–27.) In other words, Suzuki discloses a bias against presenting information previously presented to the user. (*See Answer 40.*)

Appellants also argue that “Suzuki does not teach or suggest that the ‘predicted user-preferred media [is] sequenced in accordance with a correspondence of a predicted user preference for members of the subset of information’.” (Appeal Br. 145.) However, Appellants do not explain why the Examiner’s finding that Suzuki teaches this limitation is in error. (*See Final Action 36; see also Answer 40.*) Therefore, we are not persuaded that the Examiner erred in rejecting claim 109 under § 103.

#### Claim 110

Claim 110 recites: “The method according to claim 106, wherein said automatically defining comprises interacting with a user through a direct manipulation-type user interface, at least one available menu selection of the direct manipulation-type graphic user interface being selectively presented dependent on an implicitly derived user preference.”

Appellants argue that “[n]one of Suzuki, Kenyon or Chang is believed to teach or suggest ‘an implicitly derived user preference.’” (Appeal Br. 146.) However, for the reasons discussed above with regard to claim 1, we are not persuaded that the Examiner erred in finding that Suzuki discloses this element.

Appellants further argue that “no presumption should be made” that Chang employed a graphic user interface. (*Id.*) However, the Examiner relies on Suzuki, not Chang for the disclosure of this element. Moreover, as discussed above with regard to claim 56, we are not persuaded that Suzuki does not disclose this element.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 110 under § 103.

Claim 111

Claim 111 recites, in relevant part, “interacting with a user through a hypertext graphic user interface.”

The Examiner finds that Kane discloses this feature. (Final Action 42.) In particular, the Examiner finds that

[t]he term “hyperlink” is not specifically defined in the specification. It is generally understood as link that allows the user to go to another page of on [sic] the network. This aspect is clearly taught in Kane wherein user can search encyclopedia articles and go to that article page over the prodigy network, or search a movie go [sic] to the page with movie description.

(Answer 41.)

Appellants argue that “it is not clear that Kane (Prodigy) discloses use of hypertext.” (Appeal Br. 147.) But Appellants do not persuasively argue why the Examiner’s description of a hyperlink is in error or why Kane’s disclosure of searching encyclopedia articles and going to that article page is not a disclosure of a hyperlink and use of hypertext.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 111 under § 103.

Claim 112

Claim 112 recites: “The method according to claim 104, wherein the sequenced subset of information comprises a set of options, the set of options being dependent at least in part a [sic] context and a predicted set of likely desired functions.”

The Examiner finds that Suzuki discloses this limitation. (Final Action 37.) Specifically, the Examiner finds that Suzuki discloses

wherein the user context is user’s computer specification wherein all the displayed software must be compatible with, and the likely desired functions are software that user can select wherein they are more likely to be desired by the user since they are displayed based on user’s search history and inferred user preference.

(Answer 42.)

Appellants argue that “[i]t is not believed that a user’s computer specification per Suzuki qualifies as a ‘context’.” (Reply Br. 74, emphasis omitted.) Appellants further argue that “Suzuki is not believed to disclose any particular sequence, or context.” (*Id.*; *see also* Appeal Br. 149.)

Appellants do not point to anything in the Specification that persuades us that the Examiner erred in determining that the “user context” includes the “user’s computer specification.” (*See* Answer 42.) Indeed, part of the circumstances surrounding the user, i.e., the context of the user, includes information about the user’s computer. (*See* Suzuki, col. 3, ll. 19–29.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 112 under § 103.

Claim 114

Claim 114 recites: “The method according to claim 106, wherein the sequenced subset of information defines a list of available media streams corresponding to the user input, further comprising receiving a user input for selecting one of the available media streams.”

Appellants argue that “[n]one of Suzuki, Kenyon or Chang relates to a method which receive a user input selecting an available media stream from a list of available streams.” (Appeal Br. 151.)

We agree with and adopt the Examiner’s finding that “[t]he term ‘stream’ is not specifically defined therefore subject to broadest interpretation reasonable. Suzuki clearly discloses the aspect of a user input selecting an available media stream wherein the user can select software from a software collection and download/stream the software into user’s storage device.” (Answer 43; *see also* Final Action 38, Suzuki col. 4, ll. 55–58.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 114 under § 103.

