

This document includes some recent decisions of the EPO in 2015 with regards to software related inventions and shows relevant extracts from the respective decisions.

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T 1724/10 (Document indexing/DASSAULT) of 27.1.2015

European Case Law Identifier: ECLI:EP:BA:2015:T172410.20150127

## **Method for indexing and searching a collection of internet documents**

**Amendments - added subject-matter (no)**

**Inventive step - (yes)**

**Substantial procedural violation (yes) -appealed decision sufficiently reasoned (no)**

**Reimbursement of appeal fee - (yes)**

Application number: 03290781.8

IPC class: G06F 17/30

Applicant name: Dassault Systèmes

Opponent name: SINEQUA

Board: 3.5.07

<http://www.epo.org/law-practice/case-law-appeals/pdf/t101724eu1.pdf>

Claim 1 of the contested patent relates to a "computer-implemented process for searching among a collection of Internet or HTML documents", and comprises the following features (itemised by the Board):

- the collection comprising:

(a) referencing documents and referenced documents

(i) referenced in the referencing documents by use of links such as Universal Resource Locators,

(ii) wherein said referencing and referenced documents contain index terms,

- the process comprising:

- for a referencing document of the collection:

(b) recognising documents referenced in said referencing document; and

(c) aggregating said referencing document with documents it references to form an aggregate document,

- said aggregate document formed being a single logical document associated with the documents forming said aggregate document;

(d) indexing said aggregate document, based on index terms contained in the referencing and referenced documents forming said aggregate document, to form an index,

- wherein an entry in the index table is associated with the referencing and referenced documents forming the aggregate document;

(e) searching among aggregate documents by operating on said index; and

(f) providing, as a result, an aggregate document.

#### Article 56 EPC

6. In the contested decision (see point 18), the Opposition Division identified the aggregating step recited in claim 1 of the patent (see feature (c)) and hence also the indexing step based on the aggregating step (feature (d)) as novel over the prior art. These features provided the technical effect of different aggregated documents and thus different search results.

6.1.1 In the Opposition Division's opinion, it was not possible, on the basis of these differences, to identify a technical problem solved by the claimed method, which could be the basis of an inventive step.

6.1.2 Furthermore, the Opposition Division held that the proposed solution could not be regarded as an alternative solution to the one proposed by the prior art firstly because a technical problem could not be identified and secondly because the results provided by the method of the opposed patent and the method of the prior art were different.

**6.2 The Board finds the inventive step reasoning of the Opposition Division barely understandable and not plausible.** In particular, the Opposition Division's conclusion that some technical features distinguished the claimed invention from the prior art, but that, on the basis of such technical differences, it was not possible to identify a technical problem solved by claimed method should, in the Board's opinion, put into question the choice of the closest prior art document, rather than directly point to a lack of inventive step.

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6.3 Document D6 relates to a computer implemented process for searching among a collection of Internet "documents" (see Abstract: "... a model for retrieval of images from a large World Wide Web based collection").

6.3.1 As illustrated in Figures 1. and 2., the collection comprises "referencing documents" ("textual nodes") and "referenced documents" ("non-textual nodes") referenced in the referencing documents by use of links such as Universal Resource Locators (see Section 2.2.1, first paragraph).

6.3.2 According to section 2.1, document D6 uses links in a hypermedia collection to calculate representations for non-textual nodes that permit their direct retrieval by textual query. The textual nodes linked to a non-textual node can be considered as forming a cluster. Cluster description techniques can then be applied in order to calculate a representation and establish the overall content of the documents forming the cluster. The representation can be subsequently assigned to the non-textual node, giving it a retrieval content equal to the combined content of the textual nodes connected to the non-textual node. In particular, as specified in section 2.1 of D6 (left-hand column, last paragraph) the "representation of a non-textual node can be calculated by considering each linked document L as a standard N-dimensional vector, where N is the number of index terms in the document base".

6.3.3 According to section 2.2 of D6, the process of providing a non-textual node (referenced document) with a representation (index term) comprises the following steps:

- recognising all the textual nodes (referencing documents) linked to the referenced document (non-textual node);
- using the content of these nodes to form a new node which is the representation of the non-textual node;
- the collection of representations is indexed.

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6.4.1 Also the steps of claim 1 relating to indexing, searching and providing as a result an aggregate document appear to cover steps disclosed in or necessarily implied by document D6. In the prior art, however, the step of "aggregating" is directed to the index terms of the referencing documents and the resulting "aggregated index terms" are used for indexing a single referenced document (i.e. non-textual node) which can not be directly indexed.

6.4.2 As to the problem addressed in document D6, it differs substantially from the object of the present invention. Document D6 seeks to determine index terms which can at least approximate the content of a non-textual document on the basis of its links to textual documents, whereas the patent in suit relies for indexing on the index terms of both the referencing document and the referenced documents.

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6.6 As pointed out above (point 6.4.2), the Board considers that document D6 is directed to the specific problem of indexing a non-textual document by means of the index terms of the textual documents linked to the non-textual document.

6.6.1 It is indeed pointed out in document D6 (section 2.2, page 2, right-hand column, lines 27 to 29) that the disclosed teaching can be applied to any type of media. However, D6 does not foresee the possibility of applying the same teaching to a collection of textual documents for improving indexing. Furthermore, as stressed by the appellant, there is no reason to assume that it would be obvious to apply the particular indexing method of document D6 to a cluster of documents when standard indexing based on the index terms of each document can be used.

6.6.2 In summary, the Board agrees with the appellant that the teaching of document D6 does not constitute a promising starting point for arriving at the claimed invention.

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6.9.1 According to the contested patent, documents are aggregated not on the basis of their similarity or of shared characteristics, but only because a referencing document contains links to the other documents which may have a completely different content.

6.9.2 Thus, the Board agrees with the appellant that the step of aggregating a document with other documents merely because the former contains references to the latter, as specified in the patent, does not correspond to clustering, as disclosed in documents D11 and D23.

7. In summary, the Board comes to the conclusion that the **subject-matter of claim 1 was not made obvious** by the teaching of any of documents D6, D11 and D23, or by any of their combinations.

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Reimbursement of the appeal fee

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9.1 The appellant has further submitted that the Opposition Division failed to correctly apply the problem-solution approach and to consider the patent proprietor's right to reformulate the objective technical problem in a "less ambitious" way.

9.2 In the first paragraph of the section of the contested decision relating to Article 56 EPC, the Opposition Division merely identified the aggregating step and hence also the indexing step based on the aggregating step as novel over an unspecified prior art. From the preceding section concerning Article 54 EPC, it can be assumed that either document D6 or D9 constituted the prior art the Opposition Division intended to refer to. In fact, the minutes (section 6.) of the oral proceedings show that the inventive step discussion had focused on D6.

9.2.1 According to paragraph 18 of the contested decision, **the aggregating and indexing steps recited in claim 1 provided the technical effect of different aggregated documents and different search results.** The Opposition Division appears to have **acknowledged the presence of a technical effect** in the form of "different aggregated documents" and "different search results".

9.2.2 Having identified the differences between the prior art and the claimed invention, the **Opposition Division concluded that it was not possible to identify a technical problem** solved by the method of the application, which could be the basis of an inventive step.

9.2.3 In paragraph 20 of the decision, the Opposition Division summarised the **different attempts of the patent proprietor to define a technical problem starting from the closest prior art document** and, in particular, the patent proprietor's view that if no other problem could be formulated, one had to define the problem as **how to find an alternate solution** to

the prior art and ask whether the skilled person would arrive from there at the claimed invention.

9.2.4 In reply to the patent proprietor's arguments, the Opposition Division stated in paragraph 21 of the decision that these argumentations were **not convincing because it was not possible to consider the proposed solution as an alternative solution to the one found in the prior art firstly because a technical problem could not be identified and secondly because the results provided by the method of the opposed patent and by the method of the prior art were different.**

9.2.5 Finally, in paragraph 21 of the contested decision, the Opposition Division reiterated that claim 1 did not meet the requirements of Article 56 EPC because a technical problem solved by the method of claim 1 could not be identified.

9.3 The Board notes that **all the above conclusions of the Opposition Division relating to the lack of inventive step are presented in the contested decision without any prior analysis of the allegedly closest prior art document (D6), or of the problem it addresses.** It is also not explained why the technical differences between the claimed subject-matter and the closest prior art identified by the Opposition Division did not allow the definition of a technical problem to be solved according to the problem-solution approach (see also point 6.2 above).

