23 and, if anything, teaches exactly the opposite thereof, *Mladenic* cannot anticipate claim 23.

Additionally, *Mladenic* does not teach, "estimating parameters of a user-specific learning machine based at least in part on the documents of interest to the user", as recited in claim 23. In the Personal WebWatcher system, the "learner" that generates the model of user interests examines documents visited by the user, assigns indices to words in those documents, calculates scores for each word, and produces a representation of the documents as bags-of-words with the assigned scores. *Id.* at p. 9, ll. 3-8. These scored word representations form the "model" of user interests and when new hyperlinks on newly visited documents are encountered, the new hyperlinks are deconstructed in a similar fashion and compared against the model to be scored. *Id.* at p. 7, ll. 36-39 (describing the "advisor"). Those scoring above a threshold are recommended to the user. *Id.* at p. 7, l. 39 - p. 8, l. 1. Thus, in producing the model of user interests, the "learner" portion of the Personal WebWatcher does not *estimate parameters of a user-specific learning machine*. Instead, the "learner" assembles a scored word map that is used for comparison purposes whenever new hyperlinks are encountered. Such a word map is useful for the thresholding operation described by *Mladenic*, but does not rise to the level of the user-specific learning machine recited in claim 23.

Because no *user-specific learning machine* is taught by *Mladenic*, it follows that *Mladenic* cannot be said to teach "applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user", as recited in claim 23.

Accordingly, Mladenic does not anticipate claim 23.

Issue #2: Claim 3 is Not Obvious Under 35 USC 103 in View of Mladenic even when Considered in Combination with Culliss.

In connection with this rejection and later rejections under 35 USC 103, it is important to note that to establish *prima facie* obviousness of a claimed invention, all claim limitations must be considered. MPEP 2143.03. The key to supporting any

rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ 2d 1385 (2007). This requires that the analysis supporting a rejection under 35 U.S.C. 103 be made explicit.[1]

Applying this mandate in the present context, consider that Claim 3 recites,

> The method of claim 1, wherein transparently monitoring user interactions with data comprises monitoring user interactions with data during multiple different modes of user interaction with network data.

Because of its dependency on claim 1, claim 3 is patentable over *Mladenic* for at least all of the same reasons as claim 1.

Further, because Mladenic does not teach "transparently monitoring", it follows that the specific monitoring recited in claim 3 (which is also described as transparently monitoring) cannot be taught by *Mladenic*. More specifically, *Mladenic* does not teach "transparently monitoring" user interactions with data during multiple different modes of user interaction with network data. Thus, claim 3 is patentable over *Mladenic*.

The Office Action recognizes that *Mladenic* does not teach "transparently monitoring" user interactions with data during multiple different modes of user interaction with network data,[2] but relies on *Culliss* for this feature. This reliance is misplaced.

Culliss describes techniques purportedly useful in connection with searches that make use of search engines, specifically a method of organizing information in which the search activity of previous users is monitored and used to organize articles for future

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[1] "[R]ejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ 2d 1329, 1336 (Fed. Cir. 2006). *See also KSR,* 550 U.S. at 417, 82 USPQ 2d at 1396 and MPEP 2142.

[2] The Office Action sets forth no details concerning the rejection other than to state that the rejection proposed by the third party requestor is being adopted. Since the third party requestor admits *Mladenic* does not teach "transparently monitoring" user interactions with data during multiple different modes of user interaction with network data, by adopting the requestor's comments as its own, the Office Action likewise makes this admission.

users. *Culliss*, Abstract. User data is used to refine search results returned by the search engine, *id*. at 1:48-50, and users can specify their own personal data or it can be inferred from a history of their search requests or article viewing habits. *Id*. at 3:46-48.