Claim 117

Claim 117 recites:

117. A method, comprising:  
receiving data;  
automatically processing the data and producing an output according to a predetermined adaptive algorithm; and  
receiving a user programming input,  
wherein the predetermined adaptive algorithm is adaptive to both the received data and the user programming input, so selectively produce an adaptive response based on the received

data, the received programming input, a history of received data, and a history of received user programming input.

Appellants argue that Suzuki does not teach a predetermined adaptive algorithm but rather that “Suzuki employs a non-adaptive (static) algorithm.” (Appeal Br. 154.) “Presented with the same ID card, it would always produce the same result, the hallmark of a static (non-adaptive) algorithm.” (Reply Br. 77, emphasis omitted.)

The Examiner, however, finds that

[t]he term adaptive algorithm is not specifically defined in the specification, therefore it must be read broadly. The algorithm in Suzuki is clearly adaptive, wherein the system would learn from user’s selection history and computer system to present software to the user, and since user’s selection history and user’s computer system changes overtime [sic], the algorithm has to adapt to these changes and present user software selection based user’s [sic] latest selection history and computer system.

(Answer 44.) Appellants do not persuasively argue that the Examiner erred in broadly interpreting the claim term “adaptive algorithm.”

Moreover, Suzuki discloses that, presented with the same ID card, the results may vary based on, e.g., when the user last utilized the software vending machine, what programs have been added to the vending machine since the user last utilized the machine, the CPU’s selection from its memory of “software which best suits the user’s liking based on his previous purchases,” and that the system is “capable of tailoring newly-received computer software for each user.” (*See, e.g.*, Suzuki, col. 5, ll. 54–57, col. 6, ll. 38–43, 55–58.) In short, the algorithm adapts its output based on a variety of factors, even when presented with the same ID card.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 117 under § 103.

Claim 118

Appellants argue that

[c]laim 118 requires at least “presenting an **adaptive graphic user interface** for providing feedback on a state of a system to the user, for communicating a subset of available options to the user, to selectively limit a set of user-defined instructions available for selection by the user to the subset, the subset being **dependent on at least one adaptation parameter which varies in dependence on a past history of user input** through the adaptive graphic user interface, and for receiving a selection of at least one user-defined instruction from the user.”

(Appeal Br. 155.) Appellants further argue that neither Suzuki nor Kane teach or suggest the highlighted elements. (*Id.* at 155–56)

However, for the reasons discussed above with regard to claim 56, we agree with the Examiner that Suzuki discloses the above highlighted elements. (*See* Final Action 14.) Therefore, we are not persuaded that the Examiner erred in rejecting claim 118 under § 103.

Claim 119

Appellants argue that “Suzuki is not believed to teach or suggest either ‘automatically characterize[ing] a set of program material based on its respective information content’ or ‘correlate[ing] the characterization of the set of the program material based on its respective information content with the determined user preference for information content,’” as required by claim 119. (Appeal Br. 157, bracketing in original.)

The Examiner disagrees and finds that Suzuki discloses a system that automatically compares and selects software in the vending machine with the user’s selection history and the user’s computer system, and that

“characterize[s] one group of software as the group suitable for the user, and a second group of software as unsuitable for the user.” (*See* Answer 45; *see also* Suzuki, col. 5, l. 35–38, l. 65–col. 6, l. 67, l. 67–col. 8, l. 2.) We agree with the Examiner. For example, Suzuki characterizes selected software based on the category (information content) of the software and correlates that with software that “best suits the user’s liking based on his previous purchases” (determined user preferences for information content). (Suzuki, col. 6, ll. 20–22, ll. 56–58; *see also id.* at col. 8, ll. 40–55.)

In view of the above, we are not persuaded that the Examiner erred in rejecting claim 119 under § 103.

*Claim 133*

Claim 133 recites: “The method according to claim 106, wherein the sequenced list is communicated to the respective user as a markup language communication.”

