

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC., NEST LABS, INC. and
DROPCAM, INC.,
Petitioners,

v.

e.DIGITAL CORPORATION
Patent Owner.

Case IPR2015-01473
Patent No. 8,311,523

**PRELIMINARY RESPONSE OF PATENT OWNER e.DIGITAL
CORPORATION TO PETITION FOR *INTER PARTES* REVIEW**

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I. INTRODUCTION

Pursuant to 37 C.F.R. § 42.107, Patent Owner e.Digital Corporation (“e.Digital”) hereby opposes the Petition for *Inter Partes* Review Under 35 U.S.C. § 311 and § 42.100 (the “Petition”) filed by Petitioners Google Inc., Nest Labs, Inc. and Dropcam, Inc. (collectively, “Petitioners”). e.Digital respectfully requests that the Petition be denied and *inter partes* review not be instituted.

II. OVERVIEW OF ’523 PATENT

U.S. Patent No. 8,311,523 (“the ’523 patent”) issued on November 13, 2012 and is titled “System and Method for Managing Mobile Communications.” (Ex. 1001 at cover page.) The ’523 patent is a continuation of U.S. Patent No. 8,311,522 (“the ’522 patent”), which is the subject of a separate Petition for *Inter Partes* Review filed by Petitioners. (See Case No. IPR2015-01470.) In general terms, like the ’522 patent, the ’523 patent concerns a system and method involving a set of sensors that gather data and information about the surrounding environment. (Ex. 1001 at *passim*.) A processor then assembles retrieved sensor data and other information based on the sensors (*e.g.*, map or location data derived from a comparison of GPS sensor data and non-sensor data such as Google Maps) into what the patents refer to as a “detected social signature.” (*Id.* at 9:35-11:11, 13:47-56, and *passim*; see also *id.* at Claim 1 (“creates a detected social signature from the received sensor data”).)

A processor then compares the data within the detected social signature to a “static and/or dynamic rule set,” which the patent refers to as a “social template.” (*Id.* at 11:12-13; *see also* claims 1 (“processor ... determines which of the social signatures of the stored social templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor values and the first and second sensor value ranges of each stored social template) and 19; Fig. 3, 19:3-10 (“In operation 315 [of Fig. 3], the formatted data [i.e., the detected social signature] is compared to the social templates. In operation 320, the calculating logic 150 or the remote calculating logic 275 makes an a priori classification assigning one of the social templates to the formatted data. This a priori classification is based upon a closest match between the social signature in the formatted data and the social signature or signatures associated with each social template”).)

The “social template” provides a set of parameters for and/or information against which the data of the detected social signatures can be compared. For example, the specification of the ’523 patent describes an embodiment in which a location sensor provides data on the location of a device (“39.78° N, 104.88° W”), inertial sensor data shows no movement, an optical sensor provides data consistent with low light levels (“223 lm”), and an acoustic sensor provides data consistent with low sound levels (“-63 db”). (*Id.* at 16:19-23.) Compiled together, this data

set is the “detected social signature.” (*Id.* at 16:19-23; *see also* Claim 1.)

A processor then compares the detected social signature with the parameters of one or more social templates stored in memory to determine the closest match – in this example, the social template for “mother and baby sleeping” is selected. (*Id.* at 16:23-28.) An example of what information the selected social template might comprise is depicted at Table 1 of the specification. (*Id.* at 15:57-67, *shown below.*)

TABLE 1	
do-not-disturb-due-to-Mother-and-baby-sleeping social signature	
Sensor	Value range
Location	39.78° N, 104.88° W ±5 m
Inertial	0 m/s ² ± .2 m/s ²
Optical	223 lm ± 15 lm
Acoustic	-63 db ± 5 db

The specification refers to the sensor value ranges of Table 1 as “the social signature of the social template.” (*Id.* at 16:23-25.) These “social signatures of the social template” are “unique” to the “social template” to which they are associated at the time of processing.¹ Conversely, each “social template” may be associated

¹ For example, the specification of the ’523 patent discusses a “training” or “learning” embodiment in which social templates are updated either by the user or by the processor when a social template is determined to be inaccurate (*e.g.*, when the system indicates that a user is “at work,” when she is not or when she

with multiple “social signatures.” (*Id.* at 17:45-49 (“each social template could be associated with more than one set of social signatures”); 19:7-10 (“the social signature *or social signatures* associated with each social template”) (emphasis added).)

The social template can be associated with a “social hierarchy.” (*See, e.g., id.* at 2:1-13, 4:6-16, Claim 3 and *passim.*) The associated “social hierarchy” can be comprised of people, social networks, emergency services, and/or operations (*e.g.* email, text message, pre-recorded voice messages), etc. (*See, e.g., id.* at 2:48-59 (hierarchy composed of social networks); 16:1-17 (hierarchy composed of people); 21:10-20 (emphasis added); and 21:24-29, 21:33-38, 21:43-49 (hierarchy composed of operations).) The “social hierarchy” is organized such that the processor can provide different levels of information to each level of the hierarchy based upon which social template is selected. (*See, e.g., id.* at 2:1-13, 4:6-16, Claim 3 and *passim.*) An example of potential social hierarchy operations is shown in Table 2 in the specification. (*See* 16:1-17, *shown below in modified*

did not want that information provided to a particular level of a hierarchy, etc.). (*See, e.g., Ex. 1001* at 17:18-18:50; 20:20-31.) Accordingly, the assignment of a social signature to a particular social template is not static and may change over time, such that a “social signature of the social template” can be associated with different social templates over time.

form.)

TABLE 2

<u>do-not-disturb-due-to-Mother-and-baby-sleeping social hierarchy</u>	
Social Hierarchy	Information
First Social Hierarchy Level—Father	Provide information on location, duration of state, and estimate of baby sleep time
Second Social Hierarchy Level— Friend	Provide information on baby sleeping
Third Social Hierarchy Level— School, Work	Do not disturb except in emergency
Fourth Social Hierarchy Level— Strangers	Do not disturb

Thus, if the “social template” for “do-not-disturb-due-to-Mother-and-baby-sleeping” is selected, any communication requests would be handled according to the operations and authorizations set forth in Table 2. (*Id.*)

The '523 adds additional limitations and modifications to what is contained in the '522 patent relating to, among other things, the components of the system and method and in which components certain system processes occur. (*See, e.g.,* claims 1 and 19.) The '523 patent adds further limitations relating to how the system and method can be used to handle emergency situations (*e.g.,* car crash or home fire) or to automatically update social networks and microblogs. (*See* dependent claims 10 and 16 (emergency) and 6-9, 23-25 (social networks and microblogs).)

Finally, the '523 also contains limitations that relate to the “social training” embodiment discussed in the specification. (*See* Ex. 1001 at claims 4, 21.) The specifications describe a number of embodiments of this “social training” process. For example, the specifications explain:

[I]n order to ensure that the social template is accurate, the mobile device 100 includes a social training program 167 stored within the memory 160. Using the social training program 167, the user can save particular sets of social signature as new social templates, or increase the accuracy of an existing social template using the social signature.

Using the above example in relation to the Mother and the Baby, in order to set up the social template in the first instance, the Mother would activate the social training program 167 while in the nursery with the Baby, and the social signature would be associated with that particular social template. Specifically, the data sensed by the location sensor 110, the inertial sensor 120, the optical sensor 130, and the acoustic sensor 140 would be correlated with the new social template, and the Mother would then enter the degrees of information to be provided to various categories of potential callers (i.e., Father, Friend, Neighbor, Office, School, Stranger etc.). Subsequently, should a caller be given the wrong amounts of information, the Mother could again activate the social training program 167 to improve the social signatures recognized by the social template. In this manner, each social template could be associated with more than one set of social signatures so as to allow for variations from the original detected

social signature and to improve the functionality of the mobile device
100.

(Ex. 1001 at 17:21-49; *see also id.* at 19:3-65 [describing the social training in the context of a user's presence at a movie theater].)

Thus, the “social training” limitations are generally directed to ensuring that the social signatures and social templates are processed in way that information is distributed to the different levels of the social hierarchy in the manner desired by the user – in other words, to ensure that the social signatures and social templates are processed in the manner desired by the user.

III. CLAIM CONSTRUCTION

“A claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 2015 U.S. App. LEXIS 1699 at *13-24 (Fed. Cir. 2015). At this stage of the proceedings, Petitioners have the burden of proving “a reasonable likelihood that the [they] would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). As set forth below, Patent Owner asserts that Petitioners fail to meet their burden of proof, even under their own proposed claim constructions. Accordingly, Patent Owner asserts that any claim construction it may propose is irrelevant at this stage. If, however, the PTAB is inclined to grant

the Petition, Patent Owner reserves the right to advance claim constructions different than and/or in addition to those asserted by Petitioner.