At the outset it is noted that *Culliss* and *Mladenic* are not in related fields of art. *Culliss* is concerned with searches that make use of search engines, while *Mladenic* specifically is not.[3] While references relied upon in an obviousness rejection need not necessarily be in the same field of endeavor, before such a rejection can be made it is imperative that the examiner demonstrate the existence of a design incentive or other market forces that would prompt a person of ordinary skill in the relevant art to adopt solutions from outside of his or her field. See, e.g., *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 417, 82 USPQ2d 1385, 1396 (2007). Here, no such showing has been made. Instead, an unsupported assertion regarding the propriety of the combination has been advanced, but such an assertion lacks any foundation. If anything, *Mladenic* demonstrates just how unlikely it is that one of ordinary skill in the art would turn to *Culliss*, which is directed to search. Its author was specifically aware of such applications (indeed, the WebWatcher system which utilized search is discussed extensively by *Mladenic*), and yet specifically chose to avoid such techniques when creating the Personal WebWatcher. If anything, this would demonstrate the impropriety of importing teachings from the search-based art when considering the *Mladenic* Personal WebWatcher system and so the rejections based on the combination of *Mladenic* and *Culliss* should be removed for at least that reason.

Even if one were to combine the substantive teachings of *Culliss* and *Mladenic*, however, one would not arrive at the invention recited in claim 3. In *Culliss*, a cumulative score is kept of the occurrences of certain classified key terms, queries or visited URLs to quantify how strongly someone is associated with a particular item of personal data. When a first user enters a search query, that user's personal data can be considered part of the request and it is stored within or added to an index, either individually or in groupings with other items such as key terms, categories, or ratings. Once so associated with a query, the personal data can be used to recall different lists of

[3] "[I]t doesn't ask the user for any keywords . . . ." *Mladenic* at p. 3, l. 5.

articles in response to new queries from new users. For example, when a new user enters a search request, that search request and the new user's personal data are combined to form groupings containing key term groupings, key term and personal data groupings, category and personal data groupings, rating and personal data groupings, etc. Articles associated with these groupings are then retrieved from the index, and their relevancy scores are used or combined to determine their rankings. *Culliss*. at 5:18 - 6:13. Thus, in the *Culliss* system information services that are provided to a user are dependent upon and informed by activities of prior users.

It is apparent therefore, that the *Culliss* system does not offer or provide transparent monitoring of a user's interactions and analyze monitored data to determine documents of interest to the user, as recited in claim 1. Instead, *Culliss* uses monitored activities of previous users to make decisions about what documents might interest a [current] user. *Culliss* at 1:46-48 ("the search activity of pervious users is monitored and such activity is used to organize articles for future users."). These same teachings were lacking from *Mladenic*. Consequently, any combination of *Mladenic* and *Culliss* would still lack these teachings.

It follows that if the combination of *Mladenic* and *Culliss* fails to include "transparently monitoring" as recited in claim 1, then this combination of references cannot teach [transparently] monitoring user interactions with data during multiple different modes of user interaction with network data, as recited in claim 3. Consequently, claim 3 is patentable over the combination of *Mladenic* and *Culliss*.

Finally, even if the combination of *Mladenic* and *Culliss* is somehow read as providing a teaching of [transparently] monitoring user interactions with data during multiple different modes of user interaction with network data, as recited in claim 3, it remains the case that claim 3 is patentable over these references for at least the additional deficiencies of *Mladenic* with respect to claim 1, which are described above. The Office Action does not cite *Culliss* as curing any of these defects, and indeed it does not.

Hence, for at least these reasons, claim 3 is patentable over this combination of references.

Issue #3: Claims 7 and 22 are Not Obvious Under 35 USC 103 in View of Mladenic even when Considered in Combination with Refuah.

Claim 7 recites,

> The method of claim 1, wherein said plurality of retrieved documents correspond to a respective plurality of products.

Thus, claim 7 incorporates all of the features of claim 1 and is therefore patentable over *Mladenic* for at least all of the reasons set forth above regarding claim 1. In addition, the Office Action tacitly admits[4] that *Mladenic* does not teach "wherein said plurality of retrieved documents correspond to a respective plurality of products", and so this is an additional reason why claim 7 is patentable over this reference.

The Office Action relies on *Refuah* for teaching, "wherein said plurality of retrieved documents correspond to a respective plurality of products". Whether this is true or not, because *Refuah* does not cure the deficiencies of *Mladenic*, claim 7 remains patentable over the combination of these references.