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9.3.2 In the Board's opinion, **the juxtaposition of seemingly contradictory conclusions (e.g. acknowledgement of technical differences but no possibility to define a technical problem), presented in the contested decision as apodictically evident and without any factual support, does not constitute a "reasoned decision"** within the meaning of Rule 111(2) EPC.

9.4 In accordance with the case law of the boards of appeal (see Case Law of the Boards of Appeal, Seventh Edition, September 2013, IV.E.8), the Board considers that in the present case the failure to provide adequate reasoning in a decision is to be regarded as a **substantial procedural violation** justifying the reimbursement of the appeal fee.

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T 1358/09 (Classification/BDGB ENTERPRISE SOFTWARE) of  
21.11.2014

European Case Law Identifier: ECLI:EP:BA:2014:T135809.20141121

## **Classification method and apparatus**

### **Inventive step - (no)**

Application number: 00926837.6

IPC class: G06F 17/30  
Applicant name: BDGB Enterprise Software Sàrl  
Cited decisions: G 0003/08, T 0258/03, T 0154/04, T 1784/06, T 1954/08, T 1316/09

Board: 3.5.07

<http://www.epo.org/law-practice/case-law-appeals/pdf/t091358eu1.pdf>

## The invention

3.1 The invention is concerned with the computerised classification of text documents. This is done by first building a "classification model" and then classifying documents using this classification model.

The classification model is built on the basis of a set of documents which have been previously classified into a number of predefined classes. How the classification of these documents was performed is not part of the claimed invention; they may have been classified manually or by some (other) computerised classification method.

The next step in building the model is the calculation of hyperplanes that separate the vector space into "subspaces" such that "each subspace comprises one or more documents as represented by their corresponding vectors" and "each subspace corresponds to a respective class". In other words, hyperplanes are calculated that bound a number of subspaces in such a way that each "cloud" of vectors corresponding to a particular class of documents lies within one subspace. These subspaces form the classification model. A simplified two-dimensional example of a separation into subspaces is given in Figure 3 of the application.

Once the classification model has been built, an unclassified document is classified by representing it as a vector in the same vector space and determining the subspace to which the vector belongs. The document is then classified into the class corresponding to this subspace.

The invention according to claim 1 further calculates a "maximum margin", which is a margin surrounding the calculated hyperplanes that does not contain any of the vectors corresponding to the previously classified documents. Upon classifying a document, a "confidence level" is assigned to the document based on the distance of its vector from the calculated hyperplanes relative to the corresponding margins.

Claim 1 reads as follows:

"A method for the computerized classification of an unclassified text document into one of a plurality of predefined classes based on a classification model obtained from the classification of a plurality of preclassified text documents which respectively have been classified as belonging to one of said plurality of classes, said document and said documents respectively comprising a plurality of terms which respectively comprise one or more symbols of a finite set of symbols;

a) wherein said method involves the computerized building of said classification model, comprising the following method steps:

a1) representing each of said plurality of text documents, which are digitally represented in a computer, by a vector of n dimensions, said n dimensions forming a vector space, whereas the value of each dimension of said vector corresponds to the frequency of occurrence of a certain term in the document corresponding to said vector, so that said n dimensions span up a vector space;

a2) representing the classification of said already classified documents into classes by separating said vector space into a plurality of subspaces by calculating one or more hyperplanes, such that each subspace comprises one or more documents as represented by their corresponding vectors in said vector space, so that said each subspace corresponds to a respective class;

a3) calculating a maximum margin surrounding said hyperplanes in said vector space such that said margin contains none of the vectors contained in the subspaces corresponding to said classification classes;

b) wherein said method further involves, on basis of said classification model, the computerized classification of said unclassified text document as belonging to one of said plurality of classes, comprising the following method steps:

b1) representing said text document, which is digitally represented in a computer, by a vector of n dimensions, said n dimensions spanning up said vector space, whereas the value of each dimension of said vector corresponds to the frequency of occurrence of a certain term in the document corresponding to said vector;

b2) classifying said document into one of said plurality of classes by determining into which of said plurality of subspaces of said vector space said vector falls and identifying said document as belonging to a certain class which corresponds to the subspace into which said vector falls;

b3) calculating a confidence level for the classification of said document as belonging to said certain class based on the distances between the vector representing said document and all hyperplanes surrounding said subspace which corresponds to said certain class normalized by the corresponding margins such that a document which lies outside said margins is assigned a confidence level of '1' and a document which falls into said margins is assigned a value between '0' and '1'."

Claim 1 defines a method for classifying text documents essentially in terms of an abstract mathematical algorithm. Claim 1 does specify that the algorithm is to be executed by a computer, but only by referring to steps of the method as being "computerized" and by referring to text documents as being "digitally represented in a computer".

**A mathematical algorithm contributes to the technical character of a computer-implemented method only in so far as it serves a technical purpose** (see decision T 1784/06 of 21 September 2012, reasons 3.1.1). In the present case, the algorithm serves the general purpose of classifying text documents.

Classification of text documents is certainly useful, as it may help to locate text documents with a relevant cognitive content, but in the Board's view it does not qualify as a technical

purpose. Whether two text documents in respect of their textual content belong to the same "class" of documents is not a technical issue. The Board notes that the same position was taken in decision T 1316/09 of 18 December 2012, reasons 2, which held that **methods of text classification per se did not produce a relevant technical effect or provide a technical solution to any technical problem.**

In the statement of grounds of appeal, the appellant stressed that the claimed invention could not be seen as the straightforward implementation of something which had been done manually before. When manually classifying a text document, a human being would read it through and assign a particular class to it on the basis of his understanding of the document. As was known from the domain of cognitive psychology, he would not consider all of the words in the document; words near its beginning would often already provide a clear indication of its semantic topic. The claimed automatic classification method on the other hand involved precise computation steps which no human being would ever perform when classifying documents.

The appellant also submitted that the claimed computerised method was highly efficient, in particular in comparison to classification methods disclosed in documents cited in the international search report.

The Board agrees that a human being would not apply the claimed classification method to perform the task of classifying text documents. The Board further accepts that the proposed computerised method may be faster than classification methods known from the prior art. **However, the determination of the claim features which contribute to the technical character of the invention is made, at least in principle, without reference to the prior art** (cf. T 154/04, OJ EPO 2008, 46, reasons 5, under (E) and (F)). It follows that a comparison with what a human being would do or with what is known from the prior art is not a suitable basis for distinguishing between technical and non-technical steps (see also decision T 1954/08 of 6 March 2013, reasons 6.2).

Nevertheless, **not all efficiency aspects of an algorithm are by definition without relevance for the question of whether the algorithm provides a technical contribution.** If an **algorithm is particularly suitable for being performed on a computer in that its design was motivated by technical considerations of the internal functioning of the computer, it may arguably be considered to provide a technical contribution to the invention** (cf. T 258/03, OJ EPO 2004, 575, reasons 5.8). However, such technical considerations must go beyond merely finding a computer algorithm to carry out some procedure (see G 3/08, OJ EPO 2011, 10, reasons 13.5 and 13.5.1).

In the present case the Board considers that no such technical considerations are present. The algorithm underlying the method of claim 1 does not go beyond a particular mathematical formulation of the task of classifying documents. The aim of this formulation is clearly to enable a computer to carry out this task, but no further consideration of the internal functioning of a computer can be recognised.

The appellant further argued that the claimed method provided more reliable and objective results than manual classification, since it was independent of the human subjective understanding of the content of the documents.

The Board does not contest that the claimed classification method may provide reliable and objective results, but this is an inherent property of deterministic algorithms. **The mere fact that an algorithm leads to reproducible results does not imply that it makes a technical contribution.**

Since the mathematical algorithm does not contribute to the technical character of the claimed method, an inventive step can be present only in its technical implementation. The only implementation features specified in the claim are references to the method being "computerized" and the text documents being "digitally represented in a computer". The skilled person, when given the task of implementing the algorithm, would certainly have chosen to represent text documents "digitally in a computer".

The Board further considers that the skilled person, using only his common general knowledge, would have had no difficulty in implementing on a computer the various steps of claim 1. The appellant never argued otherwise, which is consistent with the fact that the description of the present application does not provide any technical implementation details at all. Although the Board ... does have some doubts as regards the general feasibility of calculating a suitable set of hyperplanes, these concerns essentially relate to the definition of the algorithm and not to its implementation.