IV. SUMMARY OF ARGUMENT

Petitioners have failed to meet their burden of proving “a reasonable likelihood that the [they] would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Specifically, Petitioners have failed to establish that the combination of Jolliff, Jager and Luo disclose the following claim limitations of the ’523 patent:

- (1) “creates a detected social signature from the received sensor data” (independent claim 1)/“constructing a social signature within the server using sensor data sensed by a sensor set in a communication device external to the server” (independent claim 19);
- (2) “a memory which stores social templates, each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range” (independent claim 1)/“each social template corresponding to a unique social signature comprising corresponding first and second sensor value ranges” (independent claim 19);
- (3) “each social template being selectable to provide, for each level of the predetermined social hierarchy, a corresponding different amount of

information” (independent claims 1 and 19)/“the levels of the social hierarchy of the retrieved social template include: a first social hierarchy level..., a second hierarchy level..., and a third social hierarchy level...” (dependent claim 3);

- (4) “the server of claim 1, wherein, for at least one of the social templates, each level of the social hierarchy corresponds to a corresponding different social networking service, and the processor automatically provides different updates to each of the social networking services as allowed based on the one social template” (dependent claim 6);
- (5) “wherein the processor further detects an error between the detected social signature and the social signature of the determined one social template having the greatest correspondence, updates the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate” (dependent claim 4)/“detecting an error between the constructed social signature and the social signature of the determined one social template having the greatest correspondence; updating the social signature of the determined one

social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate” (dependent claim 21); and

- (6) “creates a new social template using the detected social signature where it is determined that the determined one social template is not accurate” (dependent claim 4)/“creating a new social template using the detected social signature where it is determined that the determined one social template is not accurate (dependent claim 21).

In addition, Petitioners have failed to establish that the combination of Miluzzo, Robarts and Luo disclose the following claim limitations of the ’523 patent:

- (1) “a memory which stores social templates, each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range” (independent claim 1)/“each social template corresponding to a unique social signature comprising corresponding first and second sensor value ranges” (independent claim 19);
- (2) “determines which of the social signatures of the stored social

templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor values and the first and second sensor value ranges of each stored social template” (independent claim 1)/“determining which one of a plurality of social templates has a social signature with a greatest correspondence with the constructed social signature through comparison of the first and second detected sensor values and first and second sensor value ranges of each social template” (independent claim 19);

- (3) “retrieves from the memory the determined one social template having the greatest correspondence and having the detected amount of light within the first sensor value range and the detected sound level within the second sensor value range” (independent claim 1)/“retrieving from a memory the determined one social template having the greatest correspondence and having the detected amount of light within the first sensor value range, and the detected sound level within the second sensor value range” (independent claim 19);
- (4) “the server of claim 1, wherein, for at least one of the social templates, each level of the social hierarchy corresponds to a corresponding different social networking service, and the processor automatically

provides different updates to each of the social networking services as allowed based on the one social template” (dependent claim 6);

- (5) “wherein the processor further detects an error between the detected social signature and the social signature of the determined one social template having the greatest correspondence, updates the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate” (dependent claim 4)/“detecting an error between the constructed social signature and the social signature of the determined one social template having the greatest correspondence; updating the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate” (dependent claim 21); and
- (6) “creates a new social template using the detected social signature where it is determined that the determined one social template is not

accurate” (dependent claim 4)/“creating a new social template using the detected social signature where it is determined that the determined one social template is not accurate (dependent claim 21).

Furthermore, Petitioners fail to offer any meaningful analysis as to why the combination of Jolliff, Jager, and/or Luo or the combination of Miluzzo, Robarts and/or Luo would have been obvious to one of ordinary skill in the art at the time of the invention. Instead, Petitioners resort to hindsight arbitrary backfilling.

Because each of the remaining dependent claims of the '523 patent are dependent upon the claim limitations of the independent claims discussed herein, Petitioners' arguments must likewise fail with respect to those dependent claims.

For the foregoing reasons and as explained in more detail below, the Petition should be denied in its entirety.

V. JOLLIFF IN VIEW OF JAGER DOES NOT RENDER CLAIMS 1, 3, 4, 6, 8-10, 19, 21, 23, 25 and 26 OF THE '523 PATENT OBVIOUS

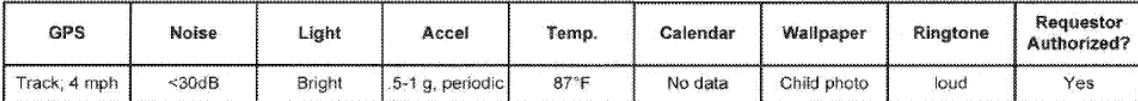
A. Overview of the Jolliff, Jager and Luo References

1. Jolliff

U.S. Patent Application Publication No. US2009/0300525 A1 (“Jolliff”), published December 3, 2009, is entitled a “Method and System for Automatically Updating Avatar to Indicate User’s Status.” (Ex. 1005.) Generally speaking, Jolliff discloses using sensor data and other data to automatically update a user’s

avatar (such as might be used in virtual reality or computer games, instant messaging, and internet forums) in relation to the user's daily activities. (*Id.* at ¶ 0006.) Jolliff discloses one embodiment in this system/method, which allows a user to set authorization criteria to control who may view an avatar. (*Id.* at ¶ 0120, *et seq.*) Jolliff accomplishes this goal by storing sensor data, calendar and/or device settings, and requestor authorization or authorization level in a parameter value table. (*Id.* at ¶ 0125; *see also* ¶ 0138 (“Once the authorization level of the second user is determined, this information is stored in the parameter table”).) Such a parameter table is depicted in Fig. 19a, shown below:

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GPS	Noise	Light	Accel	Temp.	Calendar	Wallpaper	Ringtone	Requestor Authorized?
Track, 4 mph	<30dB	Bright	.5-1 g, periodic	87°F	No data	Child photo	loud	Yes

FIG. 19a

(Ex. 1005 at p. 25.)²

After the authorization level (i.e., “social hierarchy”) is determined and included in the parameter value table (what Petitioners identify as the “social signature” of Jolliff), the parameter table is compared to an index, which Jolliff

² Petitioners refer to this parameter table as a “social signature.” (’523 Petition at 21-22.) For the reasons set forth below, Petitioners do not meet its burden of establishing that the parameter table of Fig. 19a is a “social signature” as taught by the ’523 patent.

calls a “selection logic table.” (*Id.* at ¶ 126; *see also* ¶ 138 and Fig. 19b.) Petitioners identify each row of the selection logic table of Fig. 19b as the “social template” of Jolliff. (’523 Petition at 11, 16, 26 (“‘avatar selection table’...is a plurality of ‘social templates’”).) The selection logic table is shown in Fig. 19b, below:

603

	GPS	Noise	Light	Accel	Temp.	Calendar	Wallpaper	Ringtone	Authorization Level	Avatar
650	Office; 0 mph	<30db	Bright	0-.2 g, random	70-75	Board Meeting	Company logo	any	No	Work
651	Office; 0 mph	<30db	Bright	0-.2 g, random	70-75	Board Meeting	Company logo	any	Yes	Meeting
652	Home; 0 mph	any	Dark	0 g, random	any	any	any	any	Yes	Sleep
653	Home; 0 mph	any	Dark	0 g, random	any	any	any	any	No	Busy
654	Golf Course; 1-4 mph	any	Bright	0-.3 g, random	>75	Weekday	any	silent	Family	Busy
655	Golf Course; 1-4 mph	any	Bright	0-.3 g, random	>75	Weekday	any	silent	Buddy List	Golfing
656	Golf Course; 1-4 mph	any	Bright	0-.3 g, random	>75	Weekday	any	silent	Boss	Work
657	Mall; >0 mph	>50 db	Bright	0-.3 g, periodic	70-75	any	any	loud	any	Shopping
658	Track; >2 mph	any	Bright	.5-1 g, periodic	>75	any	any	loud	any	Running
659	Restaurant; 0 mph	>50 db	Dark	0-.2 g, random	70-75	any	any	loud	any	Eating
660	Movie Theater; 0 mph	>50db	Dark	0-.2 g, random	70-75	any	any	silent	any	Movie
661	Campus; 0 mph	<30db	Bright	0-.2 g, random	70-75	Study Group	any	silent	any	Studying
662	Variable; >10 mph	>50db	any	.5-2 g, random	70-75	any	any	loud	any	Driving

(*Id.* at p. 26.)

Each column of the index contains sensor data values for a particular sensor, an authorization level and an identification of an avatar to be displayed. (Ex. 1005 at p. 26, Fig. 19b.) The columns of the table may comprise specific values, classifications, identifiers or open-ended values such as “any.” (*Id.*) The value for a particular sensor or non-sensor category need not be different throughout any column. (*Id.*) It is further possible, as Petitioners apparently concede, that any two

rows of sensor values in the selection logic table may be identical. (*Compare, e.g.,* Fig. 19b, rows 650 and 651, 652 and 653, 654-656 [all value fields for each particular sensor are the same for each of the identified sets of rows].)

Jolliff teaches that the selection logic table and the avatar files are “are pre-stored on computing devices that are authorized to request the user’s avatar.” (*Id.* at ¶ 0119.) Jolliff explains:

In this embodiment, a preapproved computing device requests an avatar, step 460, such as by calling, sending an e-mail, or sending an SMS message to the user. In response to receiving the request for an avatar, step 461, the processor 391 of the mobile device 301 polls sensors, checks calendar data and checks device settings, steps 401-403, and stores the data in a parameter value table 600, step 409, and as described more fully above with reference to FIG. 5. The processor 391 then transmits the parameter value table 600 to the requesting computing device, step 416. The requesting computing device receives the parameter value table, step 462, and compares the values to an avatar selection logic table 601 stored on the computing device, step 464, in order to select the appropriate avatar for display, step 466. Having selected the appropriate avatar, the computing device then calls the avatar from its memory, and displays it, step 441.

