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Datasheet for the decision of 7 May 2019

Case Number: T 1595/16 - 3.5.07

Application Number: 03254567.5

Publication Number: 1391835

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:
Data linking system and method using encoded links

Applicant:
LiveRamp, Inc.

Headword:
Data linking system/LIVERAMP

Relevant legal provisions:
EPC Art. 56, 123(2)

Keyword:
Amendments - added subject-matter (no)
Novelty - (yes)
Remittal to the department of first instance - (yes)

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Case Number: T 1595/16 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 7 May 2019

Appellant: (Applicant)	LiveRamp, Inc. 225 Bush Street, 17th Floor San Francisco, CA 94104 (US)
Representative:	Exell, Jonathan Mark Williams Powell Staple Court 11 Staple Inn Buildings London WC1V 7QH (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 15 December 2015 refusing European patent application No. 03254567.5 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	R. Moufang
Members:	R. de Man
	P. San-Bento Furtado

Summary of Facts and Submissions

I. The applicant (appellant), which at the time was Axciom Corporation, appealed against the decision of the Examining Division refusing European patent application No. 03254567.5.

II. The Examining Division decided that the subject-matter of claims 1, 11 and 17 of the main request and claims 1, 10 and 16 of the first auxiliary request lacked inventive step over the following document:

D1: US 6 003 024, published on 14 December 1999.

III. In its statement of grounds of appeal, the appellant maintained its main request (filed by letter of 15 August 2014) and its first auxiliary request (filed by letter of 5 October 2015).

IV. In a communication dated 20 August 2018, the Board expressed doubt that the main request and the first auxiliary request complied with Article 123(2) EPC and invited the appellant to comment on the following document:

D2: EP 1 118 948 A2, published on 25 July 2001.

V. In a letter dated 30 October 2018, the appellant argued that the main request and first auxiliary request complied with Article 123(2) EPC and filed a second auxiliary request addressing the points raised. It also made its arguments for the claimed invention involving an inventive step over document D2.

VI. On 9 November 2018, the EPO registered a transfer of the application to the new applicant and appellant LiveRamp, Inc. with effect from 28 September 2018.

VII. In a communication accompanying the summons to oral proceedings, the Board reiterated its concerns.

VIII. In a letter dated 8 April 2019, the appellant commented on the Board's concerns.

IX. During the oral proceedings held on 7 May 2019, the appellant replaced its requests with a new sole request comprising claim 1 as filed during the oral proceedings and claims 2 to 25 as filed with its letter dated 5 October 2015 as first auxiliary request. At the end of the oral proceedings, the chairman pronounced the Board's decision.

X. The appellant's final requests were that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the sole substantive request.

XI. Claim 1 of the sole substantive request reads as follows:

"A data linking system for use by an information service provider and by a plurality of clients of the information service provider, comprising:
for each client, a data storage system in which is resident a plurality of data elements, wherein each of said data elements pertains to a particular entity and is tagged with a link, wherein each of said links is unique over time, each of said links uniquely corresponds to a particular entity, each of said data elements is tagged with that one of said links

corresponding to the entity to which said data element pertains, and each of said links is encoded distinctly for each client; and
a central repository of the information service provider, wherein all of said links are resident on said repository in a non-encoded form, and said repository contains a substantially comprehensive listing of all said entities from which said links are generated,
wherein each client has an assigned client-specific domain value,
the data linking system further comprising a look-up table storing an algorithm identifier and a key for each domain value and an encoding algorithm module, the data linking system being arranged, upon receiving a link to be distributed to a client, to retrieve the algorithm identifier and key corresponding to the client's domain value and provide the link, algorithm identifier and key to the encoding algorithm module, the encoding algorithm module being arranged to encode the link for the client using the algorithm identified by the algorithm identifier and the key whereby the encoded link used by the respective client to identify data elements on an entity is different to the encoded link used by another respective client to identify data elements on the entity, the unencrypted link only being used internally by the central repository whereby such information on data elements provided by the information service provider may not be shared between clients."

