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**Datasheet for the decision
of 20 April 2016**

Case Number: T 1759/11 - 3.5.07

Application Number: 97922333.6

Publication Number: 0895624

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:

System and method for automated retrieval of information

Applicant:

Hewlett-Packard Development Company, L.P.

Headword:

Automated information retrieval/HEWLETT-PACKARD DEVELOPMENT

Relevant legal provisions:

EPC Art. 56

RPBA Art. 11

EPC R. 103(1) (a)

Keyword:

Inventive step - (no)

Decisions cited:

T 0823/11

Catchword:



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Case Number: T 1759/11 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 20 April 2016

Appellant: HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 17 May 2011
refusing European patent application No.
97922333.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman R. Moufang
Members: P. San-Bento Furtado
M. Rognoni

Summary of Facts and Submissions

I. The appeal lies from the decision of the Examining Division to refuse European patent application No. 97922333.6, which was originally filed as international application PCT/US97/06387 and published as WO 97/39412, for added subject-matter and lack of an inventive step of all the claims of the request considered by the decision. The Examining Division based its inventive step objection on the disclosure of document D1. It also cited document D2, which describes the same system as D1, in support of its interpretation of document D1:

D1: Sheth, B.D., "A Learning Approach to Personalized Information Filtering", Master of Science at the Massachusetts Institute of Technology, pages 1 to 75, Internet citation, extracted on 28 September 2001, published online in February 1994;

D2: Sheth, B.D., Maes, P., "Evolving Agents For Personalized Information Filtering", Proceedings of the Ninth Conference on Artificial Intelligence for Applications, Orlando, USA, pages 345 to 352, 1 to 5 March 1993.

II. The present application was filed on 18 April 1997 and entered the European phase on 12 November 1998. The international search report of 1 August 1997 was drawn up by the EPO, whereas the international preliminary examination report was issued by the United States Patent and Trademark Office and received at the EPO in 1999. The first communication dated 28 June 2005 raised objections regarding added subject-matter, the presence of too many independent claims, and lack of an inventive step of the subject-matter of all claims over document D1. After its letter of reply and new

submissions of 28 October 2005, the applicant sent an enquiry, by letter dated 30 August 2007, asking when it could expect the next communication as the last dated back to June 2005. The Examining Division issued three further communications, including that accompanying the summons to oral proceedings.

- III. In the statement of grounds of appeal, the appellant requested that the decision be set aside and that a patent be granted on the basis of claims 1 to 15 submitted with the grounds of appeal, which are very similar to those on which the decision was based.
- IV. The appellant was invited to oral proceedings. In a subsequent communication, the Board expressed its preliminary opinion that the subject-matter of claim 1 of the sole request was not inventive over the disclosure of document D1, when taken in combination with either the common general knowledge of the skilled person or the following document introduced by the Board into the proceedings:
D3: US 5 257 185, published on 26 October 1993.
- V. By letter dated 22 February 2016 the appellant informed the Board that neither the applicant nor the representatives would attend the oral proceedings. There were no other submissions by the appellant.
- VI. Oral proceedings were held on 20 April 2016 in the absence of the appellant. At the end of the oral proceedings, the chairman pronounced the Board's decision.
- VII. Claim 1 of the sole request reads as follows:
"A system (10) for automated retrieval of information from one or more information sources (30) on the basis

of at least one attribute (112) associated with a user, the system (10) comprising:

a plurality of user parameters (14), the user parameters (14) including the at least one attribute (112), wherein the at least one attribute associates the user with the desired information to be retrieved;

a library (18) containing a plurality of filters (20; 22), a filter (20; 22) specifying one or more search parameters (212) for one of the at least one attribute (112), wherein each attribute corresponds to an available filter;

a translator (16) coupled to the library (18) and operable to access the user parameters (14) in order to associate one or more filters (20; 22) from the library (18) with the user in accordance with the at least one attribute (112) included in the user parameters (14); and

a searcher (28) coupled to the translator (16) and the information sources (30), the searcher (28) operable to generate one or more search requests using the search parameters (212) from the selected filters (20; 22), the searcher (28) further operable to retrieve information from the information sources (30) using the generated search requests."

VIII. The appellant's arguments relevant to the decision are discussed in detail below.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

Procedural issues

2. In the present case the refusal decision was taken more than fourteen years after the filing date and more than twelve years after entry into the European phase. The pendency time of the first-instance proceedings is therefore comparable to that of the case underlying decision T 823/11 of 21 December 2015, in which this board in the same composition decided that the excessive duration of the first-instance proceedings, the inadequate written reasoning given in the communications, and the insufficiently substantiated decision amounted to substantial procedural violations.

