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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte YARON SEGALOV and AMIR MAOR

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Appeal 2019-003811
Application 13/644,878
Technology Center 2100

———————

Before JOHNNY A. KUMAR, LINZY T. McCARTNEY, and
MICHAEL T. CYGAN, *Administrative Patent Judges.*

CYGAN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision to reject claims 1–8, 12–17, and 19–25, which are all of
the pending claims in the application. Appeal Br. 1, 54–58 (Claims App.).
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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[1] We use the word "Appellant" to refer to "applicant" as defined in
37 C.F.R. § 1.42. The real party in interest is stated to be Triapodi LTD.
Appeal Br. 4.

CLAIMED SUBJECT MATTER

The claimed invention generally relates to prediction and estimation of demographic information relating to the users of mobile devices. Spec. ¶ 2. The estimation is based on at least a list of installed applications on the mobile device, which are used to estimate the demographic information of the user of such device. Appeal Br. 13. The estimation is made possible by a supervised classification algorithm trained using a training set having actual demographic information from an installed application on the device that requires a registration process. *Id.*

Independent claim 1 is illustrative, with labels (a)–(j) added for ease of reference:

> 1.   A computer-implemented method performed by a processing unit, said method comprising:
>
>> obtaining a list of applications that are installed on a mobile device; and
>>
>> estimating, based on the list of applications, one or more demographic parameter of a user of the mobile device;
>>
>> wherein said estimating is performed using a supervised classification algorithm which is trained with respect to a training set to enable estimation of the one or more demographic parameter of the user, wherein the training set comprises information obtained from mobile devices, wherein for each device of the mobile devices, the training set comprises demographic information of a user of the device and a list of applications that are installed on the device, wherein the demographic information is obtained from an installed application on the device that requires a registration process or from an association of the device with a profile of an online service.

Appeal Br. 54 (Claims App.).

Independent claims 14, 19 and 22 recite, respectively, an apparatus, computer-implemented method, and computer program product having limitations similar to those in claim 1. Appeal Br. 54–58. Dependent claims 2–7, 12, 13, 15–17, 20, 21, and 23–25 each incorporate the limitations of their respective independent claims. *Id.*

REFERENCES

Name	Reference	Date
Ross et al. (Ross)	US 2004/0203681 A1	Oct. 14, 2004
Alen	US 2010/0016011 A1	Jan. 21, 2010
Perlmutter et al. (Perlmutter)	WO 2010/092585 A1	Aug. 19, 2010
Kramer et al. (Kramer)	US 2011/0093340 A1	Apr. 21, 2011
Hajost	US 2012/0066287 A1	Mar. 15, 2012
Wormald et al. (Wormald)	US 8,145,222 B2	Mar. 27, 2012
Ramakrishnan et al. (Ramakrishnan)	US 2012/0078707 A1	Mar. 29, 2012
Foroughi et al. (Foroughi)	US 2013/0159103 A1	June 20, 2013
Sibbald	US 2013/0282564 A1	Oct. 24, 2013
Black et al. (Black)	US 8,739,207 B1	May 27, 2014
Gill et al. (Gill)	US 9,460,461 B1	Oct. 4, 2016

REJECTIONS

Claims 1, 4, 13, 14, 16, 19, 21, and 22 are rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter and Black.

Claims 2 and 15 are rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Ross.

Claim 3 is rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, Ross, and Hajost.

Claims 5, 6, and 17 are rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Alen.

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Wormald.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Sibbald.

Claim 20 is rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Ramakrishnan.

Claim 23 is rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Gill.

Claim 24 is rejected under 35 U.S.C. § 103(a) as being obvious over the combination of Perlmutter, Black, and Foroughi.

OPINION

We have reviewed the Examiner's obviousness rejections (Final Act. 14–31, Ans. 4–20) in light of Appellant's contentions of error (Appeal Br. 13–38, Reply Br. 6–11).[2] We are not persuaded by Appellant's contention that the Examiner erred in rejecting claims 1–8, 12–17, and 19–25 under 35 U.S.C. § 103(a). We begin with claim 1.

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[2] Although Appellant has titled their reply to the Examiner's Answer as "Appeal Brief," 37 C.F.R. § 41.37(a) does not permit a second Appeal Brief to be filed at that stage of the appeal; accordingly, we refer to it here as a Reply Brief in accordance with 37 C.F.R. § 41.41.