Refuah describes a method of searching and retrieving information from the Internet, which is personalized to a particular user as identified by a persona and a mood. *See*, *Refuah* at Figs. 1 & 2, and 13:53-57, 16:35-37. Thus, it is apparent that *Refuah* and *Mladenic* are not in related fields of art. *Refuah* is concerned with searches, while *Mladenic* specifically is not.[5] While references relied upon in an obviousness rejection need not necessarily be in the same field of endeavor, before such a rejection can be made it is imperative that the examiner demonstrate the existence of a design incentive or other market forces that would prompt a person of ordinary skill in the relevant art to adopt solutions from outside of his or her field.[6] Here, no such showing has been made. Instead, an unsupported assertion regarding the propriety of the combination has been advanced, but such an assertion lacks any foundation. If anything, *Mladenic* demonstrates just how unlikely it is that one of ordinary skill in the art would turn to Refuah, which is directed to search. Its author was specifically aware of such applications (indeed, the

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[4] By failing to reject claim 7 as being anticipated by *Mladenic*, the Office Action concedes *Mladenic* does not teach the features of this claim.

[5] "[I]t doesn't ask the user for any keywords . . . ." *Mladenic* at p. 3, l. 5.

[6] See, e.g., *KSR*, supra, 550 U.S. at 417, 82 USPQ2d at 1396.

WebWatcher system which utilized search is discussed extensively by *Mladenic*), and yet specifically chose to avoid such techniques when creating the Personal WebWatcher. If anything, this would demonstrate the impropriety of importing teachings from the search-based art when considering the *Mladenic* Personal WebWatcher system and so the rejections based on the combination of *Mladenic* and *Refuah* should be removed for at least that reason.

Even if one were to combine the substantive teachings of *Mladenic* and *Refuah*, however, one would not arrive at the invention recited in claim 7. Like *Mladenic*, *Refuah* does not teach *estimating parameters of a user-specific learning machine*. Instead, *Refuah* relies on "personas" and "moods" in order to return personalized search results or provide other personalized services. The personas and moods are, in the first instance, selected by a user at a time when the user is engaged in Internet activities. *Refuah* at 14:15-17 ("In a preferred embodiment of the invention, a client may have a plurality of personalities and manually select a particular persona for a session or a portion of a session."). During a session, the user may switch to a different personality. *Refuah* at 14:17-19. Such switches, however, do not involve estimating parameters of a user-specific learning machine. Indeed, *Refuah* indicates that several users may share a set of personalities or moods. *Refuah* at 7:19-21. This ability to share personalities and the related ability to select from among a set of predefined personalities and/or upload personalities for use by others, *Refuah* at 5:25-30, suggests that the personalities are not "user-specific". Nor is any estimation taking place. Instead, personality switches are being effected by selections from among predefined personas and moods.

Nor does it appear that *Refuah* is concerned with estimating probabilities that a retrieved document is of interest to a user or using the estimated probabilities to present at least a portion of any retrieved documents to the user. Nowhere does *Refuah* discuss the concept of such probabilities. Instead, the personalities are used as a filter to manage information for a client. *Refuah* at 13:57-61. When describing this filtering approach, *Refuah* fails to mention estimating probabilities or using any estimated probabilities to make decisions. Instead, *Refuah* appears to use a matching approach, which operates either on keywords or other qualities. *Refuah* at 17:32-43.

Thus, *Refuah* shares many of the same deficiencies as *Mladenic* vis-à-vis the elements of the claim. Consequently, the combination of *Mladenic* and *Refuah* would still not teach the presently claimed invention and so claim 7 must be deemed patentable over these references.

The same conclusion applies with respect to claim 22, which recites,

> The method of claim 1, wherein identifying properties of the retrieved document comprises identifying properties selected from the properties consisting of a topic associated with the retrieved document, at least one product feature extracted from the retrieved document, an author of the retrieved document, an age of the retrieved document, a list of documents linked to the retrieved document, a number of users who have accessed the retrieved document, and a number of users who have saved the retrieved document in a favorite document list.

Like claim 7, claim 22 depends from claim 1 and so includes all of the same features as claim 1. As demonstrated above, the combination of *Mladenic* and *Refuah* fails to teach or suggest all of these features and so claim 22 must be deemed patentable over the combination of these references.