(*Id.*)

Finally, Jolliff discloses repeating the construction (termed “calibration” by Jolliff) of the “avatar selection table” by “update[ing] ... the criteria for a particular avatar or to add selection criteria for a newly created avatar.” (*Id.* at ¶¶ 0091-93.)

For the reasons set forth below, Petitioners fail to meet their burden of proving a likelihood of success in demonstrating that Jolliff, alone or in combination, discloses each of the claim limitations of the '523 patent.

2. Jager

U.S. Patent Application Publication No. US2009/0094179 A1 (“Jager”) published April 9, 2009, is entitled a “Classifying Environment of a Data Processing Apparatus.” (Ex. 1006.) From a high level perspective, Jager teaches using sensors to obtain “attributes” of an environment of a subject sensor (i.e., aspects of the environment that can be assigned a value). (Ex. 1006 at ¶ 0032.) An “input module” collects the attribute values and delivers an “observed environment profile” or an environment “snapshot” (i.e., attribute values collected at the same time or within a single “time window”) to a “classification module.” (*Id.* at ¶ 0034; *see also* ¶ 0045.) The classification module then compares the attributes of the observed environment profile with profiles (*i.e.*, “themes”) stored in a database. (*Id.* at ¶ 0034-35, 0050.)

The first time a stored profile is created, “default prediction factors” are assigned to each attribute in the observed profile. (*Id.* at ¶ 0035; *see also id.* at ¶ 0046.) These prediction factors are “made equal to each other and are normalized to add up to 100%.” (*Id.*) Later, when a new observed profile is delivered to the classification module, it determines if the new profile “matches” any of the stored

profiles. (*Id.* at ¶ 0035.) This process is described in detail at ¶¶ 0049-50 of the specification and Figs. 4(a) and 4(b):

[0049] The classification module 206 receives an observed profile from the input module 204, S402. A counter *g* is assigned the value zero, S404, and then incremented by 1 at step S406. Stored profile ‘profile(*g*)’ is retrieved from profiles database 214 via the classification module 206, S406. A counter ‘*h*’ is then assigned the value zero, together with a variable ‘score’ which is also assigned the value zero, S408. The variable ‘score’ indicates the correlation level or similarity of the observed profile 314 with a stored profile, and is updated during operation of the classification module 206.

[0050] Counter “*h*” is incremented by 1 and the attribute(*h*) of profile(*g*) is made available for comparison with the attributes in the observed profile 314, S410. Attribute(*h*) of profile(*g*) is then compared with the attributes of the observed profile 314, S412. If attribute(*h*) is found in the observed profile 314 then that process control flows to step S414 where the prediction factor assigned to attribute(*h*) is added to the ‘score’ value. If attribute(*h*) is not found in the observed profile 314 then the prediction factor for attribute(*h*) is subtracted from the ‘score’ value, S416. If the counter value ‘*h*’ reaches the maximum value ‘*m*’, where ‘*m*’ is the number of attributes in the stored profile, S418, process control flows to step S420. If the counter value ‘*h*’ is not the maximum value ‘*m*’ process control flows back to step S410, *h* incremented by one and the next attribute retrieved. If counter *g*=*n* at step S420 the process control flows to step S422. At step S422 the stored profile having the highest score is

selected, and output to both learning module 210 and action module 212, S424. The best match profile is the profile having the highest score of all, and will lie in the range —100 to 100.

(Ex. 1006 at ¶¶ 0049-50; *see also* Figs. 4(a) and 4(b).)

The observed profile and the “best match score” are passed to an “output module,” which then delivers the information to a “learning module” and an “action module.” (*Id.* at ¶ 0035.) The action module “evaluates the profile and matching score and may initiate an associated task or state for the data processing apparatus associated with the stored profile providing the best match.” (*Id.* at ¶¶ 0035, 0072-73.) Jager discloses creating a concordance table as shown in Fig. 8 with rules for an action to be taken based on the received profile, *e.g.*, “initiate silent mode,” “ignore call from the certain telephone numbers,” “forward business calls to office telephone,” or “deactivate vibration alarm.” (*Id.* at 0072-73 and Fig. 8.)

The process utilized by the learning module is described in detail in ¶¶ 0051-64 and Figs. 5(a), 5(b) and 7. When an observed profile is different from the stored profile but is still close to matching, the learning module uses the differences to adjust the prediction factors associated with one or more of the stored profile’s attributes. (*Id.* at ¶¶ 0036, 0053-64.) If no closely matching profile is located, then the learning module stores the observed profile in the database as a new profile and generates default prediction factors as described above. (*Id.*; *see*

also id. at ¶¶ 0035, 0046, 0051-52.)

As set forth below, Petitioners fail to meet their burden of proving a likelihood of success in demonstrating that Jager, alone or in combination, discloses each of the claim limitations of the '523 patent.

3. Luo

Petitioners allege that “On Protecting Private Information in Social Networks: A Proposal” by Luo, *et al.* (“Luo”) was published in Data Engineering, ICDE '09, IEEE 25th International Conference on March 29-April 2, 2009. (*See* '523 Petition at 4 and Ex. 1017.) Petitioners rely on Luo exclusively to address the social network/microblog limitations of the '523 patent. (*See* '523 Petition at 31-33, 55-57.)

Luo is not concerned with classifying user environments based on sensors or with communicating differing levels of information about a user environment to others. Rather, Luo is concerned solely with protecting private user data from malicious third-parties such as data “crawlers” (or data miners), “stalkers,” and cyber “attacks.” (*See* Ex. 1017 at pp. 1-2.) Luo describes what it refers to as two types of “private information models” – (1) a multilevel model in which information is categorized from most private to least private and (2) a discretionary model in which private information is organized into sets where different information within a set is regarded as having the same privacy level. (*Id.* at 2.)

Luo deliberately only discusses the discretionary model. (*Id.* at 2.) With respect to this model, Luo proposes a “privacy monitor” for social networks users. (*Id.* at 3.) The privacy monitor of Luo involves six key components:

- (1) information extraction: using “registered crawlers,” information is gathered from various social networks and placed in an “information repository” (*id.* at 3);
- (2) information aggregation: information extracted in the information extraction component is aggregated to determine which social network information belongs to each person (*id.* at 3);
- (3) privacy sandbox: users maintain a privacy plan, called a “privacy sandbox,” wherein users define private information and disclosure sets (*id.* at 3);
- (4) passive monitor: a local privacy monitor maintains a list of social networks and their properties and, before a user submits information to a social network they are provided with information about who will be able to access the information (*id.* at 4);
- (5) active monitor: this monitor actively tracks private information disclosed on the internet and, when certain conditions are met,

- the user is alerted so that he or she can decide whether they need to update their privacy sandbox or revoke private information from a particular social network (*id.* at 4); and
- (6) privacy report: users are presented with a periodic privacy report for the user to review (*id.* at 4).

As explained below, Luo does not disclose “the server of claim 1, wherein, for at least one of the social templates, each level of the social hierarchy corresponds to a corresponding different social networking service, and the processor automatically provides different updates to each of the social networking services as allowed based on the one social template.” (*See* Ex. 1001 at claim 6.)

B. Petitioners fail to meet their burden of showing a likelihood of success in proving that Jolliff in view of Jager and Luo renders the ’523 patent claims obvious

For the reasons set forth below, Petitioners have failed to show a reasonable likelihood of success in proving that either Jolliff, Jager or Luo discloses each of the limitations of the subject claims of the ’523 patent. Moreover, Petitioners have failed to show a reasonable likelihood that they will prevail in showing that Jolliff, when combined with Jager and/or Luo, renders the subject claims of the ’523 patent obvious.

- 1. Petitioners have not met their burden of showing a reasonable likelihood of success in demonstrating that either Jolliff or Jager disclose “a memory which stores social templates, each social template corresponding to a**

**unique social signature”/“constructing a social signature
using sensor data sensed by a sensor set”**

Petitioners argue that Jolliff’s disclosure of an “avatar selection logic table,” which it asserts is depicted in Fig. 19b, is the same as storing “social templates” as disclosed by the ’523 patent. (’523 Petition at p. 16.) They assert, “[e]ach record in the avatar selection table corresponds to the claimed ‘social template’ because they contain data that correlates context information with a social signature and a social hierarchy.” (*Id.*) In other words, Petitioners argue that each row of an avatar selection table represents a “social template.” (*See id.* at 11 (annotated chart outlining in red what Petitioners claim is the “social template” of Jolliff).)

Petitioners concede that Jolliff does not disclose the second half of this claim element – “each social template corresponding to a unique social signature.” For example, the highlighted portions of the excerpt from Fig. 19b, shown below, demonstrate that the sensor data in each row of the avatar selection table may be identical.