The **technical implementation of the mathematical algorithm being obvious, the conclusion is that the method of claim 1 lacks an inventive step** within the meaning of Articles 52(1) and 56 EPC over a notorious general-purpose computer.

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T 2372/11 (Verfahren zur medizinischen  
Diagnoseunterstützung/COMPUGROUP) of 24.2.2015  
European Case Law Identifier: ECLI:EP:BA:2015:T237211.20150224

## **Verfahren zur medizinischen Diagnoseunterstützung**

### **Erfinderische Tätigkeit - (nein)**

Anmeldenummer: 08169432.5  
IPC-Klasse: G06F 19/00  
Name des Anmelders: CompuGroup Medical AG  
Angeführte Entscheidungen: T 1194/97

Kammer: 3.5.05

<http://www.epo.org/law-practice/case-law-appeals/pdf/t112372du1.pdf>

Hauptantrag

2. Der Wortlaut des Anspruchs 1 lautet folgendermaßen:

"1. Verfahren zur medizinischen Diagnoseunterstützung für Patientendaten (134) eines Patienten durch ein Datenverarbeitungssystem (100), wobei das Datenverarbeitungssystem eine graphische Benutzeroberfläche (106) aufweist, mit den folgenden Schritten:

- Zugriff auf eine erste Datenbank (122), wobei die erste Datenbank Regeln (128) enthält, wobei die Regeln zur Berechnung von Grundrisiken für medizinische Diagnosen ausgebildet sind, wobei in der ersten Datenbank ferner die medizinischen Diagnosen mit medizinischen Symptomen (130) verknüpft gespeichert sind,

- Anwenden der Regeln auf die Patientendaten und Berechnen zumindest eines ersten Grundrisikos (612) für eine erste medizinische Diagnose (616), wenn zumindest eine der Regeln auf die Patientendaten anwendbar ist,

- Ausgabe (504) des ersten Grundrisikos (612) für die erste medizinische Diagnose zusammen mit der ersten medizinischen Diagnose (616) auf der graphischen Benutzeroberfläche (106),

- Ausgabe einer Benutzerabfrage (610), ob für die erste medizinische Diagnose eine interaktive Patientendatenanalyse durchgeführt werden soll,

wobei im Falle dessen, dass für die erste medizinische Diagnose eine interaktive Patientendatenanalyse durchgeführt werden soll die folgenden weiteren Schritte durchgeführt werden:

- Ausgabe einer Symptom-Benutzerabfrage (624), welche der mit der ersten medizinischen Diagnose verknüpften medizinischen Symptome für eine weitere Analyse der Patientendaten verwendet werden sollen,

- Anwenden der Regeln auf die Patientendaten und die vom Benutzer in der Symptom-Benutzerabfrage gewählten medizinischen Symptome und Berechnen zumindest eines zweiten Grundrisikos (628) für eine zweite medizinische Diagnose,

- Ausgabe (510) des zweiten Grundrisikos zusammen mit der zweiten medizinischen Diagnose auf der graphischen Benutzeroberfläche, wobei nach jeder Benutzerauswahl eines weiteren medizinischen Symptoms:

- Erneut die Regeln auf die Patientendaten und die bisher vom Benutzer gewählten medizinischen Symptome angewendet werden,

- ein erneutes Berechnen von zumindest einem neuen zweiten Grundrisiko für eine neue zweite medizinische Diagnose dynamisch erfolgt,

- eine aktualisierte Ausgabe (510) des erneut berechneten neuen zweiten Grundrisikos zusammen mit der neuen zweiten medizinischen Diagnose auf der graphischen Benutzeroberfläche erfolgt,

- eine aktualisierte Ausgabe der Benutzerabfrage (624) erfolgt, welche der mit der neuen zweiten medizinischen Diagnose verknüpften medizinischen Symptome für eine weitere Analyse der Patientendaten verwendet werden sollen."

### 3. Erfinderische Tätigkeit - Artikel 56 EPÜ 1973

3.1 Aus Sicht der Kammer besitzt der Gegenstand von Anspruch 1 als Ganzes technischen Charakter, jedoch tragen nur die durch Fettdruck hervorgehobenen Teilmerkmale zu diesem bei und können bei der Beurteilung der erfinderischen Tätigkeit herangezogen werden.

Entgegen der Auffassung der Beschwerdeführerin .. tragen insbesondere die Regeln sowie deren Anwendung auf die Patientendaten nicht zum technischen Charakter der Erfindung bei, da solche Regeln in Form von Verknüpfungen von Diagnosen und Symptomen auf medizinisch/pharmazeutischem Wissen beruhen und auch bei manueller Durchführung einer Diagnose durch den Arzt auf gleiche Weise verwendet werden würden. Die Existenz solcher Regeln als abstrakte gedankliche Tätigkeit des Arztes sowie eine computer-implemmentierte Automatisierung davon stehen für die Kammer nicht in Frage ..... Da die Implementierung solcher Regeln in Form einer Datenbank auf einem Computersystem vor dem Hintergrund des allgemeinen technischen Fachwissens der Informationstechnik keine technischen Hürden mit sich bringt, beruht dieses Teilmerkmal nicht auf einer erfinderischen Tätigkeit.

3.2 Die Beschwerdeführerin argumentierte auf der Grundlage, dass durch die Erfindung eine verbesserte Mensch-Maschine-Schnittstelle bereitgestellt würde (vgl. Beschwerdebegründung, S. 9 oben). Die Kammer stimmt dieser Sichtweise nicht zu. Entgegen der von der Beschwerdeführerin angeführten Rechtsprechung werden im vorliegenden Fall keine neuen Bedienelemente oder Anzeigelemente mit neuer und erfinderischer technischer Wirkung geschaffen, sondern es werden im Rahmen der bekannten Elemente einer GUI die dargestellten Informationen bezüglich ihres Informationsgehalts und der Menge der dargestellten Informationen arzt spezifisch konfiguriert und damit individuell optimiert.

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3.4 Die Beschwerdeführerin machte geltend, dass im Zuge einer Computerimplementierung eine gemäß Anspruch 1 dynamisch aktualisierte Symptomauswahl erfolgt, indem das Diagnoserisiko sowie die Anzeige Symptom-individuell aktualisiert würden (vgl. Beschwerdebegründung, S. 10, Abs. 1 und 2). Der damit verbundene technische Effekt bestehe darin, dass die Interaktionszeit mit dem Nutzer reduziert werde.

Diese Funktionalität war im Softwarebereich jedoch bereits vor dem Prioritätstag Allgemeingut. So unterstützte z.B. Excel von Microsoft(TM) diese Funktionalität schon lange, indem bei Eingabe oder Änderung eines Parameters umgehend, also dynamisch, eine Neuberechnung der gesamten Tabelle und damit verbunden des gesamten Regelwerks erfolgte. Diese Funktionalität wird von der Kammer als fachnotorisch bekannt angesehen. Eine Übertragung auf Anwendungen im medizinischen Bereich bot für den Fachmann keine Hürden, die einer erfinderischen Tätigkeit bedurft hätten.

3.5 Damit verbunden ist auch, gewissermaßen als Bonus Effekt, dass mit jeder Eingabe oder Änderung eines Parameters im Hinblick auf ein Symptom unmittelbar dessen Auswirkung auf das Diagnoserisiko ersichtlich wird. Die Kammer vermag hierin **keinen unerwarteten synergetischen Effekt** zu erkennen.

3.6 Die Entgegenhaltung D1 offenbart ebenfalls ein computerimplementiertes Verfahren zur Diagnose auf Basis von Patientendaten und Symptomen. Insbesondere offenbart D1 ein Regelbasiertes (siehe z.B. [0126] "rules that are used by the diagnostic engine") Diagnosesystem mit Benutzerabfragen (vgl. Figur 1 sowie 7 bis 10), wobei eine dynamische Aktualisierung erfolgt (vgl. z.B. [0161] "As each new piece of information or PHI is added to the system, the differential diagnosis is updated"). Die Kammer stimmt der angefochtenen Entscheidung (vgl. Punkt 21.4) auch zu, dass die in D1 offenbarten "chief complaints" als Teil der Patientendaten anzusehen sind, die die Grundlage für die Diagnose bilden.