Issue #4: Claim 24 is Not Obvious Under 35 USC 103 in View of Mladenic even when Considered in Combination with Montebello.[7]

Claim 24 recites,

> The method of claim 23, wherein presenting said selected collected documents to said user comprises displaying said

[7] At p. 8, the office Action purports to reject claim 24 under 35 USC 103 as being obvious in view of *Mladenic* when considered in combination with *Refuah*, however, this appears to be a typographical error. The Office Action explicitly adopts the Third Party Requestor's proposed rejection for claim 24, which proposed rejection was based on a combination of *Mladenic* and *Montebello*. Further, this is confirmed at p. 3, issue 4 of the Office Action.

selected collected documents to said user on a personal web page associated with the user.

Thus, claim 24 includes all of the features of claim 23 and is therefore patentable over *Mladenic* for at least all of the same reasons set forth above with respect to claim 23. Further, the Office Action tacitly admits[8] that *Mladenic* does not teach "wherein presenting said selected collected documents to said user comprises displaying said selected collected documents to said user on a personal web page associated with the user", and so this is an additional reason why claim 24 is patentable over this reference.

The Office Action, relying on the Third Party Requestor's analysis, cites *Montebello* for teaching, "wherein presenting said selected collected documents to said user comprises displaying said selected collected documents to said user on a personal web page associated with the user". Whether this is true or not, *Montebello* fails to cure the deficiencies of *Mladenic* with respect to the features that make claim 23 patentable over that reference. For example, *Montebello* fails to teach, "applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user", as recited in claim 23.

Instead, *Montebello* describes an administrator conducting a search using terms of interest to a user group and the retrieved documents being stored to a so-called main index. Individual users are then expected to bookmark and highlight specific documents from the main index that are of interest to them and those marked documents are saved to the individual user's personal index. *Montebello* at p. 5, ll. 1-6.[9] Sometime later, *Montebello's* Personal Evolvable Advisor (PEA) generates a profile from the user's personal index and *predicts* which of the other documents from the main index might be of interest to him or her. The user then reviews these predictions and can add the

[8] By failing to reject claim 24 as being anticipated by *Mladenic*, the Office Action concedes *Mladenic* does not teach the features of this claim.

[9] It is interesting to note that this technique of relying on bookmarks is criticized by another reference cited by the Third Party Requestor. *Wasfi* notes that while such an approach may be "intuitively reasonable", it is inherently flawed because simply because pages may be bookmarked by a user for many reasons, not necessarily because of their interestingness. *Wasfi* at p. 57, col. 2, ll. 36-40. Hence, one cannot necessarily conclude that *Montebello* teaches "analyzing the monitored data to determine documents of interest to the user", as recited in claim 23.

corresponding documents to his/her personal index or simply delete them. The process repeats as documents are added to the user's personal index. *Id.* at p. 5, ll. 6-10.

Nowhere is it suggested that the *prediction* employed by *Montebello's* PEA is an "estimat[ion of] a probability that the collected document is of interest to the user" as recited in the claim. A prediction may be a forecast or prophecy, but this is not sufficient to conclude that it is an estimation of a probability. Indeed, by referring to it as a prediction, *Montebello* appears to suggest that the PEA has some knowledge about the subject that allows the system to arrive at the conclusion being advanced. Such activities do not bear the hallmarks of estimations of probabilities.

Thus, neither *Mladenic* nor *Montebello* teach "applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user", as recited in claim 23, and so cannot be said to collectively teach or suggest same. It necessarily follows then that the combination of these references cannot teach or suggest, "using the *estimated probabilities* for the respective plurality of collected documents to select at least a portion of the collected documents". For if there are no probabilities estimated, there can be no estimated probabilities. Hence claim 23, and by virtue thereof the subject claim 24, must be deemed patentable over the combination of *Mladenic* and *Montebello*.

2. Response to Rejections Based on Primary Reference Wasfi

Issue #5: Claims 23 and 24 are Not Anticipated Under 35 USC 102(a) by Wasfi.

Claim 23 recites, *inter alia*,

> for each of said plurality of collected documents:
> identifying properties of the collected document, and
> applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user;
>
> and

using the estimated probabilities for the respective plurality of collected documents to select at least a portion of the collected documents.