The text of claims 2 to 25 is not relevant to this decision.

Reasons for the Decision

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

2. *The invention*

2.1 The invention as defined by claim 1 relates to a "data linking system" operated by an "information service provider" for its clients. The clients are businesses having data storage systems containing data about "entities", which are typically customers.

The information service provider manages a central repository containing a substantially complete listing of all entities and generates, for each entity, a "link" that uniquely identifies the entity. Each data element residing in its clients' data storage systems is tagged with the link corresponding to the entity/ customer to which the element pertains.

In this way, each client can obtain an overview of the data elements pertaining to a particular customer by means of the corresponding link, and can leave the work of generating and maintaining unique customer links - for example for the entire population of a country - to the information service provider.

2.2 By issuing, for each entity, the same link to a multitude of its clients, the information service provider runs the risk that some of its clients decide to share information among themselves without the involvement of the information service provider (see page 12, lines 4 to 6, of the description of the application as filed).

2.3 To prevent this from happening, in the data linking system of claim 1, before being supplied to a client, each link is encoded in a client-specific manner in such a way that the encoded link used by that client to identify data elements relating to an entity is different from the encoded link used by another client to identify data elements relating to the same entity "whereby such information on data elements provided by the information service provider may not be shared between clients".

2.4 A link is encoded for a particular client by retrieving an algorithm identifier and a key from a look-up table on the basis of the client's "domain value" and encoding the link using the algorithm identified by the retrieved algorithm identifier and key.

The feature "whereby such information on data elements provided by the information service provider may not be shared between clients" implies that, at least in practice, clients are unable to decode the links (see page 12, lines 11 to 14, and page 24, lines 13 to 20). Hence, the keys and algorithms are encryption keys and encryption algorithms.

3. *Added subject-matter*

3.1 Claim 1 is based on original claim 1, with a number of amendments as discussed below.

3.2 The data linking system is "for use by an information service provider and by a plurality of clients of the information service provider". This amendment is based on page 11, lines 13 to 18, of the description, which discloses that links are created by an information

service provider and may be distributed for the use of its "customers", which - in this context - are the clients of the information service provider (and not the "entities").

3.3 The data linking system comprises "for each client, a data storage system in which is resident a plurality of data elements". The term "data storage system" refers to the one or more databases maintained by a client of the information service provider (see, for example, page 2, lines 1 to 18, referring to clients as "businesses") and finds literal support in original claim 10, which discloses "a method of integrating a plurality of data elements resident on a data storage system wherein each of the data elements pertains to a particular entity".

3.4 The repository is "a central repository of the information service provider". The basis for this amendment is found on page 12, lines 18 to 20, which discloses that links are created by a single central repository operated by the information service provider.

3.5 The claim features relating to distinctly encoding the links for each client on the basis of a client-specific domain value with the help of a look-up table, as described in points 2.3 and 2.4 above, are based on page 12, lines 3 to 17; page 20, lines 20 to 22; and page 22, line 18, to page 23, line 18. The central repository performs internal processing with links "in a non-encoded form", as disclosed on page 12, lines 10 and 11.

3.6 Hence, the subject-matter of claim 1 does not go beyond the content of the application as filed (Article 123(2) EPC).

4. *Document D2*

4.1 Document D2 is an earlier patent application filed by Axciom Corporation and is prior art under Article 54(2) EPC for the purpose of the present application.

4.2 Document D2 discloses a data linking system that uses "tokens" to create an unambiguous linking scheme to match related data (paragraph [0025]). The tokens are created by a single central repository operated by an information service provider and may be distributed externally for use by the information service provider's customers (paragraphs [0025] and [0026]). Hence, the "tokens" in document D2 correspond to the "links" of the invention.

4.3 According to claim 1 of document D2, the data linking system comprises:

- at least one data storage system;
- a plurality of data elements resident on said data storage system, wherein each of said data elements pertains to a particular entity;
- a plurality of tokens, wherein each of said tokens is unique over time, each of said tokens uniquely corresponds to a particular entity, and each of said data elements is tagged with that one of said tokens corresponding to the entity to which said data element pertains; and
- a repository, wherein all of said tokens are resident on said repository, and said repository contains a substantially comprehensive listing of

all said entities from which said tokens are generated.

