This document includes some recent decisions of the EPO in 2011 with regards to software related inventions and shows relevant extracts from the respective decisions.

T 1512/08 (Financial transaction/VILMOS) of 25.10.2011

Set of equipment for the preparation and execution of the financial performance of a business transaction between a seller and a buyer

Inventive step (no - all requests)

http://www.epo.org/law-practice/case-law-appeals/pdf/t081512eu1.pdf

The invention is a method of performing a financial transaction via
characterised by
[S1] - loading buyer identification data into an own-data register of the own-data input part-unit of the external buyer communication unit;
[S2] - loading the seller identification data into an own-data register of the own-data input part-unit of the external seller communication unit
[S3] - generating transaction data by the external seller communication unit;
[S4] - creating a message from the seller identification data and the transaction data via the data-unification part-unit of the external seller communication unit;
[S5] - transmitting the message over the directed data channel connecting the external seller communication unit and the external buyer communication unit;
[S6] - receiving the message and setting up a transaction information from the message via the seller-data receiving part-unit of the external buyer communication unit, the transaction information comprising data allowing the buyer's financial institution to identify the seller's financial institution and the amount to be transferred;
[S7] - creating a message from the buyer identification data and the transaction information via the data-unification part-unit of the external buyer communication unit;
[S8] - transmitting the message from the data-unification part-unit either directly or indirectly over the data-transmission channel to the internal communication unit of the buyer's financial institution;
[S9] - if the buyer's financial institution and the seller's financial institution are not the same, on the basis of the message received by the internal communication unit of the buyer's financial institution transmitting a message to the internal communication unit of the seller's financial institution over the information transmission network;
[S10] - determining the seller on the basis of the received message at the seller's financial institution; and
[S11] - transmitting the message received by the seller's financial institution via the data-transmission channel to the data-receiving part-unit of the external seller communication unit;
[S12] - carrying out the financial transaction at the buyer's financial institution.

Peter Bittner – European Patent Attorney

The method performed by the communications devices is a business transaction. With the details of the devices left out, it looks like this:

- The seller gives the buyer information that identifies the seller and is sufficient to allow the buyer's financial institution to identify both the seller's financial institution, and the amount of money to be transferred.

- The buyer passes that information to his financial institution, together with some more information identifying the buyer.

- If the financial institutions are different, the buyer's sends a message to the seller's, which passes it on to the seller.

- The money is transferred.

That transaction is not technical. It **could be carried out by people talking to one another**. What is important is what information is given to whom.

The appellant has asserted that the transaction is technical, because it avoids security problems which the prior art has. The Board does not follow that. Problems of security may be technical or not, and the problems the appellant asserts are not. **The facts that the seller learns sensitive details about the buyer's bank account, and that sensitive data are transmitted, are not problems of the specific infrastructure, i.e. of how the transmission occurs; they are disadvantages due to the fact that the information is passed at all.**

In the Board's view, each of the steps S1 - S12 is **inherent in any technical implementation** of the business transaction. That is, the skilled person would inevitably arrive at S1 - S12 simply by implementing the steps of the business method.

In step S1, buyer identification data is loaded into an own-data register of the own-data input part-unit of the buyer's communication unit. In the business transaction, the buyer must identify himself to his financial institution. The skilled person would have been obliged to provide means for the input and storage of identifying data. Whatever the storing means is, it can be reasonably called an own-data register of the own-data input part unit. Similarly, step S2 must be implemented.

Step S3 must be implemented, because the seller's communication unit must identify the financial transaction.

Step S4 calls for the use of a data-unification part-unit. The skilled person would be obliged to provide one, because both the identification data and the transaction data must be sent to the buyer. Similarly, S7 must also involve such a unit.

Step S5 calls for a message to be sent over a directed data channel. Since the message must contain data, and must be sent from the seller's communication unit to the buyer's, this too is inherent in any implementation. Similarly, S8 and S11 could not be implemented other than using a data-transmission channel in each case.