A. Claims 1, 4, 13, 14, 16, 19, 21, and 22

With respect to claim 1, Appellant argues that the entirety of the "estimating" and "wherein said estimating" phrases are not taught or suggested by the applied combination of Perlmutter and Black. Appeal Br. 18–19. We review the Examiner's rejection, and then address each of Appellant's specific contentions in turn.

The Examiner finds Perlmutter to obtain a list of applications installed on a mobile device, thus teaching the claimed "obtaining" step. Final Act. 14 (citing Perlmutter ¶ 73 for a list of applications currently installed or running on the mobile device). The Examiner further finds Perlmutter to teach estimating, based on the list of applications, one or more demographic parameters of the user, thus teaching the claimed "estimating" step. *Id.* (citing Perlmutter ¶ 92 for profile application and attributes including socio-demographic attributes of the device user). The Examiner further finds Perlmutter to teach that the demographic information is obtained from an installed application on the device that requires a registration process, thus teaching the "wherein the demographic information is obtained" limitation. Ans. 5 (citing Perlmutter ¶ 92 for profile application). The Examiner finds Perlmutter to lack a teaching of the claimed manner of estimation, i.e., the "wherein said estimating" limitation, for which the Examiner relies upon Black. *Id.*

The Examiner finds Black to teach the claimed "wherein said estimating," by applying a k-nearest neighbor (supervised algorithm), a clustering algorithm partitioning a data set into subsets sharing a common trait, involving demographic identifiers. *Id.* (citing Black 10:4–13; 11:6–13, 30–38; 12:46–59). Because Perlmutter does not provide details of how such

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estimating is performed, the Examiner finds that it would have been obvious to combine the teachings of Black with those of Perlmutter for the purpose of "classifying incoming data and identifying relevant demographic information from the incoming data using training algorithms with training sets." *Id.* at 15–16.

1. *Appellant's Nonenablement Argument*

Appellant first argues that Perlmutter does not contain an enabling disclosure of the phrase "'estimating, based on the list of applications, one or more demographic parameter of a user of the mobile device.'" Appeal Br. 19–20. Appellant focuses on Perlmutter's description of classification factors that "may be at least approximately derived from the extracted data," such as "socio-demographic attributes" of the user, where the extracted data may include "installed applications" and their utilization. *Id.* at 20. Appellant argues that Perlmutter does not clearly explain "whether from the extracted information of 'contact information' the factor of 'digital lifestyle' can be approximately derived, and if so – how." *Id.* at 21. Appellant argues that for this reason, Perlmutter does not enable the disputed "estimating" limitation. *Id.*

Where an Examiner provides notice of the manner by which a reference teaches elements of the claimed invention, the reference is presumed to be operable, and the burden shifts to the applicant to submit rebuttal evidence of nonenablement. *See In re Sasse,* 629 F.2d 675 (CCPA 1980); *In re Antor Media Corp.,* 689 F.3d 1282 (Fed. Cir. 2012). Where the reference is used in an obviousness rejection, "[e]ven if a reference discloses an inoperative device, it is prior art for all that it teaches." *Beckman Instruments v. LKB Produkter AB,* 892 F.2d 1547, 1551 (Fed. Cir. 1989).

Thus, "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." *Symbol Techs. Inc. v. Opticon Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991); *see also* MPEP 2121.01(II).

Accordingly, we consider whether Perlmutter teaches or suggests the disputed phrase, regardless of whether the relied-upon portions of Perlmutter are enabled. We agree with the Examiner's reasoning and conclusion that the cited sections of Perlmutter, describing extracting installed applications to derive socio-demographic attributes of the user of a mobile device, teaches or suggests "estimating, based on the list of applications, one or more demographic parameter of a user of the mobile device." Ans. 24.

Furthermore, the Examiner relies on Black, not Perlmutter, for explanation of how the estimating is performed. *Id.* Appellant's argument against Perlmuttter does not take into account how the Examiner is relying on Perlmutter; i.e., for its teaching that one or more demographic attributes should be derived from installed applications, but not for how the derivation should be performed. The Examiner instead relies upon Black for such details. Thus, Appellant's argument that Perlmutter does not describe *how* demographic attributes are derived from installed applications does not persuasively show that Perlmutter fails to teach or suggest *the act of* deriving such demographic attributes from the installed applications. For these reasons, we are not persuaded by Appellant's argument based upon enablement by Perlmutter.