Wasfi, however, fails to teach or suggest a user-specific learning machine and, therefore, cannot teach or suggest either of these features.

Wasfi discloses a context model that is "built progressively as users jump from one page to another using any navigation technique." *Wasfi,* p. 61, col. 2, ll. 7-8. These monitored access patterns are collected across *all users* of a Web site and are specific, not to any particular user, but *to the Web site*. *Wasfi* also describes a learning module that "handles the task of mapping user interest to the profile [a description of a user's interests] and maintaining the correlation between the two." *Id*. at p. 61, col. 1, ll. 38-40, and see *id*. at p. 58, col. 1, l. 24. This learning module is used to determine how many times a particular Web page is referenced within a Web site (visibility) and to determine a frequency of occurrence for a user's viewing a particular page based on the user's previously viewed page by using a context model module that is built progressively as users jump from one page to another within a Web site. *Id.* at p 61, col. 1, l. 48 - col. 2, l. 8. The context model is built by updating the frequency of occurrence of a user selection of a particular page in an order-0 sub-model and updating the frequency of occurrence of the particular page in order-1 sub-model based on the user's previous page. *Id*. at p. 61, col. 2, ll. 9-12.

Thus, the context model is *not* specific to a specific user. Instead, it is assembled from monitored actions of a large number of users. Indeed, this was one of the principal limitations of the scheme acknowledged in *Wasfi* at p. 63, col. 1, ll. 39-41. Without the collection of a large population of user information, the context model is not able to accurately represent page entropies (the basis on which next page likelihoods are based).

Accordingly, even if the learning module of *Wasfi* were analogous to the learning machine of claim 23 (a point which is not conceded here),[10] it would still remain the case

[10] *Wasfi* describes a learning module that determines Web site / page usage by measuring how many times a particular page is referenced within the Web site and how often a user accesses the particular page based on a user's previously accessed page. Such measurements do not appear to be estimates of any parameters. Instead, they appear to be rote data compilations.

that this learning module is constructed on the basis of *Web-site specific* data files that represent the activities of *many users*. This is in sharp contrast to the present claim, which recites a user-specific learning machine, estimating parameters of the user-specific learning machine and applying properties of collected documents to the user-specific learning machine. Accordingly, Wasfi does not anticipate claim 23.[11]

In addition, *Wasfi* does not describe *applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user,* as recited in claim 23. In the scheme described by *Wasfi*, document properties (e.g., a web page's ordinal in a sequence of pages) are applied to a page entropy model, which is not a user-specific learning machine. Instead, the page entropy model is constructed on the basis of the actions of multiple visitors to the subject web site. *Wasfi* at p. 61, col. 2, ll. 41-44. While, *Wasfi* also discusses keyword matching with vector space representations of a user profile, see *id*. at col. 2, ll. 15-39, this content-based filtering is not discussed in the context of estimating probabilities that a document is of interest to the subject user.[12] Instead, it is described as the computation of a similarity index. *Id*. at col. 2, ll. 36-39. Accordingly, *Wasfi* cannot anticipate claim 23.

Claim 24 depends from claim 23 and is therefore patentable over Wasfi for at least all of the same reasons as claim 23. Further, claim 24 recites, *inter alia*, "displaying said selected collected documents to said user on a personal web page associated with the

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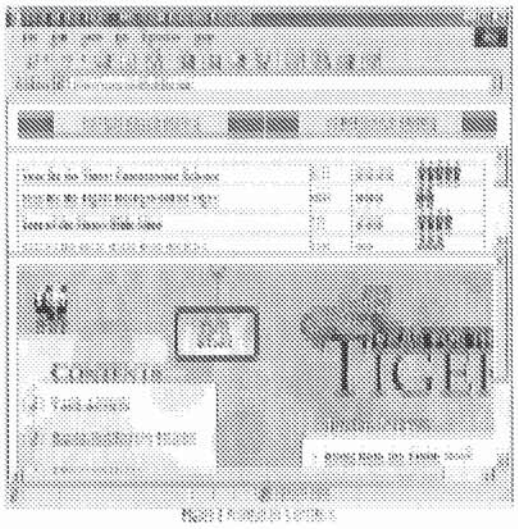
[11] Of course, because *Wasfi* does not teach applying the identified properties of the collected document to the user-specific learning machine to estimate a probability that the collected document is of interest to the user, it follows that *Wasfi* cannot teach then *using* the estimated probabilities for the respective plurality of collected documents to select at least a portion of the collected documents.

