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Application Number: 06121855.8

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Title of invention:
Semantic identities

Applicant:
Oracle International Corporation

Headword:
Semantic identities/ORACLE

Relevant legal provisions:
EPC 1973 Art. 54(1)

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Case Number: T 2212/08 - 3.5.01

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 7 November 2013

Appellant: (Applicant)	Oracle International Corporation 500 Oracle Parkway, M/S 5 op 7 Redwood Shores, CA 94065 (US)
Representative:	Harris, Ian Richard D Young & Co LLP 120 Holborn London EC1N 2DY (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 8 July 2008 refusing European patent application No. 06121855.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: S. Wibergh
Members: K. Bumes
D. Prietzel-Funk

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division to refuse European patent application No. 06121855.8 entitled "*Semantic identities*" and published as

A2: EP-A2-1 780 648.

II. The examining division refused the application on the basis of two sets of amended claims (main request, auxiliary request).

(a) The examining division considered the amendments to extend beyond the content of the application as filed, contrary to the requirements of Article 123(2) EPC.

(b) The examining division referred inter alia to

D1: US-B1-6 671 682

and considered D1 to anticipate the method of claim 1 according to the main and auxiliary requests.

III. In the statement setting out the grounds of appeal, the appellant requested that the decision under appeal be set aside, and a patent be granted on the basis of the main and auxiliary requests underlying that decision.

(a) The incriminated feature of using "only the semantic identity and a semantic specification associated with the semantic identity without revealing the agent's primary identity" was said to be based on A2, paragraphs 0016, 0040, 0043, 0046, 0049, 0053, 0073.

(b) According to the appellant, the prior art did not disclose a semantic identity concealing a user's primary identity for purposes of gathering information that interests the user and/or for purposes of

identifying relationships to other related semantic identities. The differences between a user persona, a user identity and the claimed semantic identity had not been fully appreciated by the examining division.

IV. The Board summoned the appellant to oral proceedings, as requested on an auxiliary basis. In an annex, the Board voiced doubts inter alia about the novelty of the claimed method over D1 in view of the broad functional wording of claim 1 then on file.

Moreover, besides the (known) step of using a network for data retrieval, no technical problem appeared to be solved and no technical effect obtained. Thus, even in the absence of specific prior art documents the claimed method would appear not to involve an inventive step.

V. In response to the summons, the appellant submitted an amended set of claims as a *New Main Request* replacing all previous claim sets.

(a) Amended claim 1 specified in greater detail the manner in which a semantic identity was generated, in particular with reference to the data structure shown in Figure 4 of the application, and the manner in which the semantic identity was used to mine a network for information.

As a result of the amendment, it was submitted that claim 1 more clearly specified a technical process (semantic identity service; reference to A2, paragraphs 0017 to 0021) that was operable to generate the semantic identity for an agent using a data structure with categories and interests as defined in claim 1, and then to mine the network for information using the identifier and semantic specification of the semantic

identity. The mining could thus be performed using the semantic identity without revealing the agent's primary identity, so that to network onlookers or services of the network, the mining appeared to be performed by the semantic identity and not by the agent underlying the semantic identity.

(b) D1 did not disclose a semantic identity service which was operable to generate a semantic identity using a data structure as defined in claim 1, the semantic identity including an identifier and a semantic specification, wherein the semantic identity was generated in response to assigning one or more categories to the semantic identity. Moreover, D1 did not disclose augmenting the semantic identity with a number of interests, the interests limiting the assigned categories so as to reduce the semantic space. Further, D1 did not disclose mining a network for information using the identifier and the semantic specification which included metadata designating the assigned categories and interests.

The objective technical problem with respect to D1 was to improve searching on behalf of a user or agent without revealing the agent's primary identity to onlookers and services of a network.

While D1 disclosed the concept of providing a core persona and sub-personas, D1 did not provide this as part of a semantic identity service according to claim 1. The method as defined in claim 1 provided an additional layer of abstraction between the agent and the search visible on the Internet.

It was submitted that the cited art did not disclose the subject-matter of claim 1 and that the skilled

person would not be motivated on the basis of the cited art to arrive at the subject-matter of claim 1.

VI. Oral proceedings took place as scheduled (7 November 2013). In response to introductory questions from the Board, the appellant provided minor clarifications to method claim 1 and independent system claim 18 and submitted an amended set of claims as a replacement set (sole request).