Damit sind **alle technischen Merkmale von Anspruch 1 aus D1 vorbekannt**. Unterschiede ergeben sich allenfalls im Bereich des medizinischen Konzepts, das selbst nicht zum technischen Charakter beiträgt und dessen **Implementierung als objektive technische Aufgabe jedoch im Rahmen des allgemeinen Fachwissens liegt**.

Wie bereits erwähnt, ist die Kammer nicht überzeugt davon, dass tatsächlich eine neue verbesserte Mensch-Maschine-Schnittstelle geschaffen wird. Vielmehr werden dieselben technischen Ein- und Ausgabemittel verwendet wie sie bereits seit langem z.B. aus D1 bekannt waren. Lediglich die Art und Weise der dargestellten Informationen bezüglich ihres Informationsinhalts ist optimiert im Hinblick auf den Workflow in einer Diagnose in einer Arztpraxis.

3.7 Der Gegenstand von Anspruch 1 ist daher vor dem Hintergrund der Offenbarung in D1 und dem allgemeinen Fachwissen nahegelegt (Artikel 56 EPÜ 1973).

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T 1834/10 (Image selection/EBAY) of 25.2.2015

European Case Law Identifier: ECLI:EP:BA:2015:T183410.20150225

## **DYNAMIC SELECTION OF IMAGES FOR WEB PAGES**

### **Inventive step - (no)**

Application number: 01941962.1

IPC class: G06F 15/00, G06F 17/30

Applicant name: eBay Inc.

Cited decisions: T 1173/97, T 0641/00, T 1784/06, T 1670/07, T 1741/08, T 1755/10

Board: 3.5.01

<http://www.epo.org/law-practice/case-law-appeals/pdf/t101834eu1.pdf>

1. The application sets out from the following background (A1, page 1): "Images are frequently used on World Wide Web (web) pages as illustration and to make the pages more attractive. Both purposes are particularly important when the Web site displaying the pages is a business. A user is more likely to explore a web site that shows images of the items for sale. In a Web-based business, such as an auction site, in which the inventory turns over rapidly, regenerating one or more web pages to display new images is especially important. However, choosing the new images to display is currently a manual process and thus cannot be accomplished as rapidly as may be desirable. Furthermore, once the images are selected, they must be integrated with the other content on the web page. Therefore, it would be advantageous to provide for the dynamic selection of images for web pages and for the automatic integration of the selected images to permit frequent and rapid modifications of the web pages."

2. In its most general aspect (original claim 1), the application proposes a dynamic selection of images for a mark-up language document (such as a web page) and an automatic integration of the selected images in the document (or web page). The mark-up language document includes an instruction (or "widget tag", A1, centre of page 5) identifying a "utility program" (gallery widget "Home Page Gallery") which is invoked when the web page is being processed for display. The utility program selects a pre-determined number of images from a group or category of images ("Gallery", bottom of page 4, top of page 5) and places the selected images on the web page. The number (N) of images and their locations (coordinates X, Y, Z, R, C) on the web page are specified in the instruction.

According to original claim 13, the images may be selected at random (see also Figure 3A, steps 303, 305 as described at page 7 of A1), in particular by using random numbers as an index into a group of images. As set out on page 7 of A1, before a selected image is displayed, it may be validated against several criteria: if the image has expired, is not an appropriate category, has been recently used, or is a duplicate of an already selected image, then another image is retrieved from the image gallery (pool) to replace it.

The application emphasises that its concept is not tied to any particular programming language but a variety of programming languages may be used to implement its teachings (A1, top of page 7).

#### Main Request

Claim 1 according to the main request reads:

"1. A computerized method for dynamically selecting images for a markup language document comprising:

encoding an instruction in the markup language document, the instruction identifying a utility program that dynamically selects an image for insertion into the document;

preparing the markup language document for display;

automatically invoking the utility program when the instruction is processed;

selecting a pre-determined number of images from a group of images, the pre-determined number being specified in the instruction, each selected image having at least one predefined data parameter associated with an item represented in that selected image; and

placing the pre-determined number of images in the markup language document at locations defined in the instruction."

#### Article 56 EPC 1973 - Inventive step

3. In the light of Article 52(1)(2)(3) EPC, Article 56 EPC 1973 requires a non-obvious technical contribution. Contributions not achieving any technical effect do not enter into the examination for an inventive step (T 641/00-Two identities/COMVIK, Headnote 1, OJ EPO 2003, 352; T 1784/06-Classification method/COMPTEL).

4. Against the acknowledged "Background of the Invention" (A1, page 1), the contribution provided by the application has non-technical and technical aspects: a web page is made more attractive to potential customers by presenting images in a lively manner, and the images to be presented are selected and displayed automatically so that the presentation can be changed rapidly.

5. A web page designer may consider various approaches of selective content presentation as promising with respect to attracting customers' attention. However innovative an attractive content selection may be, it relates to a presentation of information which is a priori non-technical (Article 52(2)(d) EPC), even if lowers a user's cognitive burden (T 1741/08-GUI layout/SAP) or prompts the user to start some technical action (broken technical chain, T 1741/08, T 1670/07-Shopping with mobile device/NOKIA).

**The desire to present a selection of images, to limit the selection to a predetermined number of images and to present the selected images in some preferred layout is a non-technical aim.**

The **meaning of the display data does not convey any technical character to the presentation.** Effects resulting from an image presentation depend on the user's perception and/or constitute indirect technical effects and/or relate to administrative and economic aspects.

6. The only aspect that can enter into the examination for an inventive step is a technical implementation of the desired image presentation. The appellant has argued that a single software instruction (embedded in the markup language document or web page) conveys both the number of images to be selected and the locations of the images on the screen and, thus, enables a simple and efficient (re-)generation of the web page.

7. However, **program elements (tags, widgets) for transferring parameters from a markup language document to a page-generating program (e.g. browser) are well-known and are only used by the present application for their conventional purpose.** The application leaves programming details to the skilled reader.

D1 shows an example of how a script "Index()" receives a parameter from another program. Like the keywords "inKey" in D1, a desired (maximum) number N of images to be selected would be passed to the program that selects the images. **Specifying N in the instruction that calls the script would have been a matter of normal programming skill. In D1, "InKey" is provided as an argument to "Index()", so it would have been obvious to do the same with other parameters** such as the number N of images or their locations/coordinates.

8. It may be added that **the Board has general doubts about whether a piece of software serving a non-technical purpose (presentation of information) can be considered as a technical implementation;** such software rather constitutes a computer program as such (Article 52(2)(c) EPC) as it fails to provide any further technical effect beyond the elementary interaction between software and hardware (T 1173/97-Computer program product/IBM, OJ EPO 1999, 609). **The combination of two types of non-inventions (presentation of information, computer program) is not enough to define a technical contribution** (T 1755/10-Software structure/TRILOGY, "software implementation fallacy").

9. Therefore, the Board judges that the method as defined in claim 1 does not involve any inventive step (Article 56 EPC 1973).

#### First Auxiliary Request

10. Claim 1 according to the first auxiliary request specifies a way of changing the web page: the images to be displayed are selected randomly. To avoid any repeated or duplicated display of images, a validation step is introduced which substitutes a different image for an image that fails the validation.

11. Again, the selection and validation concept is not driven by any technical reason but by the **desire of a web shop owner to make the web page more attractive to prospective customers** by presenting a lively and varied display of images.

12. On the implementation side, **random number generators were well-known**, as acknowledged in the application (A1, page 7, paragraph 2) and as exemplified by D10 (page 1, line 15: "When the page containing this [Java] script is loaded, it displays an image picked at random from an array of image names [ImageList]"). Where N images have to be selected (as part of the non-technical aim), an obvious implementation may use the random selection process of D10 N times and pass the parameters "N" and "location" directly in the <script> tag.

13. **If a repeated or duplicated display of images is considered unattractive (a non-technical criterion), the randomly selected candidate images obviously need to be checked for repetitions or duplications.** Such a computerised test is a matter of **routine to the skilled person**. This finding is confirmed implicitly by the present application which describes the validation only in abstract, functional terms (see Figure 3A).