GPS	Noise	Light	Accel	Temp.	Calendar	Wallpaper	Ringtone	Authorization Level	Avatar
Office, 0 mph	<30db	Bright	0-2 g, random	70-75	Board Meeting	Company logo	any	No	Work
Office, 0 mph	<30db	Bright	0-2 g, random	70-75	Board Meeting	Company logo	any	Yes	Meeting

(Ex. 1005 at p. 25.)

Petitioners attempt to fill this gap with Jager. Petitioners argue that Jager discloses using profiles, where each profile “uniquely corresponds to a different

user status.” (’523 Petition at 17.) The profiles of Jager, as described by Petitioners, are strikingly similar to the individual rows of the “avatar selection table” of Jolliff. Petitioners further argue that Jager discloses “removing duplicate profiles and merging their ‘actions’ together, thereby ensuring that each profile is unique.” (*Id.*) Petitioners argue that this disclosure represents the “unique social signature” of the ’523 patent. (*Id.*)

Assuming, without conceding, that Petitioners’ proposed construction of the term “social template” is correct,³ Petitioners have failed to meet their burden of establishing that Jolliff in combination with Jager discloses “a memory which stores social templates, each social template corresponding to a unique social signature” or “constructing a social signature using sensor data sensed by a sensor set.” (Ex. 1001 at claims 1 and 17.)

a. Petitioners do not meet their burden of establishing a

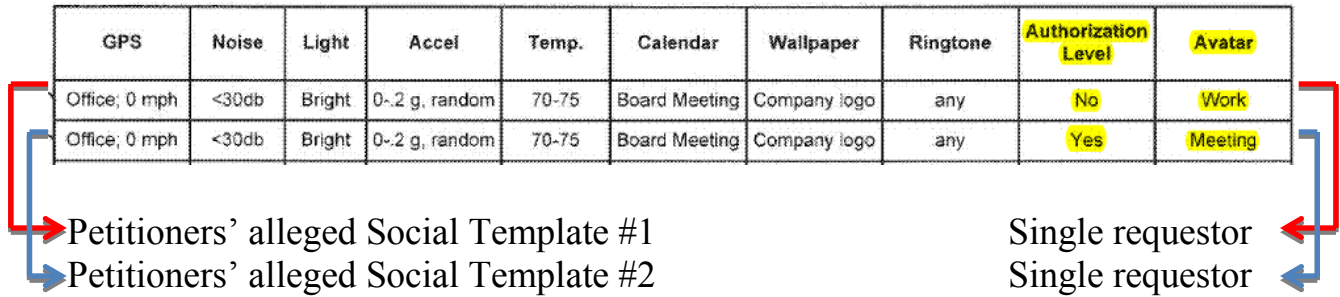
³ In the District Court case, Petitioners initially proposed the term to mean “data structure storing a social signature and a social hierarchy,” but ultimately agreed that “social template” means “data structure associated with a social hierarchy and one or more social signatures.” (Ex. 2001 (Joint Claim Construction Statement) at 5:6-7; Ex. 2002 (Amended Joint Claim Construction Statement at 1:16-17.) Both of these are substantially different than the construction proposed here.

reasonable likelihood that it will prevail in showing that either Jolliff or Jager discloses a “social template” as taught by the ’523 patent.

Under Petitioners’ proposed construction, a “social template” is “data that associates a social signature with information provided to one or more levels of a social hierarchy.” (’523 Petition at 6-7.) This proposed construction is potentially misleading and is not in line with Petitioners’ proposed constructions in the District Court, including the construction to which it agreed, as noted above. The claims of the ’523 patent require that the social template be “selectable to provide, *for each level of the predetermined social hierarchy*, a corresponding differing amount of information *to each member of the predetermined social hierarchy*.” (Ex. 1001 at claims 1 and 19.) Thus, at least as to the claims of the ’523 patent, a social template must be associated with *each level* of a social hierarchy, not simply “one or more” levels as Petitioners’ proposed construction appears to imply. Petitioners’ new proposed construction is thus clearly an attempt to manipulate Jolliff and Jager into their invalidity theory for the purpose of this petition.

Petitioners argue that “[e]ach record in the avatar selection table corresponds to the claimed ‘social template’ because they contain data that correlates context information and a social hierarchy.” (’523 Petition at 16.) The rows of fields in Jolliff’s avatar selection table, i.e., “each record in the avatar selection table,” are not associated with a social hierarchy. Rather each row relates to only one member

of Petitioners' presumed social hierarchy as shown below.



(See Ex. 1005 at Fig. 19b.)

Thus, it is clear from Jolliff that each “social template,” as Petitioners seek to define it here, is not “selectable to provide for each level of the predetermined social hierarchy, a corresponding differing amount of information to each member of the predetermined hierarchy.” Rather, each information requestor is assigned his/her own row of an avatar selection table. This is not what is disclosed in the ’523 patent.⁴

Even if the rows of the avatar selection table were considered “social templates,” Jager does not fill the “unique social signature” gap of Jolliff. Petitioners argue that, because the duplication of data in the avatar selection logic table would have been inefficient, a person of ordinary skill in the art would have

⁴ Likewise, the larger avatar selection table could not constitute the social template of the ’523 patent. Treating it as such would result in the social template being associated with multiple social hierarchies, which is in conflict with the teaching of the ’523 patent as discussed herein.

been motivated to seek out more efficient data structures such as those described in Jager. ('523 Petition at 17.) Petitioners fail to explain why the duplication of data in Jolliff's avatar selection tables is inefficient and why Jager's alleged "removable of duplicate profiles" would be more efficient. To this extent, Petitioners fail to meet their burden of establishing a motivation to combine the two references.

More importantly, as set forth in the next section, Petitioners fail to meet their burden of showing a likelihood of success in proving that Jager discloses a "social template," let alone "a memory which stores social templates, each social template corresponding to *a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range*" as taught by the '523 patent. (Emphasis added.) (Ex. 1001 at claims 1 and 19.)

b. Petitioners do not meet their burden of establishing that Jager discloses a "social template" or a "unique social signature."

Petitioners do not argue that Jager discloses "a social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range." Rather, they simply argue that Jager discloses eliminating duplicative "profiles." Petitioners' argument is misplaced, however, because Jager discloses neither a social template nor a social signature. As a result, Petitioners fail to meet their burden of showing a motivation to combine

Jolliff and Jager.

Petitioners make no effort to argue that these stored profiles disclosed by Jager are equivalent to the “social template” disclosed by the ’523 patent. Jager teaches constructing profiles from specific data values and then storing them along with “prediction factors.” (Ex. 1006 at ¶¶ 0034-35, 0046, 0050.) When a new “snapshot” of an environment is later transmitted through the system, it is compared with the stored profiles and their prediction factors. (*Id.* at ¶¶ 0049-50.) The stored profile with the highest number of matching attributes, weighted by the prediction factors, is then selected. (*Id.*)

Petitioners have failed to show that this method is what is disclosed in the ’523 patent. Jager does not expressly disclose a unique social signature with a first sensor value range and a second sensor value range as required by the independent claims of the ’523 patent. Rather, Jager discloses storing received sensor data along with prediction factors. Petitioners make no attempt to argue that these prediction factors are equivalent to the sensor value ranges of the ’523 patent.

More importantly, the elimination of duplicative profiles, which is the sole feature of Jager discussed by Petitioners, does not result in “a unique social signature comprising a first sensor value range and a second sensor value range.” Petitioners misrepresent what is disclosed in Jager. Petitioners argue, “Jager further discloses that ‘[i]n order to limit memory usage’ removing [*sic*] duplicate

profiles and merging their ‘actions’ together, thereby ensuring that each profile is unique.” (’523 Petition at 17, *citing* Ex. 1006 at ¶ 0078.) This is a mischaracterization of Jager.

In ¶ 0078, Jager discloses:

As profiles drift, they may also converge. It may be that profiles that started out differently later *describe* exactly *the same thing*. In order to limit memory usage, reduce search times and optimize search trees, the learning module may be configured to automatically eliminate one of duplicate profiles for example. Additionally, action module 212 may be configured to make actions that were initiated for one or other of the duplicate profiles available to the remaining one profile. For example, if profiles corresponding to ‘office’ and ‘home’ converge because a user has started working from home, and one of them is deleted, the learning module 210 may update the action module 212 to configure it so that that the device can initiate actions associated with “home” such as use the ‘home’ WiFi connection and any other facilities that were linked to ‘home’. The remaining profile may also initiate ‘office’ behavior/facilities/equipment. For example, alerts that were scheduled for ‘office’ now trigger when the smart phone is at a user’s home and vice versa.

(Ex. 1006 at ¶ 0078.) (Emphasis added.)

Petitioners assume, without argument, that Jager is disclosing that the “office” profile and the “work” profile share the exact same sensor data values. However, when Jager refers to profiles “converging,” it is referring to what the

profiles “*describe.*” (*Id.*) (Emphasis added.) Jager is not talking about merging stored profiles with identical data values or associated hierarchies. Thus, in the above example, there were two profiles with two sets of distinct data values – “home” and “office.” When the user starts working from home, the “office” profile – which presumably is a different set of data values – is “deleted.”