> 2. *Appellant's Estimated/Actual Demographic Information*
> *Argument*

Appellant next argues that the Examiner relies on the same description in Perlmutter to teach two contradictory features; i.e., "estimating . . . one or more demographic parameter" and "demographic information . . . obtained from an installed application." Appeal Br. 21. Appellant states that both features are attributed by the Examiner to Perlmutter's profile application. *Id.* (citing Perlmutter ¶ 92). Appellant argues that it would be contradictory to find that the profile application both estimates a demographic parameter and obtains demographic information, because "[o]ne cannot estimate what is already known to it." *Id.* at 22.

Claim 1 requires (1) estimating a demographic *parameter* of a user and (2) obtaining demographic *information* that is obtained from an installed application. The Examiner finds these two separate limitations to be taught or suggested by two separate descriptions in Perlmutter. The Examiner finds Perlmutter to teach or suggest obtaining demographic *information* by extracting customer-related information from the mobile device. Ans. 24 (citing Perlmutter ¶ 92). The Examiner finds Perlmutter to teach or suggest estimating a demographic *parameter* by analyzing the extracted customer-related information to classify the device user into one or more categories. *Id.* Although the Examiner relies upon the same paragraph for both teachings, the Examiner relies upon separate teachings within that paragraph. We determine that the Examiner's findings are supported by the cited paragraph of Perlmutter, and are not persuaded that reliance on the same paragraph, having separate teachings, is in any manner self-contradictory.

   *3. Appellant's Argument that Perlmutter Does Not Estimate From
      Installed Applications*

Appellant next argues that Perlmutter does not disclose that the
installed applications can be used to estimate or derive demographic
information, because Perlmutter "never actually makes any connection
between" Perlmutter's installed applications and the demographic
information. Appeal Br. 22–23. Appellant argues that the demographic
information is obtained from contact information, not from installed
applications in the device. *Id.* Appellant argues that the applications
information is used for other purposes. *Id.* at 23 (citing Perlmutter ¶ 93).

   We are not persuaded by this argument, because, as pointed out by the
Examiner, Perlmutter describes obtaining demographic information by
"extract[ing] customer related information from the mobile device, such [as]
. . . installed applications." Perlmutter ¶ 92; Ans. 24 (citing same).
Perlmutter then describes estimating a demographic parameter by
"analyz[ing] the extracted information and classify[ing] the device user into
one or more categories" based upon "factors that may be at least
approximately derived from the extracted data." Perlmutter ¶ 92.
Furthermore, Appellant admits that Perlmutter "should be read as indicating
that any of the potential 'factors' (including socio-demographics) can be
approximately derived from the 'customer-related information' that is
obtained from the mobile device." Appeal Br. 22. While Appellant states
that "it is clear" that Perlmutter derives socio-demographic data from contact
information, Appellant has not explained the reasoning behind that
conclusion, or how that prevents Perlmutter from teaching that installed
information data can also, or alternatively, be used to estimate a

demographic parameter. Appellant has not persuasively explained how this description in Perlmutter does not teach or suggest estimating a demographic parameter from extracted information that includes installed applications.

4. *Appellant's Hindsight Argument*

Appellant further argues, "the alleged combination is nothing more than the application of information gleaned from . . . hindsight." Reply Br. 8–9; Appeal Br. 24. Appellant argues, specifically, that Black is not directed to information from mobile devices, but instead, information from textual and crawled content. Appeal Br. 23–24. Appellant argues that the mention of mobile devices in Black is not related to Black's classification engine. Reply Br. 8. Appellant argues that Black is only being combined due to hindsight reconstruction of Appellant's alleged invention. *Id.* at 8–9.

Appellant's argument does not take into account the "inferences and creative steps that a person of ordinary skill in the art would employ." *KSR International Co. v. Teleflex Inc.,* 550 U.S. 398, 418 (2007). The person of ordinary skill is the person of ordinary skill in the art is "a person of ordinary creativity, not an automaton." *Id.* at 421. Here, the Examiner relies on Black to provide a teaching or suggestion of a specific way of estimating a demographic parameter from extracted information; i.e., by using a supervised classification algorithm trained by a training set. Appeal Br. 15–16. The Examiner combines this teaching to Perlmutter's mobile device-based profile application and classification method for the purpose of classifying incoming data and identifying relevant demographic information from the incoming data using training algorithms with training sets. Appeal Br. 14–16. While Appellant argues that Black, alone, does not provide a suggestion of the claimed limitation, Appellant does not address what the

combination of Black and Perlmutter teach or suggest to one of ordinary skill in the art. "[O]ne cannot show nonobviousness by attacking references individually where, as here, the rejection[] [is] based on combinations of references." *In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Appellant has, in other sections of its argument, characterized Perlmutter as providing only a broad description of its demographic classification method. Appeal Br. 21. The Examiner has provided Black for its teaching of a specific demographic classification method. Appellant has provided neither evidence nor reasoning persuasive to show error in the Examiner's finding that one having ordinary skill in the art would not have found it obvious to use Black's demographic classification method to perform the demographic classification sought by Perlmutter.