14. Therefore, the first auxiliary request fails on the same ground (Article 56 EPC 1973).

T 1755/10 (Software structure/TRILOGY) of 6.11.2014

European Case Law Identifier: ECLI:EP:BA:2014:T175510.20141106

## **METHOD AND APPARATUS FOR DETERMINING COMMISSION**

**Inventive step - no (no further technical effect implied in modified software)**

Application number: 99916241.5

IPC class: G06F 15/00, G06F 17/60

Applicant name: TRILOGY DEVELOPMENT GROUP

Cited decisions: T 1173/97, T 0641/00, T 1784/06, T 1670/07

Citing decisions: T 1834/10

Catchwords: Software implementation fallacy (reasons, points 6 and 11)

Board: 3.5.01

<http://www.epo.org/law-practice/case-law-appeals/pdf/t101755eu1.pdf>

1. The application addresses a need for a system that quickly communicates an incentive plan to sales representatives, accurately and effectively calculates compensation to be paid to sales representatives, and allows flexibility to adjust an incentive plan as needed in a rapidly changing environment (A1, page 4, paragraph 3).

In its most general aspect (original claim 1), the application proposes a computerised method for determining a performance-related commission for a recipient (sales representative). The description discusses a commission engine and a data model (218) (A1, from page 17 onwards), in particular using object-oriented programming (from page 10 onwards).

Main Request

Claim 1 according to the main request reads:

"1. A method for determining commissions to be paid to a plurality of recipients, wherein the method is implemented using one or more data processing systems that include (A) a data model, wherein said data model includes (i) quotas, (ii) allocation rules, and (iii) promotions and (B) a commission engine to receive transactions, to access the model and to process each transaction in accordance with the model, said method being executed by a computer and comprising:

- obtaining one or more transactions;

- obtaining from the data model one or more quotas that apply to the one or more transactions, and which represent levels of commissions available to one or more recipients;

## Examples of recent 2015 Board of Appeals decisions related to Software Innovations

- determining a quota state for each recipient using the commission engine, wherein each quota state includes recipient identification data and current performance data of the identified recipient;
- obtaining from the data model one or more promotions that specify a reward for one or more of said levels;
- calculating performances of the recipients based on said transactions and using the commission engine, wherein calculating performances comprises:
  - obtaining one or more of the allocation rules of the model corresponding to the transactions wherein for each of the transactions, said allocation rules apportion credit to one or more recipients; and
  - applying the allocation rules to the transactions,
  - using the quotas and quota states to calculate the performances;
- using the commission engine, determining a compensation for those recipients, the performance of which qualifies for a promotion."

### Article 56 EPC 1973 Inventive step

2. In the light of Article 52(1)(2)(3) EPC, Article 56 EPC 1973 requires a non-obvious technical contribution (see e.g. T 641/00-Two identities/COMVIK, Headnote 1, OJ EPO 2003, 352; T 1784/06-Classification method/COMPTEL).

Non-technical aspects cannot meet that requirement. The overall goal of claim 1 is a method for determining performance-related commissions to be paid to sales representatives. This is a **commercial goal; sales and marketing considerations** ("commissions", "promotions", "reward", "credit", "compensation") **cannot enter into the examination for an inventive step.**

3. The claimed method seeks to support managers in a rapidly changing business environment (A1, page 3, paragraphs 2 and 3; page 4, paragraph 3). Automation is a general technical answer to that need: the method makes use of data processing systems. However, the general **technical idea of computer-implemented automation is notorious, and its use is obvious** also in the present context.

4. It is true that claim 1 comprises not only said general idea. The claimed implementation lends itself to rapid changes by combining a "commission engine" (a piece of software for a specific data processing task) with a "data model". Whenever rules have to be adapted to a changing situation, only the data model needs to be updated whereas the commission engine and its way of accessing the data model can be invariable.

5. In view of the broad wording of claim 1, **the combination of a "data model" and an "engine" constitutes a general software concept.** A priori, programs for computers are not regarded as inventions (Article 52(2)(c) EPC). If the application disclosed a "further" technical effect of the software concept, beyond the elementary interaction of any computer

software and hardware (T 1173/97-Computer program product/IBM, OJ EPO 1999, 609), then the software concept would not relate to computer programming as such (Article 52(3) EPC).

6. **As the overall goal of the claimed method (determining commissions) is not technical, the software concept cannot derive any (further) technical character from that goal. In fact, the Board judges that no "further" technical effect is present at all.**

On the one hand, a "further" technical effect does not have to be external to the computer. For example, a specific way of programming might result in a more stable operation of the computer itself.

On the other hand, the **Board does not follow the appellant's central and fundamental argument: Any different way of programming is said to change the internal operation of the computer and should be considered as a technical implementation already for that reason.**

Such an approach would result in any software being considered as a technical means of its own. It would effectively remove computer programs from the list of non-inventions according to Article 52(2)(c) EPC -- by which the Board is bound (Article 23(3) EPC) even if the appellant regards this as a discrimination against computer-implemented inventions.

Therefore, the Board judges that in the absence of any other potential "further" technical effect, the mere use of a specific software solution does not amount to a technical implementation (which would have to be considered in the inventive step examination).

In other words, **the frequent general argument that modified software causes a modified behaviour of the computer and should for that very reason (eo ipso) be considered as a technical implementation means is insufficient.** Hence, a **"software implementation fallacy" might be added to a pertinent gallery established recently by the Board (T 1670/07-Shopping with mobile device/NOKIA).**

7. As the software concept is not considered to contribute to the technical character of the method, it does not enter into the examination for an inventive step.

Hence, it can be left open what kind of code is intended to form a "data model" according to claim 1, i.e. whether the wording of the claim rules out conventional program modules (subroutines), which are well-known to increase the flexibility of programming and facilitate the maintenance of programs.

8. The data items processed according to the claimed method are defined by their commercial content and intent rather than by any non-obvious functional or structural aspect. Hence, they do not provide any non-obvious contribution, either.

9. Therefore, the Board judges that the method of claim 1 **does not involve any inventive step.**

T 0891/11 (Menu selection/LG) of 24.10.2014

European Case Law Identifier: ECLI:EP:BA:2014:T089111.20141024

## Method and mobile terminal for selecting a menu

### Inventive step - (no)

Application number: 07001407.1

IPC class: H04M 1/247, H04M 1/725, G06F 3/048

Applicant name: LG Electronics Inc.

Board: 3.5.03

<http://www.epo.org/law-practice/case-law-appeals/pdf/t110891eu1.pdf>

Claim 1 reads as follows:

"A method of selecting a menu in a mobile terminal (1), the method comprising:

- displaying a plurality of menus (A, B, C, D, E, F, G, H) in a circular or rectangular manner and arranging (S52) a first and a second (A, C, G, G) [sic] of the plurality of displayed menus (A, B, C, D, E, F, G, H) such that the first and second arranged menus (A, C, E, G) correspond to first and second terminal input keys, respectively;

- executing (S56) a specific menu (C) upon selection of one (410-3) of the first and second terminal input keys by a terminal user, the specific menu corresponding to the selected terminal input key; and

- re-arranging (S54) the first and second arranged menus (A, C, E, G) such that a third and a fourth (B, D, F, H) of the plurality of displayed menus (A, B, C, D, E, F, G, H) correspond to the first and second terminal input keys, respectively, and the first and second arranged menus (A, C, E, G) no longer correspond to any terminal input key, wherein the re-arrangement is performed according to a request made by the terminal user by pressing a key and is performed by shifting each of the displayed menus (A, B, C, D, E, F, G, H) such that before and after the re-arrangement each of the menus corresponding to the first and second input keys is located between two of the menus not corresponding to any of the first and second input keys;

wherein the first and second terminal input keys comprise navigation keys (410-1, 410-2, 410-3, 410-4, 410-5) of the terminal (1) which are displayed on a central part of the displayed menus (A, B, C, D, E, F, G, H)."

### 2. Inventive step (Articles 52(1) and 56 EPC)

2.1 D1 represents the closest prior art, since it discloses a method for displaying menus ("icons" in the language of D1, see column 5, lines 49 to 52) on a display of a mobile terminal for wireless communication (see abstract of D1). The method of D1 further comprises

highlighting a menu such that it can be selected by pressing a corresponding input key ("enter key" in the language of D1, see column 5, lines 55 and 56).

Hence, D1 discloses, using the language of claim 1, a method of selecting a menu in a mobile terminal (second sentence of the abstract), the method comprising:

- displaying a plurality of menus in a circular or rectangular manner (column 6, lines 32 to 36, Fig. 1) and arranging a first of the plurality of displayed menus such that the first arranged menu (the enlarged icon at position A in figure 1) corresponds to a first terminal input key (enter key 5, see column 6, lines 29 to 32 and Fig. 1);
- executing a specific menu upon selection of the first terminal input key by a terminal user, the specific menu corresponding to the selected terminal input key (column 6, lines 29 to 32); and
- re-arranging the first arranged menu such that another of the plurality of displayed menus corresponds to the first input key, and the first arranged menu no longer corresponds to any terminal input key (column 7, lines 2 to 10; see also figures 2 to 4), wherein the re-arrangement is performed according to a request made by the terminal user (column 7, lines 13-17) and is performed by shifting each of the displayed menus (column 7, lines 10-13).