Step S6 calls for the use of a seller data receiving part unit. The communication unit of the buyer's financial institution must have one, because it must receive data from the seller.

Step S9 (which is optional), calls for the user of an information transmission network. Since information must be sent, and since two communications devices are involved, at least a rudimentary network is inevitable.

Steps S10 and S12 does not involve any technical means. They are simply steps in the business method.

The Board concludes that the **technical implementation** defined in the claim **does not involve an inventive step.**

Application number:	02807520.8
IPC Class:	G06F 17/60
	G07F 19/00
Applicant name:	Vilmos, András
Cited decisions:	T 0641/00

T 0209/08 (Segmental coding method and apparatus/KONURALP) of 8.7.2011

Segmental coding method and apparatus

Clarity and support by the description - yes, after amendment
Extension of subject-matter - no, after amendment
Inventive step - yes, after amendment

http://www.epo.org/law-practice/case-law-appeals/pdf/t080209eu1.pdf

The patent sought protection for an apparatus which permitted the input and storage of data defining pathological conditions identified in a medical image in the form of a simple formula. In the given context of a computer-based implementation, the data structures based on the disclosed coding and reporting method could be regarded as involving technical considerations achieving a technical effect inasmuch as they provided a more compact form of data storage and obviated the need to interact with a digitized medical image when inputting a diagnostic report.

Claim 1 of the appellant's request is directed towards a computer apparatus for implementing a method of coding conditions and information embedded in a coronary angiogram and incorporating a program according to an algorithm for easing mapping, storing predetermined code tables for different fields of a formula, inputting information, creating said formulae, forming a final report, storing the report, outputting said report, drawing a customised diagram from said formulae, and searching a database having a plurality of said reports.

The board judges that said claim is to be construed as seeking protection for a data processing system which incorporates software for facilitating the input, storage and management of diagnostic reports of pathological conditions identified in coronary angiograms wherein said

diagnostic reports comprise "formulae" which have been encoded in the manner disclosed in the examples of the present application.

The closest prior art differs from the present invention in that the diagnostic report data is explicitly linked to a digital image being reviewed and each individual diagnostic finding is assigned to specific geometric image coordinates. Accordingly, the board takes the view that the diagnostic finding data can only be interpreted in a meaningful manner by reference to the associated digital image and this would require the digital image data to be stored and presented in association with the diagnostic finding data.

The apparatus of claim 1 relies on the input and storage of diagnostic findings in the format disclosed in the examples of the application. The data entered and stored in this format is not explicitly linked to the coordinate system of the medical image (angiogram) under review and does not even require that this medical image be available in digital format. In the context of the present invention, the location of the pathological condition is specified using a mapping system based on the native anatomical structure of the cardiovascular system of an individual patient and thus in a manner which is essentially independent of the medical image and the geometric coordinate system associated therewith.

Although the encoding of the diagnostic findings could, in principle, be carried out using conventional database structures, the board has been persuaded by the appellant's submissions that, in the given context, coding the diagnostic findings in the manner specified in claim 1 involves more than merely a difference in cognitive information content over the prior art.

A **technical aspect** comes into play inasmuch as the claimed **apparatus permits a diagnostic report to be recorded, stored and processed independently of the medical image data (angiogram) to which the report relates**.

In contrast to the prior art, a **person** entering a diagnostic report using the claimed apparatus is **not required to interact with a digital image in order to select an image coordinate associated with each diagnostic finding**. Moreover, in the context of a computer-based implementation, insofar as the data format used for recording the report is independent of the medical image data, the apparatus provides a **more compact and flexible way of storing diagnostic reports such that they can be entered, stored, transmitted, presented and analysed separately from medical image data**.

The board judges that starting from the closest prior art, it would **not be obvious** for the skilled person to consider providing an apparatus in which the diagnostic findings relating to an angiogram were coded in the aforementioned manner. In particular, the closest **prior art neither discloses nor suggests that the recording of diagnostic findings can be accomplished other than by associating each diagnostic finding with a geometric coordinate of a digital image** whereby the coordinate is specified by means of user interaction with the digital image.