[12] *Wasfi's* profile builder assumes that the importance or interestingness of a page to a user is the entropy of the page based on its conditional probability of being accessed following a sequence of pages accessed by the user. *Id*. at p. 59, col. 1, ll. 32-36. As noted above, the page entropy is determined on the basis of data collected for a large number of users. *Id*. at p. 63, col. 1, ll. 39-41. Thus, rather than determining interestingness of a document on the basis of an user-specific learning machine, *Wasfi* determines interestingness on the basis of a collaborative filter than relies on actions of many prior users. *See Id*. at p. 61, col. 2, ll. 42-54. It is true that *Wasfi* also describes the use of a content-based filter, however, the content-based filter does not determine a probability. Instead, the content-based filter correlates page content with the user's preferences according to a scalar product of two vectors, D (the page vector) and Q (the user interest vector). *Id* at p. 61, col. 2, ll. 22-40. *Wasfi* identifies this as a "similarity metric". *Id*. Nowhere does *Wasfi* identify the similarity metric as an estimated probability. Instead, it is a measurable value determined from empirical data (*e.g.*, weights of keywords within a page). Thus, *Wasfi* does not disclose estimating probability as presently claimed.

user." The web page shown by *Wasfi* in Figure 2 (reproduced below) is not a web page associated with the user.



As explained by *Wasfi*, this interface includes "a separate resizable HTML frame at the top". There is no indication that this separate frame is associated with the user. It is simply a mechanism used to display recommendations to a user. *Wasfi* at p. 61, col. 1, ll. 9-13. Without more, this cannot be said to anticipate the features recited in claim 24.

Issue #6: Claims 1, 3, 5, 6, 14, 21 and 22 is Not Obvious Under 35 USC 103 in View of Wasfi even when Considered in Combination with Mladenic.

Similar to claim 23, claim 1 recites, *inter alia*, a user-specific learning machine and:

> estimating parameters of [the] user-specific learning machine based at least in part on the documents of interest to the user;
>
> for each retrieved document of said plurality of retrieved documents: identifying properties of the retrieved document, and applying the identified properties of the retrieved document to the user-specific learning machine to

estimate a probability that the retrieved document is of interest to the user; and

using the estimated probabilities for the respective plurality of retrieved documents to present at least a portion of the retrieved documents to the user.

Above, it was demonstrated that *Wasfi* fails to teach or suggest such a user-specific learning machine, estimating parameters of the user-specific learning machine and applying properties of collected documents to the user-specific learning machine. Moreover, we have seen that *Mladenic* also fails to teach or suggest, "estimating parameters of [the] user-specific learning machine", "applying the identified properties of the retrieved document to the user-specific learning machine to estimate a probability that the retrieved document is of interest to the user", and "using the estimated probabilities for the respective plurality of retrieved documents to present at least a portion of the retrieved documents to the user", as recited in claim 1. Thus *Mladenic* suffers from at least the same deficiencies as *Wasfi* and so the combination of these references must necessarily include all of these same deficiencies. Accordingly, claim 1 and its dependent claims are patentable over the combination of *Wasfi* and *Mladenic*.

Claim 5 recites certain specifics regarding the estimation of parameters of the user-specific learning machine. Because neither *Wasfi* nor *Mladenic* teach such estimation of parameters of a user-specific learning machine, it follows that neither reference independently, nor their combination, can teach, "estimating parameters of a user-specific learning machine based at least in part on the documents not of interest to the user", as recited in claim 5.

Issue #7: Claim 7 is Not Obvious Under 35 USC 103 in View of Wasfi even when Considered in Combination with Refuah.

Claim 7 depends from claim 1 and therefore is patentable over *Wasfi* for at least all of the same reasons as claim 1. In addition, while the Office Action relies on *Refuah* for teaching, "wherein said plurality of retrieved documents correspond to a respective

plurality of products," because *Refuah* does not cure the deficiencies of *Wasfi* with respect to claim 1, claim 7 remains patentable over the combination of these references.