4.4 The subject-matter of claim 1 therefore differs from the data linking system of document D2 in that:

- data elements in the clients' data storage systems are tagged with links that are "encoded distinctly for each client";
- the links are resident in the central repository "in a non-encoded form"; and
- before being supplied by the central repository to a client, each link is encoded as described in points 2.3 and 2.4 above.

4.5 These distinguishing features solve the problem of preventing clients from sharing information among themselves by exchanging links, without the involvement of the information service provider.

In document D2, this problem exists because the link (or token) that pertains to a particular entity is the same for each client (see point 2.2 above).

4.6 In the Board's judgment, the skilled person would realise that, to solve this problem, the unique link created by the central repository for each entity should not be communicated to the clients directly. Instead, the links used internally in the central repository should be mapped to external links to be used by clients, the mapping being different for each client and clients being unable to carry out such mappings themselves.

4.7 One obvious way of implementing such client-specific mappings is by constructing a secret mapping table for each client. The claimed system provides an alternative

implementation by mapping internal links to external links by means of client-specific encryption keys and encryption algorithms.

4.8 In its first communication, the Board noted that the concept of encrypting information to be communicated to clients with client-specific keys had been obvious at the application's priority date. However, the normal purpose of such encryption is to shield communication between the central repository and the client from eavesdropping by third parties, and not also to prevent the client from recovering the unencoded internal link from the encoded external link. This means that modifying document D2 as suggested in the Board's communication would not result in a system satisfying the claim limitation "whereby such information on data elements provided by the information service provider may not be shared between clients".

4.9 Hence, the subject-matter of claim 1 is not rendered obvious by document D2 in combination with the common general knowledge asserted in the Board's communication.

5. *Document D1*

5.1 Document D1 relates to "dimensional databases", which are databases containing a "fact table" and two or more "dimension tables" (see column 1, lines 35 to 40).

5.2 Document D1, in column 6, lines 28 to 44, discloses that a "time invariant attribute" is assigned to the item described by a record, the time invariant attribute being "unique to the item described by the record". In its decision, the Examining Division referred to the time-invariant attributes of document

D1 as one example of "links" within the meaning of the invention. It further referred to "unique keys" included in table rows as disclosed in column 2, lines 3 to 6, of document D1.

5.3 The Examining Division argued that the time-invariant attributes and the unique keys of document D1 were "encoded distinctly" by referring to column 2, lines 4 to 8; column 6, lines 38 to 45; and Figures 1b and 2. But none of these passages refer to the encoding of the attributes and keys; they merely state that the attributes and keys are "unique". There is therefore no disclosure of either the attributes or the keys being "encoded distinctly" for each client.

5.4 For this reason alone, the Board cannot agree with the Examining Division's objection of lack of inventive step.

5.5 Moreover, since the subject-matter of claim 1 differs from the disclosure of document D1 at least in the features identified in point 4.4 above, the document is in all respects further removed from the claimed invention than document D2. The Board therefore need not examine document D1 and the Examining Division's reasoning further.

6. *Remittal*

6.1 Since the subject-matter of claim 1 is new over documents D1 and D2 and is not rendered obvious by either document in combination with the common general knowledge asserted in the Board's communication, the contested decision is to be set aside.

6.2 However, further documents have been cited in the European search report, and the independent claims now contain features that were not included in the original claims. In this situation it is for the Examining Division to decide how to proceed with the assessment of inventive step. In addition, claims 2 to 25 and the description have not yet been adapted to present claim 1. The case is therefore to be remitted to the Examining Division for further prosecution, to which course of action the appellant did not object. The Board recommends that the case be dealt with expeditiously.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution.

The Registrar: The Chairman:

I. Aperribay R. Moufang

Decision electronically authenticated