(a) The final version of method claim 1 reads:

"1. A method for creating and using a semantic identity on behalf of an agent, an agent being the primary identity for a principal, the primary identity being formulated from one or more identifiers and secrets, a principal being a specific type of resource, such as an automated service or user that acquires an identity for performing any given computer network transaction, the method comprising steps, performed by a semantic identity system (300) of:

generating (120), using a data structure (400), a semantic identity for the agent, the semantic identity including an electronic identifier (401) and a semantic specification (402, 403, 404), the semantic identity being generated in response to assigning one or more categories (402) to the semantic identity, the one or more categories representing topics or subjects and forming a semantic space associated with the semantic identity, the one or more categories being associated with the agent in response to at least one of being defined or selected by the agent or being automatically assigned by the semantic identity service [sic];

augmenting the semantic identity with a number of interests, the interests being limitations within a particular one of the assigned categories that further

reduce the semantic space, the interests being automatically assigned to the semantic identity in response to mining a network using the semantic identity within its semantic space;

mining (210) the network for information that relates to the one or more categories or the interests, by using the electronic identifier and the semantic specification of the semantic identity, and packaging the information for the agent's subsequent review and consumption, the semantic specification including metadata including identifiers for the assigned categories and interests, whereby to network onlookers or services of the network, the mining via the semantic identity appears to be by the semantic identity and not by the agent that is associated with the semantic identity, for purposes of gathering (220) related information that interests the agent and/or for purposes of identifying (280) associations or relationships to other related semantic identities."

(b) During the oral proceedings, the appellant has emphasised a two-stage approach of the claimed method:
- In a first stage, the semantic identity system (300) allows a user to generate a semantic identity comprising one or more categories (i.e. topics or subjects) which form a semantic space (i.e. search criteria). Components of the semantic identity are assembled in a data structure (400, Figure 4) comprising an identifier (401) of the data structure (not of the user).
- In a second stage, the semantic identity system automatically augments, or refines, the categories of the semantic identity with a number of interests (A2, paragraph 0032) in response to mining a network within the semantic space of the semantic identity. The automatic refinement isolates the semantic identity

(and associated search) even more from the true identity of the user.

(c) The method according to D1 (performing tasks on a computer network using user personas) is based on the real identity (core persona) of the user as established by a pre-collection agent (118) (D1, column 3, lines 25 to 34). When a user profile has been collected, features of the profile propagate to sub-personas (D1, Figure 3) and, thus, are revealed by an ensuing search carried out on behalf of a sub-persona. While D1 mentions privacy attributes (column 3, lines 48 to 51), the claimed method enhances user control (stage 1) and privacy (stage 2). The technical problem is to preserve the user from the Internet while still allowing the user to create a preliminary semantic space of categories.

The different approach of D1 is said to be underpinned by the fact that a personal policy is applied to the search results upon receipt in the user's browser (D1, column 4, lines 46 to 59; Figure 4), whereas the claimed method applies a persona's search criteria "on the fly" so as to return search results that have already been filtered.

Reasons for the Decision

The application

1. Mining the Internet for information interesting to a user entails the user's risk of being profiled (A2, paragraph 0004). Therefore, a user or an agent (i.e. a program launched by the user and reporting back to the user) may be permitted to create and assume new identities beyond its primary identity (A2, paragraph

0013). A "semantic identity" reflects categories defined by the user and interests identified by the agent. Thus, services that process the semantic identity over a network operate within a pertinent "semantic space" of the network (A2, paragraph 0015) to mine the network for purposes of identifying related information and/or relationships that agree with the defined categories and interests (A2, paragraph 0016; original claim 1). Paragraphs 0049 and 0073 of A2 imply the intention that the primary identity (paragraph 0013) behind the semantic identity should not be revealed.

Article 54(1) EPC 1973 - Novelty

2. Even in the light of the appellant's final amendments and arguments, the Board considers document D1 to anticipate the method according to claim 1. The reasons are explained below. For simplicity, no distinction is made between technical and possibly non-technical features of the invention.

3. D1 is entitled "*Method and system for performing tasks on a computer network using user personas*". In the context of network tasks to be performed automatically (by agent software) on behalf of a user, personas (core persona; sub-personas) may be created based on attributes (i.e. categories) such as age, language, address, marital status and the like of the user (D1, column 1, lines 51 to 53).