2.2 The subject-matter of claim 1 thus differs from the method disclosed in D1 in that according to claim 1:

- i) a second of the plurality of displayed menus is arranged such that it corresponds to a second terminal input key, a specific menu is executed upon selection of the second terminal input key, and re-arranging the second arranged menu such that a third and a fourth of the plurality of displayed menus correspond to the first and second terminal input keys, respectively, and the second arranged menu no longer corresponds to any terminal input key, wherein the re-arrangement is performed such that before and after the re-arrangement each of the menus corresponding to the first and second input keys is located between two of the menus not corresponding to any of the first and second input keys;
- ii) the re-arrangement is performed by pressing a key;
- iii) the first and second terminal input keys comprise navigation keys of the terminal; and
- iv) the navigation keys are displayed on a central part of the displayed menus.

Features i) and ii) relate to the problem of arranging menu icons on the display and associating the menus to keys for selection by the user in a convenient manner. Features iii) and iv) relate to the problem of selecting appropriate input means for operating the menu by the user. Thus, the claim defines an aggregation of features in which the technical problem underlying the claimed invention consists of two separate partial problems.

2.3 Regarding the first partial problem relating to features i) and ii), D1 discloses that more than one menu can be highlighted at the same time and that one input key is provided for each highlighted menu; in the specific example given in paragraph [0017] of D1, three menus are highlighted at the same time and three corresponding input keys are provided. The skilled

person would therefore consider having two menus highlighted at the same time, corresponding to two input keys. For the further step of changing the association between highlighted menus and input keys the skilled person would find, by trial and error, a convenient option out of a limited number of possibilities and would therefore consider arranging a menu corresponding to an input key between two menus not corresponding to an input key as a matter of non-inventive choice. Further, using a key to perform the re-arrangement, as specified in feature ii) of claim 1, instead of a jog dial, as suggested in D1, is a straightforward, obvious design choice which does not require the exercise of inventive skill.

Regarding the second partial problem, the skilled person would also consider document D2, which discloses a method and a system for selecting a menu on a telephone display. More specifically, D2 discloses an embodiment in which menus ("menu items", see the abstract) are displayed and each of the menus can be selected by depressing a corresponding input key ("button", see paragraphs [0037] and [0038] and figures 5A and 5C), each of which is specified as a directional button (Fig. 5A and paragraph [0030]). Hence, the input keys used in D2 for selection of menu items are navigation keys. Further, D2 shows that the menus are arranged on the display of the telephone in the shape of a four-spiked star and, therefore, provide a display of the navigation keys, which are likewise arranged in the shape of a four-spiked star (Fig. 5A), on a central part of the displayed menus within the meaning of feature iv) mentioned above.

The skilled person, starting out from D1 and faced with the above-mentioned partial problems, having regard to D2 and using common general knowledge, would arrive at the method of claim 1 without the exercise of inventive skill.

2.4 The board concludes that the subject-matter of claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC).

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T 1670/10 (Portable security token/PALO ALTO RESEARCH) of  
9.2.2015

European Case Law Identifier: ECLI:EP:BA:2015:T167010.20150209

## **Using a portable security token to facilitate public key certification for devices in a network**

**Inventive step - (yes)**

Application number: 05105665.3

IPC class: G06F 1/00

Applicant name: Palo Alto Research Center Incorporated

Board: 3.5.06

<http://www.epo.org/law-practice/case-law-appeals/pdf/t101670eu1.pdf>

## 2. Technical summary of the invention

2.1 The application relates to certifying public encryption keys of devices in a distributed computing network. It is known to use a public key infrastructure (PKI) to solve this problem by using a "Certification Authority" (CA). The CA owns a trusted public key. The corresponding private key of the CA is used to sign the public keys of members of the network to form digital public key certificates, for instance by encrypting their hash. Hence the public key of the CA can be used by other members to verify the authenticity of the public key of a member contained in such a certificate. According to the application, establishing a fully-fledged PKI may be prohibitively costly and difficult in wireless networks.

2.2 The application therefore proposes a mechanism for distributing certificates which can be practiced in wireless networks. Figure 1 shows such a distributed computing network comprising a target device (such as a television), a portable security token (such as a cell phone or smart card) and a certification authority (such as a wireless access point comprising a CA and an authentication server). The target device can communicate wirelessly with the token and the certification authority. The portable security token is used to facilitate public key certification for the target device in the network. In use, the token must be brought into "close physical proximity" with the target device to allow the two to communicate via a so-called "location-limited communication channel"; see the flow charts in figures 2 to 4. Examples of such communication channels ranging from a wireless connection to a wired connection are set out in paragraph [0040]. During this communication, the token receives an "authenticator" for the target device and forms a "ticket" by digitally signing the authenticator with a key previously agreed upon by the token and the CA. The authenticator is a token which the CA knows is linked to the target device, such as the target device's public key. The token sends the ticket to the target device which can then present the ticket to the CA to prove that the target device is authorized to receive a credential from the CA, for instance a digital certificate for the target device's public key.

Claim 1 according to the main request reads as follows:

"A method for using a portable security token (102) to facilitate public key certification for a target device (104) in a network, comprising:

bringing the portable security token in close physical proximity to the target device, thereby allowing the portable security token to communicate with the target device through a location-limited communication channel;

receiving an authenticator for the target device at the portable security token through the location-limited communication channel, wherein the authenticator is a cryptographic token that can be used in a subsequent protocol between the target device and a certification authority (CA) to prove that the cryptographic token originated from the target device;

forming a ticket by digitally signing the authenticator with a key previously agreed upon by the portable security token and the CA (106); and sending the ticket to the target device, whereby the target device can subsequently present the ticket to the CA to prove that the target device is authorized to receive a credential from the CA."

3.1 D1, the closest prior art relied upon in the decision, relates to the delegation of rights (also referred to as "permissions") in a distributed computing system; see column 3, line 7, to column 4, line 53. This involves a principal delegating specific rights to one or more deputies who themselves can delegate specific rights to further deputies in a chain of delegations. The deputization approach to delegating rights does not require that an entity impersonate another; instead, actions taken by a principal and actions taken by its deputy can be distinguished; see column 5, lines 33 to 45. The entities in these deputization are represented by computing system tasks, such as the "user task" and "deputy system task" in figure 2. The distributed computing system comprises one or more Distributed Deputization Points (DDPs) which manage such deputizations.

4.1 The meaning of the expression in claim 1 "portable security token" in the context of the application

Claim 1 refers to a (hardware) portable security token (102) which, according to paragraph [0032] of the description, includes portable devices that can communicate with network devices through a so-called location-limited communication channel, examples being a cell phone, smart card, PDA, laptop computer and a hand-held remote control device. Since these examples all concern devices dedicated to and normally owned by a single user, the board finds that the Distributed Deputization Point (DDP; figure 2; 202), which serves the many users of a distributed computer system and is thus not dedicated to any particular user, cannot be regarded as a "security token" in the sense of the application, let alone a portable one.

5. Inventive step, Article 56 EPC 1973

5.1 The reasons for the decision are based on the embodiment shown in figure 8 of D1 and described in column 11, line 18, to column 12, line 39, which extends the embodiment set out in figures 2 and 6. The reasons regard the DDP as the claimed "portable security token" and the "deputy 216" in the "principal node(s) 206" as the claimed target device to which a deputization in D1 is made. The board accepts the appellant's argument that the reasons for the decision are consequently based on an incorrect understanding of D1 in the context of the claims, in particular the identity of the "deputy" to which a "principal" delegates rights. As the appellant has argued, in D1 deputization of rights does not occur to "deputy 216". On the contrary, it is "deputy 216" that is acting as a principal to delegate rights. In D1 a principal delegates rights either to another existing entity or to an entity especially created to receive the delegated rights; see figure 8, step 814, and column 12, lines 9 to 10. Moreover, as stated above, the board finds that the DDP in D1 cannot be regarded as the "security token" set out five times in claim 1.