Appellants argue that the Examiner does not indicate where “support for the rejection of claim 133 lies with respect to ‘... the sequenced list is communicated to the respective user as a markup language communication.’” (Appeal Br. 161.) The Examiner answers that “because the term [markup language] is unclear and ambiguous, the claim must be examined without using the term.” (Answer 47.)

As discussed above with regard to the rejection of claim 133 under § 112, second paragraph, we agree with the Examiner that the term “markup language” is unclear in this context. However, this does not mean that the Examiner may ignore the claim term in reaching a determination regarding obviousness.

Because the Examiner does not address the element of “markup language communication” in rejecting claim 133 (*see* Final Action 34–35), we reverse the rejection of claim 133 under § 103.

Claim 134

Claim 134 recites:

134. A method of selecting available media content, comprising:

automatically defining content identifiers corresponding to a request from a respective user for content, based on at least an index of content of a set of available content in an on-line database;

automatically producing a sequenced list of the automatically defined content identifiers from the on-line database, selectively dependent on at least past content interactions of the respective user represented in a user profile, the sequenced list being optimized for a probable user search time to make an acceptable choice and a probable user frustration level with a selecting a desired choice from the available choices; and

communicating the sequenced list to the respective user.

Appellants argue that “[i]t is not believed that Suzuki, Kenyon and Chang, alone or in combination teach or suggest [the recited] optimization.” (Appeal Br. 164.) Specifically, Appellants argue that “an optimization on the basis of search time only yields a different result than an optimization based on both probable user search time **and** probable user frustration.” (*Id.*)

As discussed above with regard to claim 103, the Examiner finds that “Chang discloses the sequenced list being optimized for a probable user search time to make an acceptable choice and a probable user frustration

level with a selecting a desired choice from the available choices (claim 1 . . .).” (Final Action 35.) Additionally, the Examiner finds that “as the user will find the content quicker, this will also lower the frustration level of the user, wherein the user does not have to go through a large content in order find what he or she is looking for, therefore Chang also discloses the aspect of optimization for probable user frustration.” (Answer 48.)

Appellants do not persuasively argue why the Examiner erred in determining that having a user find content quicker will lower the user’s frustration level. Nor do Appellants persuasively argue why an optimization based on a reduced user search time necessarily differs from an optimization based on a reduced user search time and probable frustration level.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 134 under § 103.

*Claim 135*

Claim 135 recites: “The method according to claim 134, wherein the on-line database comprises a plurality of information records, at least a portion of which comprising an editorially derived description of media.”

Appellants argue that claim 135 “require[s] that a list of editorially derived description of media be sequenced to optimize for a probable user search time to make an acceptable choice and a probable user frustration level with a selecting a desired choice from the available choices.” (Appeal Br. 165.) We disagree.

While claim 134 recites “automatically producing a sequenced list of the automatically defined content identifiers from the on-line database,” claim 135 merely recites a type of information record, among a plurality of

information records, in the on-line database. Additionally, as discussed above with regard to claim 107, the Examiner finds that Kane discloses “an editorially derived description of a listed item. (page 90, Figure 4-16, page 117 under ‘encyclopedia Articles’, Fig. 5-13 and 5-14).” (Final Action 42, 43.)

Therefore, we are not persuaded that the Examiner erred in rejecting claim 135 under § 103.

*Claim 136*

Claim 136 recites: “The method according to claim 134, wherein the on-line database comprises a plurality of information records, at least a portion of which comprising an automatically derived analysis of media.”

The step of claim 136 is similar to that of claim 108 and Appellants make similar arguments. (*See* Appeal Br. 143–44, 166–67.) For the reasons discussed above with regard to claim 108, we do not find Appellants’ arguments persuasive of reversible error.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 136 under § 103.

*Claim 137*

Claim 137 recites: “The method according to claim 134, wherein the sequenced list comprises predicted user-preferred media sequenced in accordance with a correspondence of a predicted user preference for members of the subset of information.”