Further, we note that

[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.

In re McLaughlin, 443 F.2d 1392, 1313–1314 (CCPA 1971).

For the reasons detailed, *supra*, the Examiner has relied on the lack of a specific classification method in Perlmutter to combine Perlmutter with the detailed classification method of Black. Consequently, we agree with the Examiner that the applied references, viewed by one of ordinary skill in the art, independently provide a reason to combine the references beyond mere reconstruction of the disclosed and claimed invention. Accordingly, we are not persuaded that the Examiner's determination is based solely upon

knowledge gleaned from Applicant's disclosure, and therefore are not persuaded that the rejection improperly relies upon hindsight reconstruction.

Accordingly, we affirm the Examiner's rejection of claim 1. Appellant does not separately argue claims 4, 13, 14, 16, 19, and 22, which are rejected under the same grounds. Consequently, these claims stand or fall with claim 1. 37 C.F.R. § 41.63 (c)(1)(iv); *see also* Reply Br. 5 ("[c]laims 1–8, 12–17 stand or fall with Claim 1; Claims 5–6 stand or fall together with Claim 5, Each of Claims 7, 12, 17, and 23 stands or falls alone"). Consequently, we sustain the Examiner's rejection of claims 1, 4, 13, 14, 16, 19, and 22.

5. Claim 21

Appellant argues against the rejection of claim 21 because neither of the cited references, taken singly or in combination, teach or suggest performing a user interface manipulation based on the estimated one or more demographic parameters. Appeal Br. 25. Specifically, Appellant argues that the Examiner errs in finding Perlmutter's server 42 to include a user interface, because (1) Perlmutter never mentions a user interface, and (2) Perlmutter does not even hint to a user interface manipulation that is based on estimated demographic parameters. *Id.* at 25–26. Appellant states, "the fact that Perlmutter shows a user being able to interact with a user interface is irrelevant to the claimed feature which requires that the user manipulation be based on the estimated one or more demographic parameters." Reply Br. 9.

The Examiner finds Perlmutter to describe a virtual screen display on a remote station, where the station user may manipulate an input device to move a cursor over the display. Ans. 28–29 (citing Perlmutter ¶ 70, Fig. 1).

The Examiner further finds that this user interface is included in Perlmutter's server. Final Act. 18 (citing Perlmutter Fig. 1).

Claim 21 recites, "[t]he computer-implemented method of Claim 19, wherein the user engagement is a User Interface manipulation." Appeal Br. 57 (Claims App.) The "user engagement" limitation appears in claim 19, which recites "performing a user engagement based on the estimated one or more demographic parameters." *Id.* Appellant does not specifically argue that the combination of Perlmutter and Black fails to teach or suggest claim 19's "user engagement" limitation. Thus, the question is, assuming that the combination of references teach user engagement in the claimed manner, does Perlmutter teach or suggest that user engagement may be through a user interface? We agree with the Examiner that Perlmutter's description of moving a cursor over a virtual screen display, particularly that a "user may operate remote station 12 to perform other operations on mobile device 14," teaches or suggests user engagement by a user interface manipulation. Accordingly, we are not persuaded by Appellant's argument against the rejection of claim 21.

6. *Claims 5–8 and 17*

We turn to claim 5, which adds to claim 1 the limitation of "obtaining usage statistics associated with the applications, and wherein said estimating is further based on the usage statistics." Appeal Br. 54 (Claims App.). The Examiner relies on the combination of Perlmutter and Black, as applied to claim 1, further modified by the teachings of Alen. Final Act. 21.

Appellant argues against the rejection of claim 5 because the Examiner does not explain why Alen's usage statistics combined with demographic information to provide a rating would be used to output a

demographic parameter as claimed. Reply Br. 9. Appellant argues that Alen explicitly teaches that usage information may be used with the demographic information, but not that the usage information is used to estimate the demographic parameter. *Id.* Appellant further argues that the "same is true also, *mutatis mutandis*, with respect to section C2 regarding Claim 17 and with respect to section D regarding Claim 7. *Id.* (referring to sections of the Examiner's Answer). *Id.* Claims 6 and 8 are not argued separately from claims 5 and 7, respectively.