5.2 The board is also satisfied that **there is no obvious problem or solution for the skilled person, starting from D1 and applying common general knowledge, to modify the DDP known from D1 to turn it into a "portable security token" which, as set out in claim 1, can be brought into "close physical proximity to the target device"**. The board consequently finds that, already for this reason, the subject-matter of claim 1 of the main request involves an inventive step, Article 56 EPC 1973, in view of D1 and the common general knowledge of the skilled person. Thus claim 1 according to the main request overcomes the reasons given in the decision for refusing the application, and the decision must be set aside.

5.3 In view of the finding above that **the reasons for the decision are based on an incorrect understanding of D1 in the context of the claims, in particular an incorrect understanding of the expression in claim 1 of the main request "portable security token", the board finds that it cannot be excluded that the search was not exhaustive and that more relevant prior art may exist.**

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T 1452/11 () of 3.2.2015

European Case Law Identifier: ECLI:EP:BA:2015:T145211.20150203

## **Diabetescare-System zur Detektion eines Analyten und Verfahren zur selektiven Datenübertragung**

**Neuheit - (ja)**

**Erfinderische Tätigkeit - (ja)**

Name des Anmelders: Roche Diagnostics GmbH, F.Hoffmann-La Roche AG

Anmeldenummer: 06012693.5

IPC-Klasse: A61B 5/00, A61N 1/08, G06F 13/22, H04L 12/28

Kammer: 3.2.02

<http://www.epo.org/law-practice/case-law-appeals/pdf/t11452du1.pdf>

Die geltende Fassung des unabhängigen Anspruchs 1 lautet wie folgt:

"Diabetescare-System zur Detektion eines für die Behandlung des Diabetes Mellitus relevanten Analyten im menschlichen Körper mit einer mobilen Komponente (2), wie einem Analysegerät, einem Blutzuckermessgerät, einem Insulinpen oder einer Insulinpumpe, und einer Basisstation (3), wobei

die mobile Komponente (2) am Körper tragbar oder in den Körper implantierbar ist, und

einen Speicher (7) zum Speichern von Daten betreffend Dosiervolumina, Fördervolumina, Druckverläufe, Messwerte oder Analysedaten, und

eine Kommunikationseinheit (5) zur Übertragung von Daten an die Basisstation (3)

einschließt,

die Basisstation (3)

eine Kommunikationseinheit (8) zum drahtlosen Empfangen von Daten von der mobilen Komponente und

eine Speichereinheit (9) zum Abspeichern von übertragenen Daten und

optional eine Ausgabeeinheit (10) zur Anzeige von der mobilen Komponente übertragenen Daten

aufweist, und

eine Datenübertragung derartig selektiv durchgeführt wird, dass innerhalb einer Zeitspanne, in der eine drahtlose Kommunikationsverbindung besteht, eine erste Teilmenge der Daten von der mobilen Komponente (2) an die Basisstation (3) übertragen wird,

die erste Teilmenge der Daten mittels eines prozessorgesteuerten Selektionsalgorithmus, der von einem Prozessor (6) der mobilen Komponente (2) gesteuert wird, derartig selektiert wird, dass die in der ersten Zeitspanne übertragene Teilmenge der Daten für die Gesamtheit der in der mobilen Komponente (2) abgespeicherten Daten repräsentativ und damit die Gesamtheit der Daten abbildet,

wobei eine Auswahl weiterer Daten in Abhängigkeit von einem Datenwert bereits selektierter Daten getroffen wird und die weiteren Daten innerhalb eines Zeitintervalls um Daten mit einem auffälligen Datenwert, der außerhalb eines vorgegebenen, vorzugsweise veränderbaren, Toleranzbereichs liegt, selektiert werden und die weiteren Daten bei der Selektion der ersten Teilmenge berücksichtigt werden."

#### Erfinderische Tätigkeit

Dokument D2 als nächstliegender Stand der Technik offenbart ein System, das gemäss den Absätzen [0026] und [0088] auch zur Diabetesüberwachung eingesetzt werden kann und das die im zweiten Absatz von Seite 3 der Beschreibung der vorliegenden Anmeldung aufgeführten Merkmale aufweist.

Hiervon unterscheidet sich der Gegenstand von Anspruch 1 insbesondere dadurch, dass innerhalb einer ersten Zeitspanne, in der eine drahtlose Kommunikationsverbindung besteht, eine erste Teilmenge der Daten in der in den letzten beiden Absätzen des Anspruchs genannten Weise selektiert und übertragen wird. Wie in Absatz [0015] der Beschreibung der vorliegenden Anmeldung erwähnt, ist es hierdurch möglich, auch bei einem vorzeitigen Abbruch der Datenverbindung auf der Basis der schon übertragenen Teilmenge der Daten einen hinreichend genauen Informationsüberblick über die Gesamtheit der Daten zu erhalten. Hierzu wird der hohe Informationsgehalt auffälliger Datenwerte und ihrer benachbarten Werte herangezogen (s. Absatz [0051]).

**Die objektiv zu lösende technische Aufgabe besteht somit darin, eine Übertragung aussagefähiger Daten auch dann zu ermöglichen, wenn die drahtlose Kommunikationsverbindung kein vollständiges Übertragen aller Daten gewährleisten kann, da die Verbindungsdauer unbestimmt und in der Regel zu kurz ist.**

**D2 gibt keinerlei Hinweis** auf die oben erwähnte Problematik und ihre erfindungsgemässe Lösung. In Absatz [0065] ist lediglich erwähnt, dass zur effizienten Übertragung grosser Datenmengen Kompressionstechniken verwendet werden können.

**D1 beschreibt ein Herzüberwachungssystem** mit einer mobilen Komponente und einem Server als Basisstation, wobei in Absatz [0045] eine Situation erwähnt ist, in der eine

Datenübertragung nicht möglich ist und, wenn die Datenverbindung dann später wieder besteht, zunächst die aktuellen Daten mit höherer Priorität übertragen werden. Wie weiterhin aus dem Absatz [0097] hervorgeht, können in der mobilen Komponente gespeicherte Daten bei Vorliegen eines auffälligen Datenwerts, der näher analysiert werden soll, auf Anforderung des Arztes vom Server wieder aufgerufen und dann in einem Zeitintervall vor diesem auffälligen Datenwert einer Trendanalyse unterzogen werden. Dies **unterscheidet sich jedoch grundlegend von dem beanspruchten Konzept, wonach die in der ersten Zeitspanne zu übertragenden Daten bereits durch den Prozessor der mobilen Komponente selektiert werden.**

**D3 beschreibt ebenfalls ein Herzüberwachungssystem mit einer in diesem Fall implantierten - mobilen Komponente und einer Basisstation.** Da der in der implantierten Komponente verfügbare Speicherplatz begrenzt ist, werden die dort zu speichernden Daten ständig nach einem hierarchischen System priorisiert. Wenn die Speicherkapazität nicht mehr ausreicht, werden Daten niedriger Priorität überschrieben oder komprimiert [s. Absätze [0006] und [0009]]. Die Daten mit der höchsten Priorität werden als erste übermittelt, um dem Arzt die relevantesten Informationen immer zuerst zur Verfügung zu stellen (s. Absatz [0057]). Es ist D3 jedoch **nicht zu entnehmen, dass diese Daten die Gesamtheit der Daten abbilden und weitere Daten innerhalb eines Zeitintervalls um Daten mit einem auffälligen Datenwert selektiert werden.** D3 enthält auch **keinen Hinweis auf die obengenannte objektive technische Aufgabe.**

Der Gegenstand von Anspruch 1 wird folglich durch den bekannt gewordenen Stand der Technik **nicht nahegelegt und beruht somit auf erfinderischer Tätigkeit** im Sinne von Artikel 56 EPÜ.

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T 0502/13 (Markup Language/AMBX) of 11.11.2014

European Case Law Identifier: ECLI:EP:BA:2014:T050213.20141111

## DYNAMIC MARKUP LANGUAGE

### Claims - clarity (no)

Applicant name: AMBX UK Limited

Application number: 03725494.3

IPC class: G06F 1/00

Cited decisions: G 0010/93

Board: 3.5.06

<http://www.epo.org/law-practice/case-law-appeals/pdf/t130502eu1.pdf>

## The invention

1. The application in general relates to the problem of making "dynamic content" available to Internet browsers.

1.1 Content such as contained on web pages is typically made available to browsers in the form of documents written in a markup language like HTML. The content in such documents may be "effectively fixed" or "static" in the sense that rendering the document will always yield the same image (see e.g. p. 1, 8-20 and 7-10). This limitation must be addressed if web pages are required to be "dynamic" in the sense that their "content and/or appearance [...] varies with time" (p. 2, lines 1-2 and 12-15). Known solutions to this problem are said to require the provision of "additional functionality" in the client browser (p. 2, 18-20), whereas the application is concerned with providing "a markup language document that is dynamic in content, but does not require any adaptation on the part of the client browser to render that document" (p. 4, lines 4-6).