Applicants and the public can legitimately expect that the patent grant proceedings before the European Patent Office are concluded within a reasonable period of time. In the Board's view, the excessive pendency time in the first-instance proceedings amounts to a substantial procedural violation, for the reasons given in T 823/11 and in the decisions cited there.

However, there is no sanction for this procedural violation in the present case since, on the one hand, the need to avoid a further delay constituted a special reason under Article 11 RBPA for not immediately remitting the case to the first instance and, on the other hand, the Board's conclusion that the present appeal is not allowable (see below), excludes a reimbursement of the appeal fee under Rule 103(1)(a) EPC.

The invention

3. The application relates to a system for the automated retrieval of information from one or more information sources based on attributes associated with the user.

User parameters define user profiles, specifying also the user attributes of different types, for example, the business role of the user, vocation, or business role of the information. A library contains filters, each filter specifying one or more search parameters for a user attribute (see page 3, lines 1 to 33 and page 6, lines 15 to page 7, line 15 of the international publication).

The system as shown in Figure 1 and described on pages 6 to 18 comprises several modules, including a translator 16, a searcher 28, an interactor 42, a modifier 48 and a communicator 34.

The translator is discussed in detail on page 9, line 25 to page 11, line 10. Its main task is to access user parameters in order to associate one or more filters with a user according to the user attributes (see also page 24, lines 7 to 17, Figure 3, steps 312 and 313). The searcher receives from the translator search parameters corresponding to filters, and issues one or more search requests to one or more information sources (page 17, lines 25 to 34, page 24, line 31 to page 26, line 21, Figure 3, steps 314 to 324). The interactor obtains feedback from the user concerning the results (page 14, line 5 to page 15, line 3, page 26, line 22 to page 27, line 9, page 28, lines 18 to 29, Figure 3, steps 328 and 338). The modifier essentially modifies filters on the basis of feedback by the user (page 15, line 13 to page 16, line 30,

page 27, line 19 to page 28, line 17, Figure 3, steps 332 to 336). The communicator is described as "any suitable mechanism for facilitating data communications between searcher 28 and information sources 30", which "may include the appropriate hardware and software to communicate data using" different types of networks (page 13, lines 4 to 18).

According to the description on page 4, lines 4 to 7, the advantage of the system is that the user is "able to retrieve selected information from different information sources without constructing complicated search requests each time the user wants information".

Inventive step - claim 1

4. The Examining Division relied on document D1 as the starting point for its assessment of inventive step. Document D1 discloses a personalised news filtering system modelled as a set of information filtering interface agents, each such agent assisting a user with the "task of finding interesting news articles in a particular domain" (page 19, first text paragraph). Since document D1 discloses a system also directed to automated retrieval of information from one or more information sources, it is an appropriate starting point for the assessment of inventive step.

The fact that the system of document D1 is, at least at first sight, more complex than the system of the present invention and uses artificial intelligence techniques not mentioned in the present application does not mean that the skilled person would not consider it as a starting point for the general problem of information filtering (see also Chapter 2, pages 11

to 18, of document D1, describing the state of the art in information filtering).

5. A user in the system of document D1 typically has more than one filtering agent, for example one agent to cover each one of the user's non-overlapping interests (page 19, first text paragraph, page 32, last full paragraph). From those passages it can be derived that the agents can be seen as "associating the user with the desired information to be retrieved", and that therefore the system of D1 also comprises a plurality of user parameters as defined in claim 1, the parameters including at least an attribute referring to an agent of the user.

- 5.1 Document D1 describes an agent on page 19 as being "modeled as a *population of profile* individuals, each of which searches for articles in a small domain" (page 19, second text paragraph). Page 19 further reads:

"The profile contains information about where to search for articles and what kinds of articles to filter. [...] Top-scoring articles are retrieved for presentation to the user. The articles recommended by each of the profiles are collected together and presented to the user."

Page 21 explains that a profile stands for some user interest and describes profiles as follows:

"A profile consists of a number of *fields*, like newsgroup, author, location, keyword, etc. Each field is a *vector of terms*, each of which is weighted in proportion to its importance for identification purposes."

In the light of these passages, the Board finds that profiles have the same function in the system of D1 as filters have in the claimed system, namely, "specifying one or more search parameters (212) for one of the at least one attribute", where the user parameter specifying an agent is an attribute. The Board therefore agrees with the Examining Division that the profiles of the system of D1 correspond to the filters according to the claim.

In the system of document D1 a user can create an agent by using "off-the-shelf agents created by someone else" (page 32, last full paragraph), each agent being supported by one or more profiles (pages 36 and 37). The system of document D1 hence keeps a library of agents and profiles.

- 5.2 According to the decision, a translator was also present in the system of D1 because when the user accessed the system both existing or new agents could be used (according to the Examining Division, these features were disclosed on page 19, first two paragraphs, page 32, beginning of section 4.2.1, and page 36, section 4.2.5).