With respect to claim 5, the Examiner finds Alen to teach or suggest associating usage information with a demographic client profile, wherein estimating is further based on the usage statistics. Ans. 22 (citing Alen ¶¶ 19, 56). We agree that Alen supports this finding. Alen describes collecting usage information from mobile devices, and analyzing the usage information to produce ratings of content. Alen Abst. The usage information is collected along with demographic information. Alen ¶ 57. Thus, the function of usage information in Alen is, like the demographic information in Perlmutter, data to be used in estimating or producing a desired value. For Alen, that desired value is content ratings; for Perlmutter, demographic parameters. We agree that the Examiner has adequately characterized Alen's teaching of collecting usage and demographic information as inputs to estimate demographic parameters in the same manner that Perlmutter's demographic information is used as inputs to estimate demographic parameters. Appellant's argument conflates the demographic information input of Alen with the output of Alen; i.e., content ratings. Appellant does not persuade us that Alen's demographic *information* is not information collected along with usage information, but instead a demographic

parameter that is estimated from input. Accordingly, we are not persuaded of error in the Examiner's rejection of claim 5, or of claim 6 argued together with claim 5, or of claim 17 argued on the same reasoning as claim 5.

We turn next to claim 7, which adds to claim 1 the additional limitation of "said estimating is further based on the non-application data." Appeal Br. 55 (Claims App.). The Examiner relies on the combination of Perlmutter and Black, as applied to claim 1, further modified by the teachings of Wormald. Final Act. 24.

Appellant argues that Wormald does not teach estimation of a demographic parameter, because "a quick review of Wormald reveals that Wormald never discusses any demographic information whatsoever." Appeal Br. 32.

The Examiner finds Wormald to teach estimating based upon non-application data through Wormald's description of obtaining information about data, such as media content file characteristics and size, and determining an appropriate communication delivery medium from that information. Final Act. 24 (citing Wormald 1:61–63, 2:13–29); Ans. 31–32 (citing Wormald 2:13–29, 10:5–30).

We are not persuaded by Appellant's argument solely against Wormald. The Examiner finds Wormald to teach estimating based upon non-application data, and relies upon Perlmutter and Black for the remaining claim limitations, including that the estimating be of a demographic parameter. Final Act. 24. While Appellant argues that Wormald, alone, does not provide a suggestion of the claimed limitation, Appellant does not address what the combination of Wormald with Black and Perlmutter teaches or suggests to one of ordinary skill in the art. *Keller*, 642 F.2d at

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426. Accordingly, we are not persuaded of error in the Examiner's rejection of claim 7, or of claim 8 argued together with claim 7.

7. *Claim 12*

Claim 12 adds to claim 1 the additional limitation of "the list of applications that are installed on a mobile device is a partial list that excludes at least one application that is installed on the mobile device." Appeal Br. 55 (Claims App.). The Examiner relies on the combination of Perlmutter and Black, as applied to claim 1, further modified by the teachings of Sibbald. Final Act. 28–29.

Appellant argues that Sibbald teaches excluding applications from being installed on the mobile device, rather than, as claimed, excluding applications that are installed on the mobile device. Appeal Br. 35.

The Examiner finds that Sibbald teaches a partial list of applications installed on a mobile device that excludes at least one application that is installed on the mobile device. Final Act. 29 (citing Sibbald ¶ 93). The Examiner finds obviousness by combining the teachings of Perlmutter and Black with the teaching of Sibbald to identify applications installed on a device. *Id.*

We are persuaded by Appellant's argument. The Examiner has shown Sibbald to identify applications installed on a device. Sibbald describes an import list used to determine whether an application on the list should be automatically installed. Sibbald ¶ 93. However, the Examiner has not shown Sibbald to exclude any application that is already installed on a mobile device. Thus, we reverse the Examiner's rejection of claim 12.