Based on the foregoing, Petitioners have not met their burden of showing a reasonable likelihood of success in establishing that Jolliff, in combination with Jager, discloses “a memory which stores social templates, each social template corresponding to a unique social signature” or “constructing a social signature using sensor data sensed by a sensor set.”

2. Petitioners have not met their burden of showing a reasonable likelihood of success in demonstrating that Jolliff discloses “creates a detected social signature from the received sensor data” or “constructing a social signature using sensor data sensed by a sensor set”

Petitioners summarily argue that the parameter value table, which it points to as depicted in Fig. 19a, is a “social signature” as contemplated by the ’523 patent.

(’523 Petition at 20-21.) Fig. 19a is depicted below:

002

GPS	Noise	Light	Accel	Temp.	Calendar	Wallpaper	Ringtone	Requestor Authorized?
Track; 4 mph	<30dB	Bright	.5-1 g, periodic	87°F	No data	Child photo	loud	Yes

FIG. 19a

(Ex. 1005 at p. 25.) Nevertheless, Petitioners have failed to meet their burden of

proving a likelihood of success that any claim of the '523 patent is invalid based upon the “parameter value table” of Jolliff.

The '523 patent teaches constructing a social signature “using sensor data sensed by a sensor set.” (Ex. 1001 at 7:48-50, 16:19-23, 18:60-62, claim 1 [“creates a detected social signature from the received sensor data”]; *see also* claim 19 and *passim*.) As shown in Fig. 19a of Jolliff (excerpted at right), the “parameter value table” of that patent includes the authorization level of the requestor. (Ex. 1005 at p. 25.) Petitioners have conspicuously failed to propose a construction for “social signature.” They have further failed to provide any support for the position that “requestor authorization” is based on “sensor data sensed by a sensor set” or, if not, that a “social signature” may contain information that is not based on sensors.

Requestor Authorized?
Yes

Moreover, by including requestor authorization as a component of an alleged “social signature,” Petitioners appear to suggest that a detected social signature may include a requestor’s hierarchy level. This is antithetical to the claims of the '523 patent, which do not determine a hierarchy level until *after* a detected social signature is compared to a social template.

For example, in both of the independent claims of the '523 patent, the claims separately disclose a “server ...creates a detected social signature from the received sensor data” and “a memory which stores social templates, ... each social

template being selectable to provide for each level of the predetermined social hierarchy, a corresponding differing amount of information to each member of the predetermined social hierarchy.” (Ex. 1001 at claim 1; *see also id.* at claim 19.) *After* the social signature is created, the server compares the detected social signature with the various social templates to find the template with the greatest correspondence to the detected social signature.⁵ (*Id.*) A processor then retrieves said template, which is associated with a social hierarchy, and provides information to the social hierarchy based on the social template selected. (*Id.*) Thus, “authorization level” is determined after comparison of the detected social signature to the various “social signatures of the social templates” and selection of the template having the greatest correspondence – not upon construction of the “social signature.”

Petitioners fail to meet their burden of showing that, under the ’523 patent, “authorization level” can be determined upon construction of the “social signature”

⁵ The Board will note that the specification and the claims refer to a “social signature of the social template.” This is not the same as the detected social signature that is at issue in this particular claim limitation. Rather, the “social signature of the social template” is more accurately the unique set of factors against which the detected social signature is compared. (*See, e.g.*, Ex. 1001 at 15:57-67, Table 1.)

and before selection of a social template. Rather, they simply conclusorily assert that the “parameter value table” of Fig. 19a of Jolliff is a “social signature” without even attempting to define what it believes the term “social signature” means. Accordingly, the Board should deny the Petition.

3. Petitioners have not met their burden of showing a reasonable likelihood of success in demonstrating that either Jolliff or Jager disclose “each social template being selectable to provide, for each level of the predetermined social hierarchy, a corresponding differing amount of information.”

Petitioners argue that Jolliff discloses these limitations because Jolliff states, “[a] user may program the avatar selection logic table 603 with multiple levels of authorization such that more than two different avatars may be displayed for the identical sensor, calendar and settings data depending upon the authorization level of the requestor.” (’523 Petition at 18-19, *citing* Ex. 1005 at ¶ 0132 and Fig. 19b.) However, as pointed out in the previous sections, Petitioners argue that each row of the avatar selection table is a “social template,” a contention Petitioners repeat here. (*See id.* at 20 (“each row (*i.e.*, social template) in the avatar selection logic table provides information (*i.e.*, an avatar)).) Thus, under Petitioners own interpretation of Jolliff, “each social template” **is not** “selectable to provide, for each level of the predetermined social hierarchy, a corresponding differing amount of information.”

Instead, assuming without conceding that the avatars of Jolliff constitute

“information” as taught by the ’523 patent, providing information to each level of the predetermined social hierarchy requires reference to multiple social templates. Petitioners fail to incorporate any argument as to how the use of multiple social templates to provide information to each level of a social hierarchy is the equivalent of “*each* social template being selectable to provide, *for each* level of the predetermined social hierarchy, a corresponding different amount of information.” (See Ex. 1001 at independent claims 1 and 19 (emphasis added); see also dependent claim 3 (requiring at least 3 social hierarchy levels).) Petitioners do not and cannot argue that Jager discloses this claim limitation or that Jolliff, in combination with Jager discloses this limitation. Accordingly, Petitioners fail to meet their burden of establishing a likelihood of success in proving Jolliff discloses this claim limitation in independent claims 1 and 19 as well as dependent claim 3.

4. Petitioners have not met their burden of showing a reasonable likelihood of success in demonstrating that Luo discloses the limitations of Claim 6 of the ’523 patent.

Luo does not disclose “the server of claim 1, wherein, for at least one of the social templates, each level of the social hierarchy corresponds to a corresponding different social networking service, and the processor automatically provides different updates to each of the social networking services as allowed based on the one social template.” (Ex. 1001 at claim 6.) Petitioners argue, “users of multiple social networks may not want information from different contexts to mix up with

each other. To prevent such mix-up, Luo describes a private information model in which a different social network corresponds to a different privacy disclosure set.” (’523 Petition at 32, *citing* Ex. 1017 at § I, p. 1 and § III, p. 2.) However, Luo’s privacy monitoring disclosure bears little application to the teaching of claim 6.

First, Luo does not disclose “social templates” or “social hierarchies.” Second, Luo does not disclose “the processor automatically provides different updates to each of the social networking services as allowed based on the one social template.” Luo acknowledges that certain information may have different privacy levels, but it does not disclose a system that automatically provides differing levels of information to different social networks based on information obtained from sensors as disclosed in the ’523 patent. Instead, Luo teaches a notification system that allows a user to be aware of a social network’s privacy policies before posting private information to that particular social network and/or to be aware that certain private information is available on a social network with looser privacy policies than the user would like. (Ex. 1017 at p. 4 (discussing “passive monitor” and “active monitor”).) In other words, Luo simply provides a vehicle for a user to make informed choices about what information he or she manually places on her social networks.

Petitioners fail to show how these features of Luo are equivalent to the teaching of claim 6 of the ’523 patent. Petitioners therefore fail to meet their

burden of establishing a likelihood they will prevail if the petition is granted.

5. Petitioners Have Not Met Their Burden Of Showing A Reasonable Likelihood Of Success In Demonstrating That The Combination of Jolliff and Jager Discloses The Limitations Of Claims 4 and 21 of the '523 Patent

Claims 4 and 21 of the '523 patent are substantially similar in language.

Claim 4 teaches:

The server of claim 1, wherein the processor further detects an error between the detected social signature and the social signature of the determined one social template having the greatest correspondence, updates the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate and creates a new social template using the detected social signature where it is determined that the determined one social template is not accurate.

(Ex. 1001 at claim 4; *compare* claim 21.) Petitioners fail to meet their burden as to both claims 4 and 21.

- a. “The server of claim 1, wherein the processor further detects an error between the detected social signature and the social signature of the determined one social template having the greatest correspondence”**

Petitioners argue that Jolliff discloses a “calibration process for determining the ranges and values used in the ‘avatar selection logic table,’” but concedes that

it does not disclose the “social training” teachings of claims 4 and 21. (’523 Petition at 26.) Petitioners attempt to remedy this by pointing to Jager’s disclosure of automatically adapting and adjusting stored profiles based on differences between observed profiles and stored profiles. (*Id.* at 27, *citing* Ex. 1006 at ¶ 0036.)

Petitioners conclusorily argue that a person of ordinary skill in the art would have been motivated to combine the automatic adjustment and adaptation described in Jager as a means of “improv[ing]” Jolliff’s “avatar selection table” since “one could use Jager’s automatically updating profiles to ‘detect an error’ between Jolliff’s ‘parameter table’ (*i.e.*, ‘the detected social signature’) and Jolliff’s [*sic*] and the entry in ‘avatar selection logic table’ that most closely matches the parameter table (*i.e.*, ‘the social template having the greatest correspondence’). (’523 Petition at 27-28.)