The appellant disagreed with the Examining Division's analysis of document D1 and argued that the filters of the invention were independent of any user. In the invention, a filter was not associated with a specific user but with an attribute, whereas document D1 did not teach providing profiles independently of a user. Profiles in document D1 were analogous to queries and included user weights. The agent and the profiles were linked to the user. Since there was a permanent link between the user and the agent/profiles, there was no need to "associate one or more filters from the library

with the user in accordance with the at least one attribute", as defined in the claim. Therefore, the system of document D1 did not include a translator.

5.3 Regarding those arguments, the Board notes the following.

Filters according to the invention are depicted in Figure 2b and described on page 21, line 6 to page 22, line 3. A filter specifies one or more search parameters, which may include the name of a database, search terms that "may be found in each information record to be retrieved", excluded terms, date and geographic restrictions, and proximity and hits parameters. These search parameters correspond to the parameters used in a search query, so that filters in the application are also analogous to queries.

A profile of the system of D1 is shown on page 40, Table 4.1. Like a filter of the present invention, a profile includes a field indicating the databases to be consulted, "newsgroups", and the search terms, "keywords". It may also include other fields, such as location (page 21, section 3.1.2).

In the claimed invention, a filter is related to the user by means of an attribute, whereas in document D1 the association is made additionally through an agent. To retrieve the information for a specific user, the system of document D1 has to access the user's data, which can be assumed to include parameters or attributes specifying one or more agents, to consult at least one of the user's agents in order to associate one or more profiles with the user, these profiles being used to search the information sources (page 24, section 3.2.3, first paragraph). This constitutes a

mapping rather than a translating function, but corresponds to the function of the "translator" as recited in the claim. Therefore, contrary to the appellant's argument, in the system of document D1 a "translator" within the meaning of the claim is also necessary.

The Board recognises that, since one of the purposes of the system of D1 is to personalise the agents, the agents and some profiles are user-specific. It is also true that the profiles of document D1 may include weights for the keywords. However, weights are not necessarily user-specific and, as explained above, document D1 also discloses sharing agents and profiles among users (see also page 32, last full paragraph, page 36, first full paragraph, and page 37, last paragraph).

Moreover, the claim does not exclude personalised filters either. In fact, according to the description, the present invention may also use custom filters (page 23, line 23 to page 24, line 6) and may apply attributes at a group or individual level (page 19, lines 12 to 14). In some embodiments, a filter is modified according to feedback from the user (page 27, lines 19 to 23), such that "the most effective search request is generated for subsequent information requests from the user" (page 28, lines 1 to 17). The present claims cover these embodiments, of which more detailed features are recited in claims 12 to 15. The application does not explain whether these modified filters are user-specific, but it does not exclude that possibility. It could even be argued that the attributes applied at an individual level (page 19, lines 9 to 14) serve the purpose of defining user-specific filters, and that the skilled person assumes

from the description that the customised filters are user-specific. Consequently, the Board cannot share the appellant's view that one of the distinguishing features is that filters of the invention are not user-specific.

The Board considers that such a distinction would anyway not establish an inventive step. In the Board's view, it would be obvious to the skilled person to restrict the profiles of the system of D1 to profiles shared among users or agents, for example, in order to simplify the system and reduce the storage and processing requirements. The reasons would be similar to those given in the following with respect to the attributes of the claimed invention.

6. From the above, it follows that the claimed subject-matter differs from the system of document D1 in that an attribute alone, without an agent, associates the user with the desired information to be retrieved, and in that each attribute corresponds to an available filter, whereas in document D1 each agent may have a plurality of corresponding profiles. These distinguishing features are similar to those identified by the Examining Division.

An attribute of the present invention is a data item describing a topic of interest in a category of information. Agents in document D1 are "intelligent and autonomous computer programs which learn users' preferences and act on their behalf - electronic personal assistants that automate tasks for the user" (abstract).

Even though document D1 also describes using "off-the-shelf agents created by someone else" (page 32, last

full paragraph), the Board accepts the appellant's argument that each agent in document D1 is linked to a user. In the present invention, on the contrary, plural users can share the same attribute value.

7. The attributes and filters of the present invention are shown in Figures 2a and 2b (see also page 18, line 13 to page 22, line 32). For the user "KEN", Figure 2a shows a list of attributes, including the attribute "SENTRY" describing his business role 114, and "ANALYST" for the user's vocation 116 (page 19, line 15 to page 20, line 9). The filter corresponding to "SENTRY" is depicted on Figure 2b and specifies values for several parameters, including a URL for the database parameter, some query terms ("FORECAST", "TREND", "FUTURE"), two excluded terms, two years for the date parameter and "PARA" for the proximity parameter. According to the description, more than one attribute of a single type may be associated with a particular user, e.g. two business roles (see page 18, line 29 to page 19, line 7, and page 20, lines 24 to 31).