Like *Wasfi*, *Refuah* does not teach *estimating parameters of a user-specific learning machine*. Instead, and as described above, *Refuah* relies on "personas" and "moods" in order to return personalized search results or provide other personalized services. During a session a user may switch personalities, *Refuah* at 14:17-19, but such switches do not involve estimating parameters of a user-specific learning machine. Further, *Refuah* indicates that several users may share a set of personalities or moods. *Id.* at 7:19-21. This ability to share personalities and the related ability to select from among a set of predefined personalities and/or upload personalities for use by others, *Refuah* at 5:25-30, suggests that the personalities are not "user-specific". Nor is any estimation occurring.

Nor does it appear that *Refuah* is concerned with estimating probabilities that a retrieved document is of interest to a user or using the estimated probabilities to present at least a portion of any retrieved documents to the user. Nowhere does *Refuah* discuss the concept of such probabilities. Instead, the personalities are used as a filter to manage information for a client. *Refuah* at 13:57-61. Thus, *Refuah* shares many of the same deficiencies as *Wasfi* vis-à-vis the elements of the claim. Consequently, claim 7 must be deemed patentable over these references.

3. Response to Rejections Based on Primary Reference Refuah

Issue #8: Claims 1, 3, 5, 6, 7, 14 and 21-24 are Not Anticipated Under 35 USC 102(a) by Refuah.

As explained above, *Refuah* describes a method of searching and retrieving information from the Internet, which is personalized to a particular user as identified by a persona and a mood. *See*, *Refuah* at Figs. 1 & 2, and 13:53-57, 16:35-37. However, *Refuah* does not teach *estimating parameters of a user-specific learning machine*, as recited in independent claims 1 and 23. Instead, *Refuah* relies on the personas and moods, which are, in the first instance, selected by a user at a time when the user is engaged in Internet activities. *Id.* at 14:15-17 ("In a preferred embodiment of the invention, a client

may have a plurality of personalities and manually select a particular persona for a session or a portion of a session."). Although the user may switch to a different personality, *id.* at 14:17-19, such switches do not involve estimating parameters of a user-specific learning machine. Indeed, *Refuah* indicates that several users may share a set of personalities or moods. *Id.* at 7:19-21. This ability to share personalities and the related ability to select from among a set of predefined personalities and/or upload personalities for use by others, *id.* at 5:25-30, suggests that the personalities are not "user-specific". Nor is any estimation occurring, as the personality switches are being effected by selections from among predefined personas and moods.

Nor does it appear that *Refuah* is concerned with estimating probabilities that a retrieved or collected document is of interest to a user or using the estimated probabilities to select or present at least a portion of any retrieved or collected documents to the user, as recited in claims 1 and 23. Nowhere does *Refuah* discuss the concept of such probabilities. Instead, the personalities are used as a filter to manage information for a client. *Id.* at 13:57-61. When describing this filtering approach, *Refuah* fails to mention estimating probabilities or using any estimated probabilities to make decisions, and filtering does not necessarily require such estimations. Instead, *Refuah* appears to use a matching approach, which operates either on keywords or other qualities. *Id.* at 17:32-43.

Thus, independent claims 1 and 23 are patentable over *Refuah*. Claims 3, 5, 6, 7, 14, 21 and 22 depend from claim 1 and therefore incorporate all of the same features of claim 1 and are patentable over *Refuah* for at least the same reasons as claim 1. Claim 24 depends from claim 23 and therefore incorporates all of the same features of claim 23 and is patentable over *Refuah* for at least the same reasons as claim 23.

With respect to claim 5, because *Refuah* does not teach *estimating parameters of a user-specific learning machine*, as recited in independent claim 1, it necessarily follows that *Refuah* cannot teach *estimating parameters of a user-specific learning machine based at least in part on the documents not of interest to the user*, as recited in claim 5.

With respect to claim 14, *Refuah* does not teach *whether at least one of said documents of interest contains a link to said retrieved document*. At col. 17, ll. 44-47, *Refuah* discusses properties including the "number of links from the site." In the context

being described, these would not be links *to* a retrieved document, but rather links *from* a retrieved document. Accordingly, *Refuah* cannot anticipate claim 14 under 35 USC 102(a).