First, Petitioners’ argument is unintelligible and, to the extent it can be decoded, it is, at best, conclusory. Second, as with other proposed combinations discussed herein, Petitioners’ argument for a motivation to combine amounts to little more than hindsight backfilling. Finally, Petitioners focus only on the “error” portion of the claim limitation. Jager merely states, “stored profiles may be automatically adapted and adjusted based on differences between observed profiles and stored profiles.” (*Id.* at 27, *citing* Ex. 1006 at ¶ 0036.) It says nothing of

“detecting an error” as described in the specification the ’523 patent, let alone detecting an error in relation to the “social template having the greatest correspondence.” (*See, e.g.*, Ex. 1001 at Fig. 3, 19:18-65 (discussing detection of “classification error” in context of a “watching a movie” template, where optical sensor detects bright light, but where social signature of social template value is for low light).)

Moreover, Petitioners make no effort to explain how the “detecting an error” concept would apply in the context of Jager, which, as discussed above, relies on a complex “prediction factor” and scoring system. Jager does not depend on matching an “observed profile” with a “stored profile” having the “greatest correspondence,” but on determining the “stored profile” with the highest score using its prediction factor scoring system. Petitioners do not specify what would constitute an “error” in this context other than the error would be the “differences.” This assertion is insufficiently clear to support Petitioners’ burden on this Petition. Accordingly, Petitioners have failed to meet their burden of showing a likelihood of prevailing on their argument that Jager’s automatic adjustment of stored profiles based on “differences” between observed profiles and stored profiles” is equivalent to “detecting an error” as taught by the ’523 patent.

- b. “updates the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template**

incorporates the detected social signature where it is determined that the determined one social template is accurate”

Here, Petitioners again rely upon the same language from ¶ 0036 of Jager: “stored profiles may be automatically adapted and adjusted based on differences between observed profiles and stored profiles.” (Ex. 1006 at ¶ 0036.) To accept Petitioners argument, one would have to accept that Jager discloses “social templates” and “social signature of the social template” – which, as discussed above, it does not.

In addition, this disclosure in Jager says nothing of incorporating the detected error (*e.g.*, in the case of the “watching a movie” embodiment discussed in the previous section – a “bright light” value) into the “determined one social template having the greatest correspondence.” It simply discusses in the most general terms “automatically adapt[ing] and adjust[ing]” stored profiles “based on differences between observed profiles and stored profiles.” (Ex. 1006 at ¶ 0036.) Jager says nothing of what those adjustments and adaptations would be or how they would relate to the stored profile of “greatest correspondence.” Accordingly, Petitioners fail to meet their burden with respect to this particular limitation.

c. “and creates a new social template using the detected social signature where it is determined that the determined one social template is not accurate”

Petitioners argue that the disclosure in Jager that “[i]f no sufficiently closely

matching stored profile is found then the learning module 106 may initiate storing of the observed profile in the profiles database, as a new profile.” (’523 Petition at 29.) This disclosure, however, is missing a necessary predicate contained in claims 4 and 21 – that the “determined one social template,” *i.e.*, the social template with the greatest correspondence, “is not accurate.” One cannot simply assume that “no sufficiently closely matching stored profile” is the equivalent of “not accurate.”

By “accurate,” the ’523 patent means that the social template is processed in the manner desired by the user such that the various levels of the hierarchy are provided the information the user wants them to receive. (*See, e.g.*, Ex. 1001 at 17:21-49 (explaining how the accuracy of social templates is improved through the social training program so that hierarchy levels are not given the “wrong amounts of information”).) Jager is not concerned with whether the stored profile is “accurate” as taught by the ’523 patent (*i.e.*, hierarchy members are given the desired information), but whether the stored profile is “sufficiently closely matching” to the observed profile. Again, this does not necessarily mean that a stored profile that is not “sufficiently closely matching” is “not accurate.” Petitioners fail to recognize this nuance and fail to explain how Jager’s disclosure is equivalent. Accordingly, they have failed to meet their burden as to this claim limitation.

C. Petitioners fail to offer any meaningful analysis as to why the combination of Jolliff and Jager would have been obvious to one of ordinary skill in the art at the time of the invention

Petitioners propose combining Jolliff, Jager and Luo to satisfy a number of claim limitations that are clearly not disclosed by Jolliff. However, like the alleged motivation to combine asserted by Petitioners in its Petitions for *Inter Partes* Review of related patents, Petitioners assertions amount to little more than hindsight reasoning that, because the claimed invention achieves certain advantages not attained by the prior art, then those of ordinary skill at the time the invention must have appreciated that, by combining certain teachings of particular references, such advantage would be achieved. Petitioners' argument thus seeks to use the patent's own advancement and improvement against itself. Such hindsight reasoning is insufficient to meet Petitioners' burden of proof on this Petition.

More importantly, the reason Jolliff does not disclose "a memory which stores social templates, each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range" or any of the other missing limitations discussed above is because it had no motivation to do so. Jolliff is simply concerned with determining a broad user activity using a simplified parameter table and representing that activity using an avatar. The parameter table is designed to accomplish that task quickly. To accomplish its goal, including that of

providing different avatars to different people based on the same sensor value sets, Jolliff does not need to eliminate duplicative sets of table values.

Based on the foregoing, Petitioners have failed to establish a reasonable likelihood that it will prevail in demonstrating a motivation to combine Jolliff and Jager sufficient to support a finding of obviousness.

VI. MILUZZO IN VIEW OF ROBARTS AND LUO DOES NOT RENDER CLAIMS 1, 3, 4, 6, 8-10, 19, 21, 23, 25 AND 26 OF THE '523 PATENT OBVIOUS

A. Overview of Miluzzo and Robarts⁶

1. Miluzzo

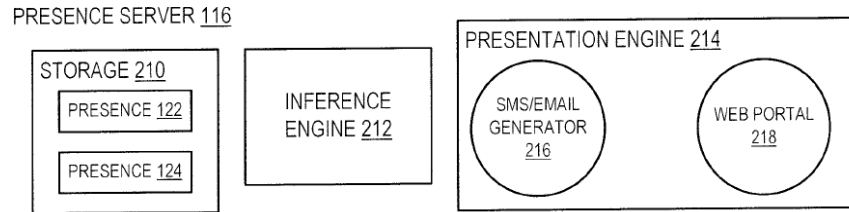
International Patent Application No. WO 2009/043020 A2 (“Miluzzo”), published April 2, 2009 concerns a “system and method for injecting sensed presence into social networking applications.” (Ex. 1007 at p. 1.) Miluzzo involves a mobile phone or personal digital assistant (PDA) with embedded sensors. (*Id.* at ¶¶ 0013, 0016-17, 0019-20, 0027-33.) Sensor data is “pushed” from the device to a presence server to be processed by an analysis component, such as an inference engine, to infer activity of one or more users. (*Id.* at ¶¶ 0014-15, 0018, 0022, 0043, 0072-75.) Using the data collected from the sensors, the presence server determines “characteristics and life patterns (e.g. presence status

⁶ Luo is addressed earlier in this brief.

122, 124) of the user and/or of particular groups of users” and feeds them back to the users via application services, “such as on a display of a consumer device (e.g., cell phone 106)” or a social networking server that supports social network application such as Facebook and instant messaging. (*Id.* at ¶¶ 0021-22.)

The presence server of Miluzzo consists of “a set of servers that: (1) hold a database of users and their associated presences 122, 124; (2) implement a web portal that provides access to presence information via per-user accounts; and (3) contain algorithms to draw inferences about many objective and subjective aspects of users based upon received and stored sensor data.” (*Id.* at ¶ 0022.) Miluzzo refers to these servers as “storage,” “presentation engine,” and “inference engine,” respectively. (*See id.* at ¶¶ 0024-25 and Fig. 2.)

The “storage” of the presence server is used “to store received sensor data and user’s presence status.” (*Id.* at ¶ 0024.) The “inference engine ... analyzes received sensor data and determines presence information ... for each user.” (*Id.* at ¶0025.) The presence information can then be “presented to designated applications running on one or more user devices” via the “presentation engine,” which may comprise a SMS/email generator or a web portal. (*Id.*; *see also* Fig. 2 (excerpt below) and ¶¶ 0022, 0069.)



(*Id.* at Fig. 2.)

Miluzzo does not explicitly disclose the operation of the inference engine, but describes it only generally in ¶¶ 0043-47 and intermittently with respect to specific examples in ¶¶ 0057-69, 0076-85. For example, Miluzzo explains, “Ambient beacon localization may be used to determine a sensor’s location by use of supervised learning algorithms that allow the sensor to recognize physical locations that are sufficiently distinguishable in terms of sensed data from the other sensors in a field.” (*Id.* at ¶ 0044.) Likewise, Miluzzo discloses, “Accelerometer data may be analyzed to identify a number of physical activities, including sitting, standing, using a mobile phone, walking running, stair climbing, and others.” (*Id.* at ¶ 0045.) Finally, Miluzzo notes, “Conversation detection and voice detection algorithms may be used to identify the people in a user’s vicinity that may impact behavior and mood of the user.” (*Id.* at ¶ 0046.) Further specific examples of the operation of the inference engine are found at ¶¶ 0076-85.