In the system of D1, agents are associated with a user, where an agent may correspond to a particular domain (page 19, first text paragraph). The equivalent in the system of D1 to the example above would be to associate a business role or "SENTRY" agent with the user, that agent corresponding to one or more profiles. By being able to associate more than one profile with the agent, the system of D1 appears to offer more flexibility in adapting the agent to the user needs or in defining the profiles.

According to the appellant, a drawback of the system of D1 was that for each user-specific agent a dedicated

combination of user-specific profiles or profile needs had to be provided and associated therewith. This resulted in substantial handling and managing operations. The claimed invention avoided this drawback, thus reducing the operational overhead.

The Board agrees that the solution of document D1 based on agents, each one corresponding to multiple profiles, is more complex and involves more system overhead. In particular, implementing an intelligent learning computer program is much more difficult than simply mapping attributes to filters or profiles, and using one or more agents for each user requires more storage and processing capacity. However, as explained above, the agents-based solution offers more flexibility in the definition and personalisation of user information requirements. As argued in the contested decision, this corresponds to a trade-off. Whether such a trade-off is acceptable is given to the skilled person as part of the framework of the technical problem that is to be solved.

The appellant also argued that the invention was advantageous, as a user could easily change his preferences by simply adding or deleting attributes to or from his profile. The Board notes that the claim does not recite features relating to the way in which the user preferences are changed. Furthermore, the user interface of the system of D1 supports adding off-the-shelf agents created by other users (page 32, last full paragraph), and lets the user add existing profiles to an agent (page 36, section 4.2.6 to page 38). Nevertheless, the Board accepts that adding an attribute to the user profile in the present invention is potentially easier than changing the agent in the system of D1.

It follows from the above that the distinguishing features solve the problem of simplifying the management of the user preferences and reducing the overhead associated with the implementation of the user preferences in the system of document D1.

- 7.1 In the opinion of the Board, the skilled person facing the problem of simplifying the system of document D1 would immediately consider dispensing with the intelligent agents and instead adopting a simpler solution for obtaining the user's topics of interest.

In the context of gathering information of interest for a person in a community, for example a company or an organisation, it is common practice even in non-technical environments to let the person choose topics of interest from a list of available topics, each one corresponding to a different profile of a group of persons in the community, for example "medical", "engineering" or "marketing". It is well known that such a solution constitutes a simple manner of letting the person express his preferences. Since the same information is gathered collectively for all persons in a group sharing similar interests instead of individually for each person according to individual detailed preferences, that approach clearly is easier to carry out and requires fewer resources.

It would therefore be obvious to the skilled person to do without the agents of D1 and use only attributes corresponding to the user's topics of interest. It would also be obvious to the skilled person to map each one of the user interests, or each attribute, to a single filter. Such a mapping corresponds to a minor modification of the corresponding features of

document D1, where an agent is mapped to one or more filters.

7.2 The Board further notes that, as set out in its preliminary opinion, essentially the same solution has been used for a similar purpose in the knowledge system disclosed in document D3 (see column 27, lines 45 to 47 and column 28, lines 4 to 12).

In particular, document D3 discloses a knowledge system "having a development configuration by which a knowledge engineer enters knowledge content into a database, and a user configuration employed by the end user to access the database for interactive learning, information retrieval, and problem solving in a specified subject area" (abstract). It therefore describes a system which supports the automated retrieval of information.

In the system of D3, knowledge is "organized by a hierarchy of topic nodes, with each node having an associated plurality of cross referenceable information units representing a variety of types, or categories, of information" (abstract). Users may customise their view of the data by different criteria, e.g. job and experience level, with the use of "qualifiers" or filters (column 10, lines 54 to 57). Those qualifiers correspond to attributes of the present invention. Retrieval of information for a user in the system of document D3 is therefore also based on attributes, or qualifiers, associated with a user.

As explained in column 28, lines 4 to 12 of document D3, for each user the system keeps a plurality of user parameters, including qualifiers, in a user table. The system also uses qualifier tables which

"define the qualifiers or topic filters that are to be applied to topics in the knowledgebase for customized user view of the information". They are applied to topics by knowledge-base developers and may be selected by users to customise their view of the knowledge-base (see also column 27, lines 45 to 49).

In the Board's view, the skilled person would therefore consider simplifying the system of D1 by dispensing with the use of agents and instead simply using attributes to associate the user with the desired information to be retrieved, as described in document D3. As explained above, mapping each attribute or agent to a single filter is also a minor obvious modification of the teaching of document D1.

8. Consequently, the subject-matter of claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC).
9. Since the sole request does not provide the basis for the grant of a patent, the appeal has to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



I. Aperribay

R. Moufang

Decision electronically authenticated