For the sake of completeness the board notes that whereas the **format of the "formulae**" of the diagnostic reporting method disclosed in the application **represents a logical syntax for data structures** and, as such, **has an abstract and intellectual character**, the appellant's **request does not seek protection for the disclosed "formulae" as such.** Claim 1 is directed towards an **apparatus which employs data structures based on said "formulae".** The

board judges that, in the given context, the **purposive use of such data structures in the claimed apparatus has technical implications with respect to the entry, storage and processing of the diagnostic reports**. Moreover, having regard to the disclosure of the closest prior art, the board judges that it would **not have been obvious** for the skilled person **to consider using a data format which permits the entry and storage of diagnostic findings independently of the medical images on which these findings are based**.

Application number:	03721272.7
IPC Class:	G06F 19/00
Applicant name:	Konuralp, Cüneyt
Cited decisions:	J 0010/07

T 1953/07 (Hardware identification/LUCENT) of 17.11.2011
A method and apparatus for determining an address uniquely identifying a hardware component on a common bus

Novelty (main request) - no

http://www.epo.org/law-practice/case-law-appeals/pdf/t071953eu1.pdf

Claim 1 of the application claims:

"A method for determining an address that uniquely identifies a hardware component on a common bus, said method characterized by the steps of:

reading identification information from a connector of said hardware component, said identification information having physical significance; and

deriving a bus address from said identification information that uniquely identifies said hardware component on said common bus"

Prior art disclosed:

a method for determining an address that uniquely identifies a hardware component on a common bus, the method comprising the steps of:

reading identification information from a connector of said hardware component; and

deriving a bus address from said identification information that uniquely identifies said hardware component on said common bus (column 5, lines 29-45).

The board notes that the appellant does not contest the disclosure of these features. In addition, as is also set out in the appealed decision, the identification information in the prior art has physical significance (more specifically, it is a voltage level).

The appellant argued that, within the context of the present application, the **physical significance is related to, for example, the carrier frequency, frame, sector number** (such as alpha, beta, gamma), unit type and unit number associated with the hardware component. According to the appellant, the wording "p**hysical significance" does not have a well-known definition in the art** and, therefore, a person of ordinary skill in the art would **look to the detailed description** of the present application for its meaning.

The board does not agree. The **question is not whether an expression has "a well-known definition in the art" but rather whether the skilled person would derive a clear meaning from it.** In this case, "**having physical significance**" is **extremely broad but not unclear**. The appellant seeks protection for identification values having any physical significance, whatever it may be. The argument that the examples in the description are considerably narrower does not persuade the board that the appellant intended to claim anything other than the plain meaning of the expression. Further, the appellant has not pointed to any statement in the application as filed which could give any hint that this expression was intended to be more limited than its plain meaning in any way.

This means that, as set out in the appealed decision, the prior art discloses, in combination, all the features of claim 1 and the subject-matter of that claim is, **consequently, not novel**.

Application number:	99309091.9
IPC Class:	G06F 13/40
Applicant name:	LUCENT TECHNOLOGIES INC.

T 1421/08 (Regeneration of runtime objects/SAP) of 24.11.2011
System and method for object navigation grammar completion

Technical effect of added feature - yes
Inventive step over cited prior art - yes

http://www.epo.org/law-practice/case-law-appeals/pdf/t081421eu1.pdf

The invention relates to the development of object-oriented software during which "runtime objects" are generated from "development objects". When a particular development object is modified certain runtime objects may have to be re-generated while others will not be affected. Which runtime objects are affected is determined according to so-called invalidation rules. It is a concern of the application that only the invalidated runtime objects are regenerated rather than all of them

Claim 1 is directed to:

"An apparatus for regenerating runtime objects, the apparatus comprising:

a processor; and

a memory, coupled to the processor, storing instructions adapted to be executed by the processor to:

retrieve object model data defining framework-specific relationships between object types of a computer application framework;

access a generic object navigation grammar file;

incorporate the object model data into the generic object navigation grammar file to produce a framework specific object navigation grammar file;

provide the framework specific object navigation grammar file to a parser generator arranged to generate a rule parser;

parse one or more invalidation rules by utilizing the generated rule parser to check the one or more invalidation rules for syntactic correctness, the or each invalidation rule identifying relationships between development objects and runtime objects;

generate a respective rule object for the or each syntactically correct invalidation rule;

execute the or each rule object to invalidate one or more run time objects which are to be regenerated in response to changes made to one or more development objects; and

regenerate the invalidated run time objects."

The board considers that the utilisation of a grammar, a parser generator and rule objects **enables the software developer to exercise control over the build process** and over the extent to and the **ease with which the relevant effect is actually achieved**. The board is of the opinion that within a claimed invention having a **primary technical effect**, **features enabling and supporting control of that effect will typically have technical character as well**. In consequence, the board concludes that the fact that a grammar, a parser generator and rule objects are used within the context of regenerating runtime objects **contributes to the technical characte**r of independent claims of 1 and 9 of the main request and therefore **may also contribute to inventive step**.

Application number:	04740034.6
IPC Class:	G06F 9/44
Applicant name:	SAP AG
Cited decisions:	T 0641/00, G 0003/08

T 0673/08 (Touch interface with overlapping key areas/RIM) of 14.9.2011

Text input system for a mobile electronic device and methods thereof

Novelty and inventive step (yes - after amendment)

http://www.epo.org/law-practice/case-law-appeals/pdf/t080673eu1.pdf

The claim is directed to:

"A method comprising:

associating areas of a touch interface of a mobile electronic device with letters such that each area is associated with only one letter and at least some of the associated areas overlap with one another;

detecting a location of a touch on the touch interface;

determining which of the overlapping areas include the touch location; and

identifying the letters associated with the overlapping areas determined to include the touch location."

Prior art discloses a touch screen for a PDA, wherein keys of a keyboard are displayed. The keys are displayed as rectangles wherein the geometric centre of a rectangle represents a letter or character on the touch screen. When the user's contact point is within a distance of 0.2 of the width of the rectangle from the geometric centre of a rectangle key, that touch is considered as a "direct hit" and the letter or character represented by the struck key is entered. When the contact point is displaced from the centre of the struck key more than 0.2 times the rectangle's width, the touch screen undertakes a calculation to determine which two keys adjacent to the struck key have their centre points closest to the touch point. These two additional keys with centre points nearest to the contact point and the key actually struck are then sent to an occurrence frequency determination means which selects one of the three candidate keys as the entered key.

The determining and identifying steps in claim 1 however are not disclosed in the closest prior art. In that respect, it does not disclose areas as such, i.e. groups of points of the touch interface, which can be looked at or searched in for determining if they comprise a certain point, i.e. the touch location. In the prior art, the identification of the letters is performed solely by distance calculation between the touch point and neighbouring key centres, not by the determination of areas as such. The associating step in claim 1, when further read in combination with the determining and identifying steps of the claim, has hence to be interpreted as defining more than only a virtual association of overlapping areas with letters as in the prior art. It has to be interpreted within the overall context of claim 1 as defining an association of areas with letters which enables a direct search of areas based on a given touch location.

The **technical effect** of these differences is that the mobile electronic device **identifies letters as a result of a direct reference between areas and letters, without needing to calculate distances**.

The objective **technical problem** may thus be formulated as **how to simplify the system** of the closest prior art.