Finally, Miluzzo discusses a form of “privacy protection,” in which a user is permitted to set group membership policies to limit disclosure of sensor data and presence to a limited set of recipients. (*Id.* at ¶¶ 0052-0053, 88.) Fig. 3, shown

below, generally summarizes the processes disclosed in Miluzzo and discussed above:

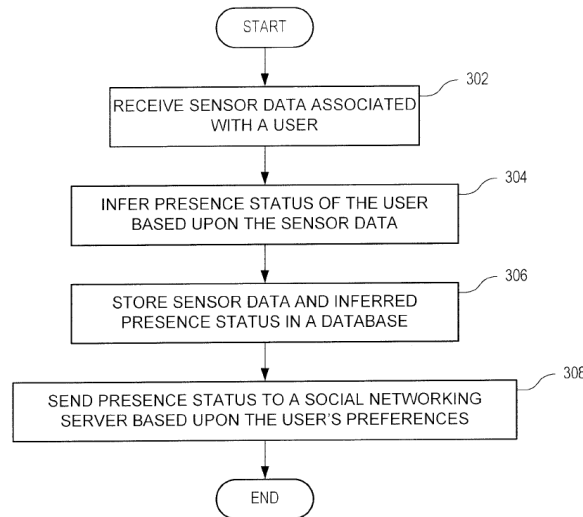


FIG. 3

(*Id.* at Fig. 3.)

As set forth below, Petitioners fail to meet their burden of proving a likelihood of success in demonstrating that Jager, alone or in combination, discloses each of the claim limitations of the '523 patent.

2. Robarts

U.S. Patent Application Publication No. US 2006/0004680 (“Robarts”) filed by Robarts, *et al.*, on January 11, 2005 and published on January 5, 2006 is entitled, “Contextual Responses Based On Automated Learning Techniques.” (Ex. 1008.) Robarts is concerned with utilizing a broad spectrum of user environment data to more accurately adapt and respond to changes in a user’s environment. (Ex. 1008 at ¶¶ 0004-0006.) For example, Robarts notes that prior art systems

might be able to utilize heart rate monitors that provide pulse or heart rate data, but that those prior art systems lack broader information about the context of the user, such as whether the user is exercising or is sick. (*Id.* at ¶ 0004.)

Robarts teaches a method and system for “creating, modifying, analyzing, characterizing, distributing, modeling, and using themes that represent a context of a user.” (*Id.* at 0040.) Robarts discloses a “wearable computer” capable of being “context aware or able to intelligently interpret attributes.” (*Id.* at ¶ 0041; *see also id.* at ¶¶ 0046-50.) The system and method further involves a “context server (CS),” which is a module that provides “attributes”; a “context client (CC),” i.e., modules that “process attributes”; and a “characterization module (CM),” which “acts as an attribute exchange mechanism for context information between such CS and CC applications or ‘code modules.’” (*Id.* at ¶ 0042.) These modules, along with any output devices, such as a speaker, transceiver, display, etc., are referred to generally by Robarts throughout the application as the “characterization system.” (*Id.* at Fig. 2 and *passim.*)

The context servers receive data signals from input devices and process the signals to produce context information within a data structure, which Robarts refers to as an “attribute.” (*Id.* at ¶ 0043.) An “attribute,” as used by Robarts, represents “measures of specific context elements such as ambient temperature, latitude, and current user task.” (*Id.*)

The context servers provide these attributes to the characterization module, which, in turn, provides some or all of the attribute information to the context client. (*Id.* at ¶ 0044.) Somewhere in this process, attribute values from the context servers can be combined, allowing for context classification that “can not be directly measured from any attribute values in the set individually.” (*Id.*) Rather than classify the user context, the “characterization system 100 may merely store the attribute values it receives ... and then allow other modules to directly use the stored attributes when making decisions related to the current state.” (*Id.* at ¶ 0064.)

Finally, Robarts discloses a “Manual Appropriateness Verification module ... to provide the user ... the opportunity to determine the appropriateness of the computer generated suggestions for computer action.” (*Id.* at ¶ 0272.) Robarts discloses that this could include suggesting a “rule” to the user for verification, to which the user could provide a number of responses, such as, among other things, “Yes, that is a good suggestion/rule, so perform it,” or “No, do not perform the suggestion.” (*Id.* at ¶¶ 0273-278.)

For the reasons set forth below, Petitioners fail to meet their burden of proving a likelihood of success in demonstrating that Jager, alone or in combination, discloses each of the claim limitations of the ’523 patent.

B. Petitioners fail to meet their burden of showing a likelihood of success in proving that Miluzzo in view of Robarts renders the '523 patent claims obvious.

- 1. Petitioners have not met their burden of showing a reasonable likelihood that it will prevail in demonstrating that either Miluzzo or Robarts disclose (1) “a memory which stores social templates each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range,” (2) “determines which of the social signatures of the stored social templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor values and the first and second sensor Value ranges of each stored social template,” and (3) “retrieves from the memory the determined one social template having the greatest correspondence and having the detected amount of light within the first sensor value range and the detected sound level within the second sensor value range” and similar limitations found in claim 19.**

Miluzzo provides no description of a data structure that can be equated with the “social template” of the '523 patent. Petitioners argue that Miluzzo discloses “using an ‘inference engine’ to ‘determine the presence status of the user’ based on ‘inferences derived from combinations of current data...’ (i.e., the light and acoustic data).” ('523 Petition at 37.) Yet, Petitioners concede that Miluzzo “does not explicitly disclose how these inferences are derived other than stating that ‘[h]uman activity-inferring algorithms are incorporated within engine 212 to log and predict a users’ behavior.’” (*Id.*)

Petitioners argue that a person of ordinary skill in the art would have been

motivated to combine Miluzzo with Robarts, which Petitioners argue discloses “themes” that “include ‘attributes’ (*i.e.*, unique social signature) that reflect the context of the user such as the user’s ‘setting, situation, or physical environment.’” (*Id.* at 37-38, *citing* Ex. 1008 at ¶ 0040.) Petitioners assert that the “attributes” of the “themes” of Robarts, which attributes Petitioners characterize as the “unique social signature” taught by the ’523 patent, can be specified as ranges. (*Id.* at 38.) Nowhere, however, do Petitioners point to any portion of Robarts that specifies the collection of “attributes” must be unique to any particular theme. In fact, Robarts ***does not*** require theme attributes to be unique. (*See id.* at ¶ 0207 (“themes can also specify other types of information, such as whether some or all of the information about the theme is available to other themes”).)

More importantly, Petitioners mischaracterize Robarts’ discussion of “attributes.” In the portion of Robarts relied on by Petitioners, Robarts discloses:

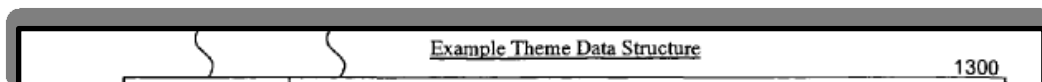
Under one embodiment, the characterization module requests attributes from each context server by sending a message to an appropriate request handler running within each context server. The request includes the name of the attribute being requested and a timeout period. The context server is expected to provide an attribute within the timeout period, where such attribute includes the following: value or quantity of the attribute; ***an uncertainty value that represents a range of values around the attribute value that the attribute is likely to have***, with the type of the uncertainty value depending upon

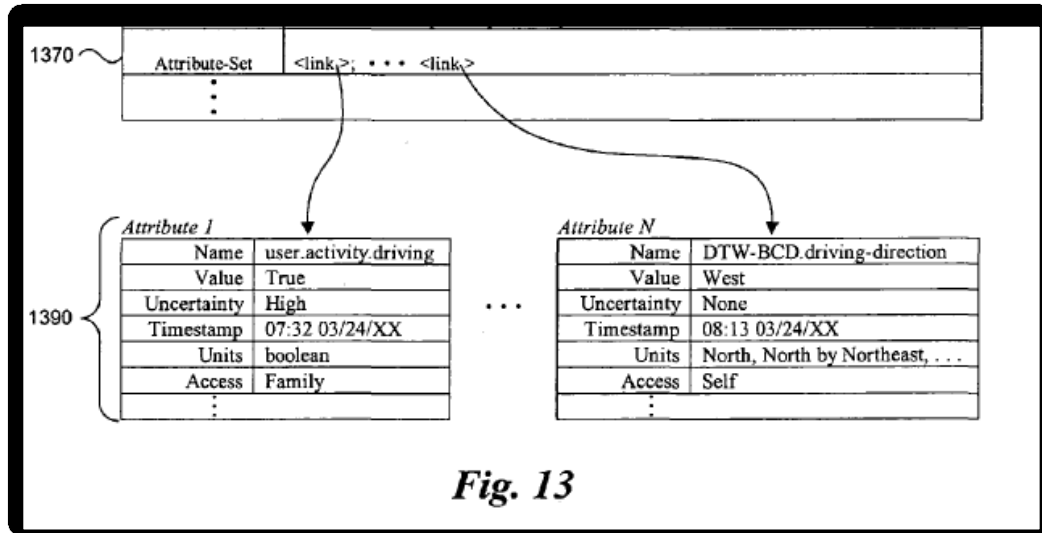
the type of information embodied in the attribute value; a timestamp that represents the effective age of the attribute value; and an indication of the measurement units in which the value and uncertainty are expressed.