With respect to claim 21, because *Refuah* does not teach estimating probabilities that a retrieved document is of interest to a user or using the estimated probabilities to present at least a portion of any retrieved or collected documents to the user, as recited in claim 1, *Refuah* cannot teach, *presenting to the user at least said portion of the retrieved documents based on the estimated probability that the retrieved document is of interest to the user*, as recited in claim 21.

With respect to claim 24, Refuah does not teach *displaying said selected collected documents to said user on a personal web page associated with the user*. At col. 3, ll. 47-55, it is apparent that Refuah is describing a version of a web page personalized to a user's current persona. However, because personas can be shared and selected from among a set of predefined personalities, *Refuah*. at 5:25-30, one cannot say that the personas are user-specific. Hence, web sites personalized to personas cannot be said to be *personal* to a user. Consequently, Refuah cannot anticipate claim 24 under 35 USC 102(a).

4. Response to Rejections Based on Primary Reference Culliss

Issue #9: Claims 1, 3, 6, 7, 21, 22 and 23 are Not Anticipated Under 35 USC 102(a) and 102(e) by Culliss.

Culliss describes techniques purportedly useful in connection with searches that make use of search engines, specifically a method of organizing information in which the search activity of previous users is monitored and used to organize articles for future users.[13] *Culliss*, Abstract. User data is used to refine search results returned by the search

[13] In operation, a cumulative score is kept of the occurrences of certain classified key terms, queries or visited URLs to quantify how strongly someone is associated with a particular item of personal data. When a first user enters a search query, that user's personal data can be considered part of the request and it is stored within or added to an index, either individually or in groupings with other items such as key terms, categories, or ratings. Once so associated with a query, the personal data can be used to recall different lists of articles in response to new queries from new users. For example, when a new user enters a search request, that search request and the new user's personal data are combined to form groupings containing key term groupings, key term and personal data groupings, category and personal data groupings, rating and personal data groupings, etc. Articles associated with these groupings are then retrieved from the

engine, *id*. at 1:48-50, and users can specify their own personal data or it can be inferred from a history of their search requests or article viewing habits. *Id*. at 3:46-48.

Culliss fails to anticipate independent claims 1 and 23. For example, claims 1 and 23 recite, *transparently monitoring user interactions,* and *analyzing the monitored data to determine documents of interest to the user*. The *Culliss* system does not offer or provide transparent monitoring of a user's interactions, nor does that system analyze monitored data to determine documents of interest to the user. Instead, *Culliss* uses monitored activities of *previous users* to make decisions about what documents might interest a [current] user. *Culliss* at 1:46-48 ("the search activity of pervious users is monitored and such activity is used to organize articles for future users."). Consequently, *Culliss* cannot anticipate claims 1 and 23.[14]

Furthermore, *Culliss* does not teach *estimating parameters of a user-specific learning machine,* as recited in claims 1 and 23. The Office Action appears to equate the "cumulative score [that] can be developed for the user for each item of personal data" (a personal data item score) with estimating the parameters of a learning machine. However, this is incorrect. According to *Culliss*, when the personal data item score of the user reaches a certain threshold, then the item of personal data can be said to be associated with the user. Additionally or alternatively, the strength of the association can be determined by the cumulative personal data item score. *Id*. at 4:67 - 5:4. Developing a score in this manner (i.e., essentially by summation and thresholding) involves a direct, calculated relationship between the user and personal data associated with the user. Such a calculation does not include any estimations: "For example, whenever there is a match (whole or partial) between a search request or URL and an item of personal data, a record for the user can be updated to give a+1 for that item of personal data." *Id.* at 4:61-64. Thus, whether the cumulative score and personal data item score of *Culliss* are or are not parameters of a learning machine, because these items are not estimated they cannot be

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index, and their relevancy scores are used or combined to determine their rankings. *Id*. at 5:18 - 6:13. Thus, in the *Culliss* system information services that are provided to a user are dependent upon and informed by activities of prior users.

[14] *Culliss* also describes a process in which users can explicitly specify their own personal data, which, of course, would preclude *transparent monitoring*.