There is no hint in the prior art for the skilled person to replace the distance calculation algorithm by an association of areas with letters enabling a direct determination of letters. The **skilled person would rather try to optimize the distance calculation algorithm** in order to design a simpler system. The appellant plausibly argued that the solution of claim 1 enables a more rapid determination of letters and needs less battery power, in particular when the association of areas with letters is implemented by a mapping in memory. Moreover, the **solution of claim 1 enables different area shapes to be programmed for different letters whereas the distance calculation algorithm of the prior art system leads indeed to the same area shape for all letters**.

For these reasons, the board judges that the subject-matter of claim 1 in**volves an inventive step.**

Application number:	04251161.8
IPC Class:	G06F 3/033
Applicant name:	RESEARCH IN MOTION LIMITED

T 1235/07 (Navigating data/MICROSOFT) of 17.3.2011
Navigating data points in a multidimensional database

Inventive step - showing results of 'slice-and-dice' and 'drill-down' analysis on a tree diagram (no - presentation of information)

http://www.epo.org/law-practice/case-law-appeals/pdf/t071235eu1.pdf

The application relates to a structure of data in a multidimensional database, which recognizes generic aspects, or "dimensions", of the data. The application gives examples of "Time", "Customers", "Regions" and "Products". Within each dimension, the data has a hierarchical structure with each "level" in the hierarchy having a name. Thus in the "Customers" dimension, the customers each have a "Name" the names belong to a "Sector" and the sectors belong to a "Channel". For the "Regions" dimension, each "City" is part of a "State Prov", which is part of a "Country", which is part of a "Region".

The "Channel" data includes "Direct" and "Indirect" customers. The "Direct" channel contains the sectors "Corporate", "Educational", "Government", and the "Indirect" channel contains the sectors "Distributor", "OEM" and "Reseller". The "Reseller" sector has the customer names "Aberdeen Information Syst", "Advance & Partners" etc.

The invention uses a tree diagram to view and navigate through the dimensions and levels of data in a multidimensional database. For example, the percentage of total sales in the customer dimension is broken down in the "Corporate" sector by customer "Name", which is in the same dimension. This is called a "drill-down" in the customer dimension, which is a commonly used technique to find out more detailed information. When analysing results, the user may want to ask the question: What is the breakdown of "Corporate" sector sales by "Country" (instead of "Name")? This requires taking a slice of the data (the "Corporate" sales) and breaking them up in another direction, hence the term "slice-and-dice". The applciation shows that "Country" is the second level in the "Region" dimension. The invention allows this dimension and level to be entered via respective menus to show the required result. Thus, The application shows a drill-down in the customer dimension, a slice by the "Corporate" sector, and a dice (with drill-down) in the "Region" dimension. Alternatively, this can be seen as part of a pivot of the customer data by sector and country. **In summary, the invention uses a tree diagram to show arbitrary combinations of "drill-down" and "slice-and-dice".** In the diagrams the lowest values are all grouped in the box labelled "Bottom" to prevent cluttering.

The claim is directed to:

"A computer-implemented method for displaying data points stored in an OLAP multidimensional database, the data points being defined as locations of data records along at least two dimensions including a first dimension and a second dimension, each of the dimension divided into at least three levels having a parent level, a first child level and a second child level in a hierarchical structure, the method comprising the steps of:

- receiving a selection of the first dimension;

- in response to receiving the selection, extracting a parent data point from the multidimensional database;

- displaying the parent data point as an icon in a data point tree;

- receiving a selection of the parent data point icon from the data point tree;

- extracting, from the multidimensional database, a plurality of first level child data points under the parent data point along the first dimension;

- displaying the first level child data points as respective icons in the data point tree;

- receiving a selection of one of the child data icons from the data point tree;

- displaying a menu associated with the selected first level child data point, the menu containing the first and second dimensions;

- receiving a selection of the second dimension from the menu;

- in response to receiving the selection, extracting, from the multidimensional database, a plurality of second level child data points under the selected first level child data point along the second dimension; and

- displaying the second level child data points as individual icons in the data point tree, together with the relationships between the selected first level child data point and the second level child data points."