As an initial matter, we note that the phrase “subset of information” does not appear in claim 134. However, based on our understanding of the

Examiner's rejection (Final Action 38–39) and Appellants' Appeal Brief (Appeal Br. 168–69), we determine that “subset of information” under a broadest reasonable interpretation includes the set of content identifiers corresponding to a request from a user for content.

The Examiner finds that Suzuki discloses “deriv[ing] user preferences based on an estimation of what user might prefer, for example software that are compatible with user's computer spec and software that has not been viewed before by the user. Both user's software selection and computer system selection reflect the user preference.” (Answer 50.)

Appellants argue that “[w]hile a user might indeed have a preference for software for his own computer, he might also seek to acquire a new computer, so that computer ownership becomes a poor indicator of user preference.” (Appeal Br. 168.) Appellants further argue that “if a user acquires software other than through the vending machine, the data will be inaccurate.” (*Id.*) Thus, Appellants argue, “it should be clear that Suzuki does not relate to user preferences.” (*Id.*)

While we agree with Appellants that a user's preferences may change, Appellants' argument is not persuasive. At least in those cases where the user's computer has not changed, and where the user acquires all software through the vending machine, the data will be accurate.

Appellants also argue that “Suzuki is not believed to disclose any particular order of output (i.e., sequence) . . . . Chang does disclose an ordering of documents, but this ranking is based on the document itself and a query, and not the document's relation to a user preference.” (*Id.*)

However, as discussed above with regard to claim 134, the Examiner finds that “Chang discloses the sequenced list being optimized for a probable

user search time to make an acceptable choice and a probable user frustration level with a selecting a desired choice from the available choices (claim 1 . . . ).” (Final Action 35.) Additionally, Appellants argue against Suzuki and Chang separately; but the Examiner’s rejection is based on the *combination* of Suzuki, Kenyon, and Chang. (*See id.*) “[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.” *In re Keller*, 642 F.2d at 426.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 137 under § 103.

*Claim 138*

Claim 138 recites: “The method according to claim 134, wherein said automatically defining comprises interacting with a user through a direct manipulation-type user interface, at least one available menu selection of the direct manipulation-type graphic user interface being selectively presented dependent on an implicitly derived user characteristic.”

The limitation of claim 138 is similar to that of claim 110 and Appellants make similar arguments. (*See Appeal Br.* 146, 170.) For the reasons discussed above with regard to claim 110, we do not find Appellants’ arguments persuasive of reversible error.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 138 under § 103.

Claim 139

Claim 139 recites:

The method according to claim 134, wherein said automatically defining comprises interacting with a user through a hypertext graphic user interface, comprising a user input screen, having a first set of predetermined functional elements having consistent function and placement, and a second set of elements comprising index information from the on-line database generated in response to at least the user request.

The limitation of claim 139 is similar to that of claim 111 and Appellants make similar arguments. (*See* Appeal Br. 147–48, 171–72.) For the reasons discussed above with regard to claim 111, we do not find Appellants’ arguments persuasive of reversible error.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 139 under § 103.

Claim 140

Claim 140 recites: “The method according to claim 134, wherein the content identifiers are further defined selectively in dependence on a context.”

The Examiner finds that Suzuki “discloses the aspect of ‘context’ wherein the context is based on user’s . . . usage history and user’s computer specification.” (*Answer* 53; *see also* *Final Action* 39, citing Suzuki, claim 2.)

Appellants disagree and argue that “[t]he context is an environment of operation, and not extrinsic information or past history.” (*Reply* Br. 88, *emphasis omitted*.) Appellants further argue that “[t]he context, according

to claim 134, must be something distinct, and not part of the user’s profile.”  
(Appeal Br. 173.)

As discussed above with regard to claim 112, part of the circumstances surrounding the user, i.e., the context of the user, includes information about the user’s computer. (*See Suzuki*, col. 3, ll. 19–29.) Additionally, Appellants do not persuasively argue why “a context” cannot include a part of a user’s profile, such as the user’s computer or past history. For example, in claim 134, a sequenced list may be produced selectively dependent on past content interactions, e.g., past purchase history. In claim 140, content identifiers may be further defined selectively in dependence on a context such as the user’s computer, i.e., software compatible with the user’s computer.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 140 under § 103.