(Ex. 1008 at ¶ 0092.)

The “attributes” referenced in ¶ 0092, relied on by Petitioners, are in fact described by Petitioners as components of a processed “detected social signature” rather than a “social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range.” (*See* Ex. 1008 at ¶ 0043; Figs. 5A and 5B; ¶ 0063-64; *see also* ’523 Petition at p. 42 (wherein Petitioners argue that the “detected social signature” of Robarts is made up of “attributes,” which Petitioners assert are “current values” of processed information “based on collected sensor data” – these are the same attributes discussed in ¶ 0092).)

Even if these attributes were components of a “social signature of the social template,” they still do not disclose the disputed limitation. Fig. 13 of Robarts provides an example of what the data structure of a theme, including the attribute components discussed in ¶ 0092 would look like:





(Ex. 1008 at p. 32, Fig. 13.)

It is clear that the value represented by the “uncertainty value” is not a sensor value range against which a detected social signature is compared as taught by the '523 patent. Instead, the “uncertainty value” is used to determine the accuracy of a particular attribute contained within a theme. For example, referring to Fig. 13, the attributes represented are “user.activity.driving” and “DTW-BCD.driving-direction.” (*Id.*) These are not sensor values, but rather sub-themes within the larger theme of “Driving To Work.” (*Id.*) The uncertainty value for each attribute is represented as “High” and “None,” respectively. (*Id.*) These uncertainty values are therefore used to provide the system with a means to measure how accurate a single attribute within the larger theme is likely to be.

In other words, in the embodiment of Fig. 13, the attribute value for “user.activity.driving” is “true.” (*Id.*) The “uncertainty value” establishes that it is highly certain that the specified value “true” is accurate. However, it is not

reflected in the attribute structure as a “range,” let alone a “sensor value range.” The same is true for the “uncertainty value” for “DTW-BCD.driving-direction.”

Petitioners further rely on Robarts as evidence of disclosure of the claim limitations (1) “determines which of the social signatures of the stored social templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor values and the first and second sensor value ranges of each stored social template” and (2) “retrieves from the memory the determined one social template having the greatest correspondence and having the detected amount of light within the first sensor value range and the detected sound level within the second sensor value range.” (*Id.* at 42-44.) For the same reasons discussed above, Petitioners fail to meet their burden of establishing a likelihood of success on the merits of these issues as well.

Based on the foregoing, Petitioners fail to present evidence sufficient to support a finding that Petitioners have a reasonable likelihood of success in proving that Jolliff in combination with Robarts discloses (1) “a memory which stores social templates each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range”; (2) “determines which of the social signatures of the stored social templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor

values and the first and second sensor value ranges of each stored social template”; and (3) “retrieves from the memory the determined one social template having the greatest correspondence and having the detected amount of light within the first sensor value range and the detected sound level within the second sensor value range.”

2. Petitioners have not met their burden of showing a reasonable likelihood of success in demonstrating that Luo discloses the limitations of Claim 6 of the '523 patent

As discussed above, Luo does not disclose “the server of claim 1, wherein, for at least one of the social templates, each level of the social hierarchy corresponds to a corresponding different social networking service, and the processor automatically provides different updates to each of the social networking services as allowed based on the one social template.” (Ex. 1001 at claim 6.) For the same reasons discussed previously, Petitioners fail to meet its burden of establishing a likelihood it will prevail on this limitation if the petition is granted.

3. Petitioners have not met their burden of showing a reasonable likelihood of success that they will prevail in demonstrating that Miluzzo and/or Robarts disclose the limitations of claims 4 and 21 of the '523 Patent

The language of claims 4 and 21 of the '523 patent have been recited previously herein. For the reasons set forth below, Petitioners fail to meet their burden of establishing a reasonable likelihood they will prevail in showing that the

combination of Miluzzo and Robarts discloses both claims 4 and 21.

- a. **“The server of claim 1, wherein the processor further detects an error between the detected social signature and the social signature of the determined one social template having the greatest correspondence”**

Petitioners concede that Miluzzo does not disclose this limitation, but argue that the “Manual Appropriateness Verification module” disclosed in Robarts fills the gap. (’523 Petition at 48-50.) However, contrary to Petitioners’ statement that the disclosure of an “error” is “explicit,” nothing in Robarts suggests that the “Manual Appropriateness Verification module” of Robarts is triggered by a detection of an “error between the detected social signature and the social signature of the determined one social template having the greatest correspondence” as taught by claims 4 and 20. Robarts simply describes the module as “providing critical feedback necessary for machine learning.” (Ex. 1008 at ¶ 0273.)

Similarly, Petitioners’ assertions of a motivation to combine Miluzzo and Robarts are entirely without support. Petitioners’ expert, Mr. Williams, simply states that “‘human activity inferring algorithms’ required training because they can often make incorrect inferences based on sensed environmental conditions.” (Ex. 1003 at ¶ 172.) However, Mr. Williams refers only back to Robarts and to an unsupported hypothetical. Petitioners are thus using mere hindsight to propose a combination to solve a problem that is not evident on the face of Miluzzo.

Petitioners’ conclusory assertions are insufficient to meet its burden of

establishing a likelihood it will prevail in proving the combination of Miluzzo and Robarts discloses this limitation.

- b. “updates the social signature of the determined one social template to include the detected error in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate and creates a new social template using the detected social signature where it is determined that the determined one social template is not accurate”**

Robarts discloses absolutely nothing remotely suggesting this claim limitation. Petitioners again argue that the “Manual Appropriateness Verification module” satisfies this limitation. It does not come close.

Petitioners argue that, as part of the rule suggestion/verification procedure of the “Manual Appropriateness Verification module,” “the user could specify more information to the system to improve the appropriateness of the request.” (’523 Petition at 50-51, *quoting* Ex. 1008 at ¶ 0276.) However, Petitioners concede that Robarts “only provides limited examples as to what this ‘more information’ is.” (’523 Petition at 51.) Petitioners then speculate:

“[I]t would have been obvious to a POSA that it would involve adjusting the “uncertainty value” (*i.e.*, the range) for at least one attribute to incorporate the detected error. This would affect whether or not a particular theme matched or did not match a given user context, and because the “uncertainty value” is part of the theme data,

it is modifiable by Roberts' GUI. (EX 1003, ¶ 175; *see also* EX 1008, ¶ [214].)
(’523 Petition at 51.)

This proposed inference is not obvious at all. First, the example cited by Petitioners does not concern a situation where the social template is determined to be “accurate” as required by this limitation. Second, Robarts does not just provide “limited examples” of what more information could be fed back to the module. Robarts discloses paragraphs feedback examples, none of which entail “adjusting the ‘uncertainty value.’” (Ex. 1008 at ¶¶ 285-309.)

For example, Robarts discusses a circumstance in which the system recommends that the user “takes anti-viral cold medication.” (Ex. 1008 at ¶¶ 279-280.) The recommendation is based on an “uncharacteristic sustained rise in body temperature” or an inference based on a previous similar rise in body temperature followed by illness. (*Id.* at 285.) Robarts does not conclude that there was an error between the attributes and the themes. In fact, the hypothetical implies that the attributes matched the themes. However, because the user was not sick and the sharp rise in temperature was due to arrival in an “uncharacteristically hot location,” the system was instructed to “consider the surrounding temperature related to the rise in body temperature.” (*Id.*)

Adding a new parameter for consideration is not the same as “updat[ing] the social signature of the determined one social template to include the detected error

in the first and/or second sensor value ranges such that the social signature of the determined one social template incorporates the detected social signature where it is determined that the determined one social template is accurate.” Instead, it is adding a whole new sensor value for consideration.

Based on the foregoing, Petitioners have failed to meet their burden of establishing a likelihood that it will prevail on this issue if the Petition is granted.

C. Petitioners fail to offer any meaningful analysis as to why the combination of Miluzzo, Robarts and Luo would have been obvious to one of ordinary skill in the art at the time of the invention

Petitioners propose combining Miluzzo, Robarts and Luo to satisfy a number of claim limitations that are clearly not disclosed by Miluzzo alone. As with its proposed combinations of Jolliff, Jager and Luo discussed above, Petitioners’ assertions amount to little more than hindsight reasoning, which is insufficient to meet Petitioners burden of proof on this Petition. For the same reasons as those discussed with respect to the proposed combination of Jolliff, Jager and Luo, Petitioners’ arguments with respect to Miluzzo, Robarts and Luo must similarly fail.

VII. CONCLUSION

Based on the foregoing, Petitioners have failed to demonstrate a reasonable likelihood of success on the merits. Patent Owner therefore respectfully requests that the Petition for *Inter Partes* Review be denied in its entirety.

U.S. Patent No. 8,311,523

Dated: September 24, 2015

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PRELIMINARY RESPONSE OF PATENT OWNER e.DIGITAL CORPORATION TO PETITION FOR *INTER PARTES* REVIEW and Exhibits 2001-2002**, was served in its entirety on September 24, 2015, by sending a copy by FedEx overnight directed to the attorneys of record for the patent at the following address:

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