1.2 The proposed method operates on what are called "active markup fragments": Such fragments are said to be "active in the sense that they refer to content that is dynamic" in depending on certain "variables[s] or conditional[s]" relating to "time and/or context", factors which can be "set [...] by an author [...] or by a suitable computer program" (see p. 4, lines 21-32; p. 5, lines 14-17 and 28-30; p. 6, lines 14-17; Fig. 1). The notion of "**context**" **is not explained further in the description**. The description gives a **single example of a piece of dynamic content, namely a "fragment" defining the "location" of some "object" to be dependent on an undefined "flag"** (see p. 4, lines 27-32).

1.3 The invention proposes a so-called "snapshot generator" which operates on a "pool" of such fragments. It is disclosed that fragments are entered into the pool only on the condition that a parser has ensured compliancy with the used markup language (see p. 5, lines 4-8; Fig. 1). The snapshot generator processes all of the fragments to determine their "actual output" by evaluating the variables or conditional referred to. If the requisite information is not available, the pertinent fragment is said to be "discarded" (see p. 5, lines 28-30). From the fragment processed in this way a markup language document is generated "accordingly" (see p. 5, lines 13-14, p. 6, lines 9-10). **How the document is generated is not detailed in the description.**

1.4 It is further disclosed that the "snapshot process is repeated as necessary ... as time passes and context changes". The snapshot generator can then "access the same pool [...] of fragments [...] using different variables and conditionals [...] to obtain a new markup language document" (p. 6, lines 13-23).

Claim 1 reads as follows:

"A method of generating a markup language document (22) comprising accessing (30) a pool (14) of active markup language fragments (10), processing (32) said fragments (10), with a generator (16), using at least one predetermined factor (18, 20), so that all of the fragments (10) in the pool (14) are processed, discarding any fragment (10) that refers to a variable or conditional for which the generator (16) does not have the requisite information, generating (34) a markup language document (22) from the processed fragments, and accessing the same pool (14) of fragments (10), but using different values and conditionals for the factors (18, 20), thereby obtaining a new markup language document."

Clarity, Article 84 EPC 1973

2. Both **the claims, in particular claim 1, and the entire application leave undefined a number of terms and notions central for the invention.** Specifically, claim 1 does not define what constitutes a "*pool*" of fragments and *how a "markup language document" is "generated" from the "processed fragments"*. In the latter context, the relevance of processing "all" fragments is unclear as well.

2.1 The appellant argued that the term "pool" had to be interpreted according to its conventional English meaning as used in phrases such as "pooling resources" or "car pool", i.e. as a "common supply" of resources from which individual ones can be retrieved and will be returned after use. Further according to conventional meaning the elements in a pool are independent from one another and unordered. Synonyms of "pool" in this sense would be "collection" or "set".

2.2 The board agrees with the appellant in interpreting the term "pool" as claimed to be largely equivalent to "collection", "set" or "supply", noting that this interpretation corresponds also to the term "reservoir" suggested by the board in the annex to the summons to oral proceedings. **Claim 1 leaves open however if and to what extent the individual fragments have to be "independent" of one another.** Moreover, the elements of a pool may actually well be ordered (as, e.g., the cars of a car pool may be lined up in a car park) and processed according to that order (say, in a round robin fashion). While the term "pool" itself does not imply such order or ordered processing, neither this term nor the claims as a whole exclude it. Moreover, the board considers that the notions of a "set", "collection", "common supply" or "reservoir" all remain on the mere abstract and logical level, denoting the totality of fragments made available for processing but not implying any detail regarding their implementation. ...

2.3 ... Claim 1 **leaves open however whether all fragments must be processed before the generating can start**, in which case the processed fragments would have to be stored in an -intermediate data structure such as a "pool of processed fragments", or whether both may be interleaved, e.g. by incorporating any fragment into the document being generated immediately after it has been processed.

2.4 The claimed method specifies that a **"markup language document" is generated from "processed fragments"**. This **does not imply the "processed fragments" to be part of the document** thus generated as the fragments might be further processed during that generation. Strictly speaking the **claimed method also does not limit the generated document to one containing no "active" markup language.** After all, an "active markup language fragment" is in particular a "markup language fragment" (see also p. 4, lines 27-32) and can thus be part of a "markup language document". The board notes however that the description discloses that the generated document "can be rendered by a conventional browser, without [...] any modification", which is used to mean that the document contains static content only (see esp. p. 4, lines 4-6). And the board further takes the view that the skilled person would understand **from the description as a whole that the generated document will contain the processed fragments.**

2.5 Even on that understanding, however, it **remains unclear from claim 1 whether the generated document will be composed of processed fragments only or whether it might**

**contain other material as well, such as static markup language fragments** which do not require the claimed processing, let alone how such static content might be handled. The description is also silent on this issue.

...

3. Claim 1 insist that all fragments be processed and the document be generated from all fragments so processed unless discarded, **but does not specify whether the generated document will contain all processed fragments or only some of them.**

3.1 On the **assumption** that the generated document **contains some processed fragments only**, it is **unclear how and when fragments are meant to be selected**. Claim 1 does not specify such a selection step nor does the description disclose one. Moreover, it is unclear why all fragments are to be processed rather than, say, only the ones needed for the document being generated.

3.2 In the board's view, the following method falls within the ambit of the claim 1: The pool might contain the entirety of markup language fragments that are available for the generation of a variety of web pages, which may be completely different from one another. The dynamic content available for all these web pages would thus be limited to the fragments contained in the pool that happens to be available at a given point in time. The primary purpose of the generator might then be to repeatedly process the pool of fragments so as to keep a pool of processed fragments up-to-date and thus to guarantee that all web pages generated from the processed fragments will also be up-to-date, i.e. based on the current time and currently valid context. The appellant called this interpretation by the board "absurd", but did not establish that the claims or the description excluded it. The board is of the opinion that this method constitutes a reasonable interpretation of the wording of claim 1 which is consistent with the description, even though the description does not specifically support it in detail.

3.3 The appellant argued that the invention was not meant to address the generation of several, completely different documents. Rather, the documents generated from the same pool would be generally similar and could differ only to the extent that the active fragments might be processed into different "processed" fragments at different instances due to "different values and conditionals for the [relevant] factors".

3.4 **The board considers that, given the lack of detail claimed and disclosed regarding the nature of the "variables and conditionals", it cannot be excluded that at some point the generator has the "requisite information" needed to process all active fragments.**

This might be the case, for instance, if the only relevant variable in a given pool of fragment was time. In such a case no fragment would be discarded and claim 1 would appear to imply that the generated document contained all fragments after processing, albeit in an unspecified order. To the board it is unclear how, in this manner, any useful document can be created.

3.5 This notwithstanding, another question arises from the interpretation proposed by the appellant. **If the generated documents had to contain all fragments from the pool - after processing - then there would have to be different pools of active fragments for each substantially different document** (e.g. the homepages of two different companies) to be created. The description, however, contains **no hint as to the existence of several such pools** or how they might be set up and processed.

3.6 The above clarity concerns notwithstanding, **the board considers that also the appellant's interpretation is consistent with the description but is not specifically supported either.**

4. The board takes the view that the choice between the above interpretations (esp. in points 3.2 and 3.3-3.5) has a substantial impact on the possible purpose the claimed method (or system) serves, what its intended effects are and in which way it might achieve these purpose and effects. Since the board is further of the opinion that **the wording of claim 1 covers (at least) these two interpretations - and, moreover, the very short description contains no basis to prefer one over the other - the undisputably broad and abstract wording of claim 1 causes a lack of clarity of claim 1.** This applies, by the same token, of claim 8 as well.

5. The board thus comes to the conclusion that the independent claims are unclear as to the claimed nature of the pool and, in particular, the role the processing of this pool has for and in the context of generating a document and that, at least for this reason, they do not comply with the requirements of Article 84 EPC 1973.

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