Further, a persona may include "*user-specified privacy attributes, such as what information may be disclosed to whom, masking of identity and behavior history*" (D1, column 3, lines 48 to 51).

Therefore, a (sub-)persona corresponds to a semantic identity within the definition (structure) and purpose (masquerading) of the present application (A2, paragraph 0073).

4. In a first stage of setting up a user persona according to D1, the user may contribute data ("*the user may be queried for information*"; column 1, lines 49 to 60). In other words, the user may define a semantic space by assigning categories such as age, language, address, marital status and the like.

It is true that D1 may prefer an automatic aspect of the first stage: "*a pre-collection agent 118 may be employed to search the computer network 102 to obtain information on the user which may then be stored in the core persona 104 or any of the sub-personas 108, 110, 112, 114 or 116*" (D1, column 3, lines 25 to 34).

However, that preference in D1 does not eliminate the expressly mentioned possibility of user participation which gives the user control of the first stage, as sought by the appellant.

5. In a second stage of the method according to D1, the information in the core persona (104) and the sub-personas (108, 110, 112, 114, 116) may be modified and refined automatically by a learning agent (124) which tracks the user's use of the computer network (102) and may periodically add, change, delete or update the information based on the user's actual use, or responses to various tasks (D1, column 3, lines 53 to 65). Thus, in the terminology of present claim 1, the categories of the semantic identity are automatically augmented with user interests in response to mining the network.

6. The mining step of claim 1 which searches the network for information that relates to the categories or interests defined and refined in the semantic identity is anticipated by "*intelligent personal agent software to perform personalised and targeted tasks*" in D1 (column 2, lines 55 to 59, for example).

In both claim 1 and D1, the primary identity underlying an agent is concealed as long as the search space assigned to a semantic identity (or persona) differs from the search space assigned to the primary identity. If the primary identity's search space is not used on the network, the primary identity's categories and interests cannot be traced by the search engine.

7. The "*semantic identity system (300)*" referred to in claim 1 is merely a functional definition of means for carrying out the generating, augmenting and mining steps of the claimed method. Such generic means must be present also in the method according to D1 for carrying out the same steps.

8. The "*data structure (400)*" referred to in claim 1 covers a table or a set of memory locations for storing a set of data making up a semantic identity (see Figure 4 and paragraphs 0070 to 0078 of A2):
- a first data item is an electronic identifier (401) which "*provides a mechanism for a semantic identity to identify itself over a network*" (A2, paragraph 0073);
- other data items concern "*categories*" (402), "*interests*" (403), and "*policies*" (404) (A2, paragraph 0074...0076) which make up a "*semantic space*" (A2, e.g. paragraphs 0015 and 0025).

However, it is an implicit requirement for a persona of D1 to identify itself (by a number or name) when accessing a network service via a task execution agent or search mechanism (105). Where the (sub-)persona is required to mask the user identity (D1, column 3, lines 48 to 51), its identifier must not reveal the user.

It is also implicit to a (sub-)persona of D1 that the associated attributes (i.e. categories) and refinements (i.e. interests) are stored in a corresponding number of table cells or memory locations; that set of cells or locations effectively makes up a data structure as recited by present claim 1. Calling said data items "*metadata*" does not add any limitation.

9. Neither claim 1 nor the application as a whole explains where the semantic identity is used to filter search results. The application uses neither the term "filter" nor the expression "on the fly" put forward by the appeal. The application as filed frequently uses the clause "*mining the network within the semantic space*" (see A2, paragraphs 0016, 0030, 0035, 0042, 0047, 0055; original claim 24). However, that expression does not specify (or rule out) any place for filtering search results.

It is true that D1 discloses the use of a conventional browser application (column 4, lines 29 to 44) and the additional step of using a personal policy "*to filter what is returned from the search*" (column 4, lines 45 to 59) in order to display only appropriate matter (Figure 4) at the user's browser. However, such an additional step is not ruled out by claim 1, and it does not detract from the fact that other steps of D1 anticipate the claimed combination of steps. Novelty

examination looks for a difference of claim 1 over D1, not the other way round.

10. Therefore, the Board judges that the claimed method for creating and using a semantic identity on behalf of an agent is not novel over D1.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek S. Wibergh

Decision electronically authenticated