However, we have found Sibbald to contain a separate teaching not cited by the Examiner, but relevant to the obviousness of claim 12. In a

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different embodiment than that cited by the Examiner, Sibbald mentions that the import list "may relate to *all* applications stored on the communication device that were obtained from the server, *or* applications stored on the communication device *that meet a preselected criteria*" (emphasis added). Sibbald ¶ 44. The import list is used to transmit one or more of the applications on the list to a second communication device. Sibbald ¶ 37. By restricting the applications on the list only to those that "meet a preselected criteria," Sibbald teaches that the list may contain some, but not all, of the applications stored on the communication device. Combined with the Perlmutter and Black relied upon by the Examiner, as discussed for the rejection of claim 1, we find Sibbald to teach or suggest claim 12's "list of applications that are installed on a mobile device is a partial list that excludes at least one application that is installed on the mobile device."

We further find that one would be motivated to provide a partial list of applications, as taught by Sibbald, in a demographic estimation based on applications in a device, as taught by the combination of Perlmutter and Black, because Sibbald teaches that use of a partial list of applications (those meeting a preselected criteria) is an alternative to use of a full list of applications. Sibbald ¶ 44. We further note that Perlmutter teaches extracting, from installed applications, customer-related information to define a digital persona. Perlmutter ¶ 92. One having ordinary skill in the art, seeking customer-related information from installed applications and aware of Sibbald, would have found it obvious to extract information only from those installed applications having customer-related information usable to define a digital persona of the type sought by Perlmutter. Accordingly, we are persuaded that claim 12 is obvious over the combination of

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Perlmutter, Black, and Sibbald. Because Appellant has not had opportunity to respond to the newly cited sections of Sibbald, and the newly presented rationale for obviousness, we designate this as a new ground of rejection.

8. Claim 23

Claim 23 adds to claim 1 the additional limitation of "said obtaining is performed by a Software Development Kit (SDK) that is installed on the mobile device as part of an application, wherein the application is not a demographic aware application." Appeal Br. 58 (Claims App.). The Examiner relies on the combination of Perlmutter and Black, as applied to claim 1, further modified by the teachings of Gill. Final Act. 28–29.

Appellant argues that Gill does not describe an application or an operating system that is demographic unaware. Reply Br. 10. Appellant further argues that operating systems are likely demographic aware. *Id.* at 10–11. The Examiner "interprets" that a mobile device operating system is not a demographic aware application, but shows neither factual support nor sound reasoning to support this interpretation. Ans. 33. Because the Examiner has the burden of showing the combination of references to teach or suggest each claim limitation, and the Examiner has not pointed to any description in Gill (or otherwise) of a demographic unaware application, the Examiner has not made a prima facie case of obviousness. Consequently, we reverse the Examiner's rejection of claim 23.

9. Claims 2, 3, 15, 20, and 24

Appellant has not argued claims 2, 3, 15, 20, and 24 separately from claim 1. Each of these claims is rejected over the same base combination of Perlmutter and Black, further in view of either Ross (claims 2 and 15), Ross and Hajost (claim 3), Ramakrishnan (claim 20), or Foroughi (claim 24). For

the same reasons expressed in sustaining the Examiner's rejection of claim 1, we sustain the Examiner's rejection of claims 2, 3, 15, 20, and 24.

CONCLUSION

For the above-described reasons, we affirm Examiner's rejection of claims 1–8, 13–17, 19–22, 24, and 25 as being obvious over the applied references under 35 U.S.C. § 103(a), as detailed in the following decision summary. We reverse the Examiner's obviousness rejections of claims 12 and 23. We enter a new ground of rejection for claim 12 as being obvious under 35 U.S.C. § 103(a) over the combination of Perlmutter, Black, and Sibbald.

This Decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). This section provides that "[a] new ground of rejection . . . shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds 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 prosecution 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. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the

new ground of rejection and also state all other grounds upon which rehearing is sought.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). 37 C.F.R. §41.50(f).

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed	New Ground
1, 4, 13, 14, 16, 19, 21, 22	103(a)	Perlmutter, Black	1, 4, 13, 14, 16, 19, 21, 22		
2, 15	103(a)	Perlmutter, Black, Ross	2, 15		
3	103(a)	Perlmutter, Black, Ross, Hajost	3		
5, 6, 17	103(a)	Perlmutter, Black, Alen	5, 6, 17		
7, 8	103(a)	Perlmutter, Black, Wormald	7, 8		
12	103(a)	Perlmutter, Black, Sibbald		12	12
20	103(a)	Perlmutter, Black, Ramakrishnan	20		
23	103(a)	Perlmutter, Black, Gill		23	
24	103(a)	Perlmutter, Black, Foroughi	24		
Overall			1–8, 13–	12, 23	12

Outcome			17, 19–22, 24, 25		

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