#### *Claims 141 and 144*

Claims 141 and 144 depend from claim 134 and are not separately argued except as to their dependence from claim 134. (Appeal Br. 174, 180.) Therefore, for the reasons discussed above with regard to claim 134, we are not persuaded that the Examiner erred in rejecting claims 141 and 144 under § 103.

#### *Claim 142*

Claim 142 recites: “The method according to claim 134, wherein the sequenced list defines available media streams corresponding to the user

request, further comprising receiving a user input for selecting one of the available media streams.”

Claim 114 contains similar language and Appellants present similar arguments. (*See* Appeal Br. 151, 175.) Therefore, for the reasons discussed above with regard to claim 114, we are not persuaded that the Examiner erred in rejecting claim 142 under § 103.

*Claim 143*

Claim 143 recites: “The method according to claim 134, wherein the sequenced list is communicated to the respective user as a markup language communication.”

Claim 133 contains similar language and, again, the Examiner does not address the element of “markup language communication” in rejecting claim 143. (*See* Final Action 34–35; *see also* Answer 54, Appeal Br. 178–79.) Therefore, we reverse the rejection of claim 143 under § 103.

*Claim 145*

Claim 145 recites: “The method according to claim 144, wherein the automatically defining is biased against defining content identifiers corresponding to previously selected choices.”

Claim 109 contains similar language and Appellants present similar arguments. (*See* Appeal Br. 145, 181.) Therefore, for the reasons discussed above with regard to claim 109, we are not persuaded that the Examiner erred in rejecting claim 145 under § 103.

Claim 146

Claim 146 recites:

146. The method according to claim 134, further comprising:  
mathematically modeling a plurality of images representing objects;  
classifying the objects based on at least the mathematical models; and  
determining the defined content identifiers selectively in dependence on a correspondence of a classification of an object with information derived from the request from the respective user.

Appellants argue that Lambert is non-analogous art. (Appeal Br. 183.) However, for the reasons discussed above with regard to claim 3, we do not find this argument persuasive.

Appellants also argue that “[n]one of Suzuki, Kenyon, Chang, and Lambert et al. teaches or suggests ‘an index of content of a set of available content in an on-line database.’” (Appeal Br. 183.) This limitation appears in claim 134, from which claim 146 depends.

The Examiner finds that Suzuki discloses “defining content corresponding to a request from a respective user for content, based on at least an index of content of a set of available content in an on-line database (column 2 line 45 to line 68, see also figure 1).” (Final Action 34.) Appellants do not persuasively argue why the Examiner’s finding is erroneous.

Therefore, we are not persuaded that the Examiner erred in rejecting claim 146 under § 103.

Appellants' other arguments

Appellants' other arguments have been considered but are not deemed persuasive of error. However, with regard to arguments raised by Appellants for the first time in the Reply Brief that were not responsive to an argument raised in the Answer and for which good cause was not shown, such arguments were not considered. *See* 37 C.F.R. § 41.41(b)(2).

DECISION

The Examiner's rejection of claim 56 under 35 U.S.C. § 101 is reversed.

The Examiner's rejection of claims 133 and 143 under 35 U.S.C. § 112, first paragraph, is affirmed.

The Examiner's rejection of claims 1, 13, and 146 under 35 U.S.C. § 112, second paragraph, is affirmed.

The Examiner's rejection of claims 22, 31, 133, and 143 under 35 U.S.C. § 112, second paragraph, is reversed.

The Examiner's rejections of claims 1–8, 10–21, 31, 36, 49, 56, 81–86, 88–100, 103–115, 117–119, 134–142, and 144–146 under 35 U.S.C. § 103(a) are affirmed.

The Examiner's rejections of claims 9, 22, 87, 101, 102, 133, and 143 under 35 U.S.C. § 103(a) are reversed.

We enter a new ground of rejection of claims 20 and 21 under 35 U.S.C. § 112, second paragraph.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides that, “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial

review.” Section 41.50(b) further provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THIS DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner.

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record.

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

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)