The closest prior art also used a tree, which can only start from one of the available dimensions, which must therefore be selected somehow, so that this feature is implicit. However, it does not disclose selecting any of the data points themselves and performing a drill-down in response to selecting a data point. The **effect of the distinguishing features** is to **allow navigation** through dimensions **while preserving relationships** between parent data points and child data points.

The examining division argued that since slice-and-dice was known, the skilled person would have strived to implement it as part of the normal design strategy. Thus the problem was seen as how to provide an interface having this effect. Essentially, the division incorporated the idea of using the slice-and-dice operation into the objective problem by arguing that it was an obvious problem to solve.

However, in the Board's view a more compelling **reason for incorporating the slice-and-dice operation into the problem is that it has no technical character**. A slice-and-dice operation is **merely a manipulation of data**, like taking a square root that does not in itself have technical character. According to the jurisprudence of the boards of appeal this cannot contribute to inventive step. Similarly, **showing the results in the tree structure is a presentation of information that has no technical character**. Finally, the Board cannot see anything technical in the nature of the information itself, which not being tied to any particular application, just represents abstract data. The same applies to the drill-down operation, although this operation is already inherent anyway in the tree structure of D1 as discussed above. Thus, in the Board's view the problem solved by the invention boils down to showing the user what he wants to see in the tree structure, in this case the result of a slice-and-dice or drill-down analysis.

The Board essentially agrees with the division that the **solution is the implementation of user choices using known techniques that would be matters of routine design**. In particular, the Board considers that, **faced with the problem of showing the user the results of a slice-and-dice operation, it would be self-evident** that the value at a child point on the tree already gives the "slice" in a certain dimension. Thus, the skilled person would be faced with the practical problem of selecting the required "slice". Furthermore, since, by definition, the "dice" is the set of values along another dimension, this dimension must also be selected. The **use of mouse clicks and menus to make such selections are routine design options** in this field and are **common general knowledge**.

Application number: 00930702.6
IPC Class: G06F 17/30
Applicant name: Microsoft Corporation
Cited decisions: T 1143/06

T 1086/07 (Document summaries/XEROX) of 22.3.2011
Method and system for generating document summaries with navigation information

Inventive step - using the vertical position of an indicator to indicate the position of text in a document (no - presentation of information)

http://www.epo.org/law-practice/case-law-appeals/pdf/t071086eu1.pdf

The claim is directed to:

"A method for summarizing a document using a processor, the method comprising:

extracting text from the document along with corresponding location information;

identifying portions of the extracted text that reflect the content of the document;

generating a presentation file that includes the identified portions and a first set of indicators that identify each identified portion of text, the first set of indicators being placed adjacent to the corresponding extracted text; and

presenting the presentation file, characterized by generating a second set of indicators that correspond to the first set of indicators, the vertical positions of the second set of indicators indicating the vertical locations of the corresponding extracted text in the document."

The invention differs from the prior art only in that the second indicators are displayed and that their vertical positions indicate the vertical locations of the text instead of using them to lookup and display automatically the text.

The Board considers that, **in general, the idea of displaying and placing an indicator at a position to identify a location has no technical character. It is a presentation of information,** namely the results of the summarising process, and has no interaction with the possibly technical function of producing it. A similar conclusion was reached in decision T 603/89 (OJ EPO 1992, 230, in particular at points 2.1(c)/(d), and 2.6) in connection with a kind of template that displayed numbers on a card to represent notes on a keyboard instrument. Although the jurisprudence on Article 52(2) EPC was somewhat different at the time, the judgment of technical character was essentially the same. Thus, in the Board's view the idea of this distinguishing feature cannot contribute to inventive step. As the examining division stated, the skilled person would be able to implement some form of indicator based on the sentence number, and the claim gives no details of the implementation of these indicators that could contribute to inventive step either.

Application number:	99300218.7
IPC Class:	G06F 17/27, G06F 17/30
Applicant name:	Xerox Corporation
Cited decisions:	T 0603/89